

New Zealand Department of Scientific and Industrial Research  
GEOPHYSICS DIVISION

NEW ZEALAND  
SEISMOLOGICAL REPORT  
1977









New Zealand Department of Scientific & Industrial Research  
GEOPHYSICS DIVISION

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SEISMOLOGICAL  
REPORT  
1977



SEISMOLOGICAL  
OBSERVATORY  
BULLETIN

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# INTRODUCTION

The New Zealand Seismological Report for 1977 displays a number of differences in content and presentation that reflect important changes in the routine work of the Observatory. The range of information included and the order in which it is given should be sufficiently clear from the Table of Contents on page 3, but it is desirable to give some fuller account of its production and to draw attention to the more significant changes.

The type for the entire Report is now set at the Government Printing Office by machinery controlled by magnetic tapes prepared by the Observatory. The greater part of it is in effect a direct print-out of the calculations performed by the Observatory computer, and the result is an increase in both the legibility and the accuracy of the final text. The necessary programming of these operations has been carried out by Dr I.M. Calhaem, Dr W.D. Smith and Miss D.E. Ware of the Observatory staff, and Messrs P.Marks, T.Abbott and P.Kirk of the Government Printing Office, who have successfully overcome both seismological and typographical problems of some complexity.

The Report no longer contains teleseismic data. These are forwarded directly to the International Seismological Centre, Newbury, Berkshire, England in whose bulletins they appear in full, making duplication unnecessary, and helping to keep the Report to a convenient size. The data are also supplied to the United States National Earthquake Information Service, and to other data centres. Rapid preliminary readings are made available to a small number of stations having a special need for them.

As in the past, the Observatory will endeavour to supply seismologists who need them with either teleseismic or local data in advance of publication upon special request, but it is hoped that the increased speed of publication that results from the new arrangements will largely eliminate the need for this. The Report should in future be available in the first half of the following year. All arrears have now been made up, and earlier Reports have either been issued or are at present with the printer.

The presentation of instrumental constants has been revised. Typical response curves for the more commonly used combinations of seismometer and recorder are now reproduced, and the information for the different stations is listed in a more consistent manner. In most cases the calibrations have been recently checked, the exceptions being a few less accessible stations. In these cases, and in the case of the classical Galitzin seismographs at Roxburgh, which are less stable than more modern instruments, 'nominal' constants are quoted. The account of such changes as the establishment or closing of stations, periods of unsatisfactory operation and the like now appear under a separate heading so that readers familiar with the standard details of the networks do not have to search for the information.

Particular attention is drawn to changes in the method of assigning magnitudes. It is hoped that these changes will improve and ensure the close conformity of New Zealand magnitudes with the  $M_L$  scale defined by C.F. Richter.

For the first time a short description of the work of the New Zealand Time-Service is included. The Observatory is administratively responsible for this service, which first became a government responsibility in 1868 and is the Observatory's original function. No other report of its activities is regularly published, and their importance to the seismological programme seems great enough to justify inclusion here.

G. A. EIBY  
Superintendent

1978 November 30

# PRINCIPAL EARTHQUAKES IN 1977

The year 1977 was without major New Zealand earthquakes, but shocks of small or moderate size were very uniformly distributed over the country, with the exception of the Northland peninsula and the south-eastern parts of the South Island. These normally quieter regions were free from even the sporadic outbreaks of small activity that take place from time to time. Although a few shocks were widely felt, in no case was there more than minor damage confined to the epicentral region.

The largest shallow event (Origin 77/28, see Map 3) was centred in the eastern approaches to Cook Strait, some 25 km east of Cape Campbell. It occurred early in the year, on the evening of January 18, had a magnitude of 6.0, and was felt from Banks Peninsula to Taranaki and parts of Hawkes Bay. There were 960 insurance claims, none of a serious nature, and mostly relating to damaged chimneys and overthrown goods. They came mainly from Wellington city and northern Marlborough, where the intensity reached MM VII in some places, though the intensity most frequently reported from the nearest land areas was MM VI. Had the epicentre been even slightly closer to land, this shock would certainly have affected one or more townships and probably have been economically as costly as the Gisborne earthquake of 1966. Two aftershocks were felt (Origins 77/29 and 77/30), the former having a magnitude of 4.7.

Of the shallow shocks that reached that reached a magnitude of 5 or more, three occurred in the central part of the South Island. The shock on May 11 (Origin 77/255, magnitude 5.3) was felt throughout Canterbury and in Westland, but no intensities above MM VI were reported. The epicentral region, near Porter's Pass, is not heavily populated. Aftershocks included Origins 77/256, 77/257, 77/282 and 77/283, all but the first having magnitudes less than four, and none being reported felt. The other two moderately large shocks, of magnitudes 5.0 and 5.1, formed a twin event on October 25 and 26 (Origins 77/693 and 77/696), centred in the headwaters of the Rangitata River, and felt at Ross and other centres in Westland with intensities up to MM V. Several small shocks with intensities close to 4 (Origins 77/692, 77/694, 77/695 and 77/697) have approximately the



same epicentre. All of these events occurred within about a ten hour period and are presumably related.

The shock of magnitude 5.4 near Edgecumbe on May 31 (Origin 77/317) reached an epicentral intensity of MM VIII and gave rise to some 360 insurance claims, the largest for an amount of \$2,600. The felt area covered most of the Bay of Plenty, but did not extend south of Rotorua. A possible foreshock of magnitude 3.3 (Origin 77/314) was felt at Kawerau on May 29, and numerous aftershocks of about magnitude 4 followed, many of which were felt (e.g. Origins 77/318 to 77/322). The background level of small activity in this part of the country is normally high, and includes deep-focus shocks. Claims of physical relationship between close events must therefore be advanced with caution.

The absence of large shocks in the Fiordland Seismic Region during the year is unusual, the largest event being a shock of magnitude 4.5 on April 1, centred off the coast near Caswell Sound (Origin 77/175). No felt reports were received.

It is not unusual for large earthquakes to the north-east of New Zealand to be felt in scattered localities at very great distances from the epicentre. This was the case with the earthquake near Tonga on June 22 (Origin 77/398), which was felt in Wellington, 2,200 km from the origin. This shock caused damage on the islands of 'Eua and Tongatapu, which was inspected by engineers of the New Zealand Ministry of Works and Development, and is described in the *Bulletin of the N.Z. National Society for Earthquake Engineering* 10(4) : 208-218 (1977 Dec). On March 22 a 317 km-deep shock centred 500 km north of the Bay of Plenty (Origin 77/155, Magnitude 6.2) was felt in the Wellington city area.

The number of deep shocks within the Main Seismic Region of New Zealand that reached a magnitude of five or more was unusually great with a concentration in the early part of the year, no fewer than ten occurring before the end of May, though felt shocks were more common towards the end of the year. The deepest, a shock of magnitude 5.3 with a depth of 353 km centred in the Bay of Plenty (Origin 77/35) occurred on January 22, but the depth is not abnormally great for shocks in this region. It was not reported felt.

The two largest of the deep shocks that were felt, of magnitude 5.7 and 5.6 respectively, occurred on March 14 and August 11 (Origins 77/142 and 77/510). The first of these, with a focal depth of 219 km was centred in northern Taranaki about 50 km east of New Plymouth,

and was felt as far south as Christchurch and as far east as Hawkes Bay, but there were no reports from places lying north of the epicentre, and only one reported intensity (from near Wellington) exceeded MM IV. The slightly deeper shock on August 11, with a focal depth of 257 km and an epicentre near Mangakino was widely reported from places in the southern half of the North Island. A third shock of magnitude 5.7 with a depth of only 176 km (Origin 77/78) occurred on February 9. Its epicentre lies about 110 km north east of East Cape and should probably be assigned to the Kermadec rather than to the Main New Zealand Seismic Region. It was not reported felt.

The felt effects of the shock of magnitude 5.5 on April 24, with a depth of 192 km and an epicentre north of Tasman Bay (Origin 77/222) were very similar to those of the shock on August 11 already described, in spite of the very different origin. Another magnitude 5.5 shock on January 18 (Origin 77/31, focal depth 135 km) brought only five felt reports, but they covered an area that included the Bay of Plenty, Gisborne and Wellington. Other shocks calling for mention here are that on October 2 (Origin 77/634) with a depth of 206 km and a magnitude of 5.4 and lying close to the shock of April 24, which was felt only in Wellington city and suburbs; a shock felt in and near Rotorua on August 16 (Origin 77/518); and one of magnitude 5.3 on November 21 (Origin 77/777), which produced a single felt report from inland Hawkes Bay.

The smaller activity presents few special features, though attention should be drawn to the grouping of shocks off the coast near Kaikoura, which includes a multiple event on December 11 involving three shallow shocks within less than half an hour (Origins 77/820, 77/821, and 77/822). The first had a magnitude of 3.8 and the others 3.9. Earlier shallow shocks in the same region occurred on June 23 and August 15 (Origins 77/400 and 77/515). A further shock, on November 11 (Origin 77/750) was assigned a focal depth of 63 km, and was felt at Motunau, on the coast about 80 km south of Kaikoura. Its magnitude was 3.6.

On February 18 a series of small shallow earthquakes that continued until February 22 was felt at Purangi, in Taranaki (Origins 77/93, 77/99, 77/100, 77/101, and 77/103). Magnitudes ranged from 2.9 to 3.3, and intensities locally reached about MM IV. Two unconfirmed felt reports on March 30 possibly represent further shocks of the series. Earthquake swarms of this kind are fairly usual in New Zealand's volcanic regions.



White Island was more than usually active throughout the year, continuing an ash eruption that began on 1976 December 26. Lava was produced in mid March, and major emissions of ash occurred in July. The largest eruption of the year was on August 25. There was some concentration of small earthquake activity near Whakatane during the year, but nothing that could be directly attributed to the volcanism. The central volcanoes of the North Island were quiet, the only significant activity being a moderate eruption of steam and ash on November 2.



# THE INSTRUMENTAL NETWORKS

## INTRODUCTION

The system of seismograph stations now under the scientific direction of the Seismological Observatory, Wellington, comprises a standard network of 40 stations covering the main islands of New Zealand and extending over the south-west Pacific from Samoa, Fiji, and Rarotonga, to the Antarctic; two smaller and more closely-spaced networks near Wellington, and in the Lake Pukaki district; and specialised or temporary stations established for research purposes.

The stations of the standard network are of two kinds, one having short-period instruments intended to record shocks originating within about 1,000 km, and the other equipped with long-period instruments designed to provide information about more distant earthquakes and about the internal structure of the Earth. These functions interlock, and every station yields information of both kinds. Most of the instruments record photographically, but at stations where facilities for photographic work would be difficult to provide, or where instantly visible records are needed for tsunami warning or other civil defence purposes, pen-and-ink or heated stylus recorders are in use.

The Pukaki network consists of nine stations set up by the New Zealand Electricity Department in 1975 to monitor any changes in seismicity that might accompany the raising of the level of Lake Pukaki for power generation. The stations transmit their outputs to a central recorder at Twizel, and the records are analysed at the Observatory in Wellington, where they remain available for research. They are not read for all events, but in appropriate cases their readings are listed and used with those of the standard network.

The Wellington network is technically similar, but is intended primarily for research. It is also used in the rapid location of shocks of public interest or of importance for civil defence.

Also near Wellington is the 'Seismic Research Observatory' at South Karori. This is a specialised instrument sponsored by the United States Geological Survey and is one of about ten similar installations distributed around the world. The three-component seismometer is enclosed in a gas-filled capsule and has been lowered

to a position about 10 m below sea-level in a bore-hole 10 cm in diameter and about 100 m deep. The outputs are transmitted by land-line to the Observatory at Kelburn, where both conventional analogue records on paper and digital records on magnetic tape are made. Three-component long-period and one vertical component short-period outputs are recorded.

Additional contributions to the standard network come from three stations operated for volcanological research, one on White Island operated by the Geology Department of the Victoria University of Wellington, and two in the Tongariro National Park operated by the Geophysical Survey of the D.S.I.R. The stations are not under the control of the Observatory and are intermittent in operation, but their readings are available for inclusion in the local epicentre-location programme when this is helpful.

## CHANGES TO THE NETWORKS IN 1977

During 1977 a new station of the Wellington network was established at Tory Channel, the standard station at Gebbie's Pass was closed, and the station at Niue suffered a period of interruption in April and May.

The station at Gebbie's Pass, established in 1956 November, ceased operation on 1977 October 31. This was the result of a decision by the broadcasting authorities to arrange for total automation of the radio transmitter whose staff had for many years serviced the seismograph. A new station will be installed in the Christchurch area as soon as a suitable site can be found and satisfactory arrangements made for servicing it. The possibility of telemetry from a quiet site on Banks Peninsula to the existing recorder in the Canterbury Museum is being considered.

The station near the entrance to Tory Channel in the Marlborough Sounds forms part of the Wellington network, and extends it across Cook Strait. The output of the seismometer is telemetered to Wellington by way of a radio link to the station at Makara Radio. After a short test period of battery-powered operation that began on 1977 March 28 and lasted approximately six weeks, solar cells were installed to provide a permanent power-supply, and continuous operation began on August 12.

Operation at Niue became intermittent in April as a result of a lightning strike, and the trouble persisted throughout April and May.

## INDEX OF STATION CODES

Throughout the tabular sections of this Report stations are identified by the international three-letter abbreviations allotted by the United States National Earthquake Information Service, and used by the International Seismological Centre, Newbury, Berkshire, England. Codes for stations of the New Zealand networks are:

### STANDARD NETWORK

|                 |     |                 |     |              |     |
|-----------------|-----|-----------------|-----|--------------|-----|
| Afiamalu        | AFI | Glacier Shelter | GSZ | Oban         | OBZ |
| Apia            | API | Great Barrier   | GBZ | Onerahi      | ONE |
| Auckland        | AUC | Kaikoura West   | KKY | Raoul Island | RAO |
| Campbell Island | CBZ | Kaimata         | KAI | Rarotonga    | RAR |
| Cape Reinga     | CRZ | Karapiro        | KRP | Roxburgh     | ROX |
| Castlepoint     | CAZ | Mangahao        | MNG | Scott Base   | SBA |
| Chateau         | CNZ | Milford Sound   | MSZ | Taradale     | TRZ |
| Chatham Islands | CIZ | Monowai         | MNW | Tarata       | TNZ |
| Christchurch    | CHR | Mount John      | MJZ | Tuai         | TUA |
| Cobb River      | COB | Nadi            | NDF | Wairakei     | WNZ |
| East Cape       | ECZ | Ngauruhoe       | NGZ | Wellington   | WEL |
| Gebbies Pass    | GPZ | Niue            | NUE | Whakatane    | WTZ |
| Gisborne        | GNZ | Oamaru          | OMZ | White Island | WIZ |

### PUKAKI NETWORK

|                  |     |                |     |            |     |
|------------------|-----|----------------|-----|------------|-----|
| Bush Stream      | BSP | Huxley Gorge   | HGP | Mount Mary | MMP |
| Diadem           | DMP | Hogget Hill    | HHP | Tara Hills | THP |
| Gladstone Stream | GSP | Mt John Pukaki | MJP | Tomahawk   | TMP |

### WELLINGTON NETWORK

|              |     |              |     |               |     |
|--------------|-----|--------------|-----|---------------|-----|
| Baring Head  | BHW | Makara Radio | MRW | Wellington    | WEL |
| Cannon Point | CAW | Tory Channel | TCW | Wright's Hill | WHW |
|              |     | Wainui Dam   | WDW |               |     |

### SEISMIC RESEARCH OBSERVATORY

South Karori      SNZO



## GEOGRAPHICAL POSITIONS

| STA | LATITUDE |    |      | LONGITUDE |    |      | ALT<br>m | GEOCENTRIC DIRECTION COSINES |            |            |
|-----|----------|----|------|-----------|----|------|----------|------------------------------|------------|------------|
|     | d        | m  | s    | d         | m  | s    |          | A                            | B          | C          |
| AFI | 13       | 54 | 34 S | 171       | 46 | 38 W | 706      | -0.961 070                   | -0.138 883 | -0.238 864 |
| API | 13       | 48 | 26 S | 171       | 46 | 30 W | 2        | -0.961 482                   | -0.138 981 | -0.237 142 |
| AUC | 36       | 51 | 36 S | 174       | 46 | 41 E | 79       | -0.798 711                   | 0.072 997  | -0.597 271 |
| BHW | 41       | 24 | 33 S | 174       | 52 | 17 E | 10       | -0.749 202                   | 0.067 242  | -0.658 919 |
| BSP | 43       | 52 | 14 S | 170       | 06 | 15 E | 750      | -0.712 478                   | 0.124 294  | -0.690 598 |
| CAW | 41       | 06 | 32 S | 175       | 04 | 04 E | 330      | -0.752 855                   | 0.064 969  | -0.654 972 |
| CAZ | 40       | 54 | 15 S | 176       | 13 | 34 E | 6        | -0.756 343                   | 0.049 890  | -0.652 270 |
| CBZ | 52       | 33 | 03 S | 169       | 09 | 33 E | 30       | -0.599 744                   | 0.114 851  | -0.791 907 |
| CHR | 43       | 31 | 58 S | 172       | 37 | 36 E | 8        | -0.721 282                   | 0.093 337  | -0.686 324 |
| CIZ | 43       | 57 | 18 S | 176       | 33 | 56 W | 45       | -0.720 923                   | -0.043 266 | -0.691 663 |
| CNZ | 39       | 12 | 00 S | 175       | 32 | 51 E | 1116     | -0.774 682                   | 0.060 323  | -0.629 467 |
| COB | 41       | 05 | 16 S | 172       | 44 | 02 E | 213      | -0.749 824                   | 0.095 604  | -0.654 693 |
| CRZ | 34       | 25 | 55 S | 172       | 40 | 47 E | 140      | -0.819 834                   | 0.105 318  | -0.562 833 |
| DMP | 44       | 24 | 51 S | 169       | 49 | 38 E | 820      | -0.705 389                   | 0.126 574  | -0.697 427 |
| ECZ | 37       | 41 | 37 S | 178       | 32 | 46 E | 40       | -0.793 026                   | 0.020 128  | -0.608 855 |
| GBZ | 36       | 13 | 04 S | 175       | 28 | 52 E | 70       | -0.806 157                   | 0.063 714  | -0.588 261 |
| GNZ | 38       | 38 | 39 S | 178       | 01 | 21 E | 30       | -0.782 622                   | 0.027 022  | -0.621 911 |
| GPZ | 43       | 41 | 47 S | 172       | 38 | 40 E | 225      | -0.719 365                   | 0.092 862  | -0.688 397 |
| GSP | 44       | 08 | 01 S | 170       | 01 | 05 E | 840      | -0.709 161                   | 0.124 814  | -0.693 911 |
| GSZ | 39       | 16 | 40 S | 175       | 35 | 14 E | 2600     | -0.773 872                   | 0.059 720  | -0.630 520 |
| HGP | 44       | 06 | 09 S | 169       | 50 | 39 E | 590      | -0.709 150                   | 0.127 032  | -0.693 519 |
| HHP | 44       | 19 | 39 S | 170       | 20 | 44 E | 490      | -0.707 545                   | 0.120 364  | -0.696 343 |
| KAI | 42       | 31 | 33 S | 171       | 24 | 31 E | 82       | -0.730 944                   | 0.110 433  | -0.673 443 |
| KIW | 40       | 51 | 50 S | 174       | 54 | 42 E | 320      | -0.755 456                   | 0.067 268  | -0.651 738 |
| KKY | 42       | 25 | 12 S | 173       | 41 | 31 E | 101      | -0.735 998                   | 0.081 360  | -0.672 077 |
| KRP | 37       | 55 | 30 S | 175       | 32 | 15 E | 64       | -0.788 423                   | 0.061 531  | -0.612 049 |
| MJP | 43       | 59 | 28 S | 170       | 27 | 34 E | 960      | -0.711 801                   | 0.119 633  | -0.692 118 |
| MJZ | 43       | 59 | 14 S | 170       | 27 | 58 E | 1000     | -0.711 861                   | 0.119 558  | -0.692 069 |
| MMP | 44       | 08 | 33 S | 170       | 16 | 42 E | 950      | -0.709 615                   | 0.121 573  | -0.694 022 |
| MNG | 40       | 37 | 07 S | 175       | 28 | 55 E | 396      | -0.758 859                   | 0.059 965  | -0.648 488 |
| MNW | 45       | 46 | 49 S | 167       | 37 | 07 E | 155      | -0.683 548                   | 0.150 055  | -0.714 315 |
| MOW | 41       | 25 | 18 S | 175       | 15 | 07 E | 430      | -0.749 489                   | 0.062 253  | -0.659 083 |
| MRW | 41       | 13 | 57 S | 174       | 42 | 18 E | 235      | -0.751 022                   | 0.069 604  | -0.656 599 |
| MSZ | 44       | 40 | 14 S | 167       | 55 | 01 E | 38       | -0.697 720                   | 0.149 363  | -0.700 627 |
| NDF | 17       | 45 | 25 S | 177       | 27 | 00 E | 30       | -0.952 009                   | 0.042 398  | -0.303 118 |
| NGZ | 39       | 11 | 00 S | 175       | 36 | 49 E | 1400     | -0.774 933                   | 0.059 443  | -0.629 241 |
| NUE | 19       | 04 | 35 S | 169       | 55 | 41 E | 56       | -0.931 186                   | 0.165 400  | -0.324 864 |
| OBZ | 46       | 54 | 18 S | 168       | 06 | 55 E | 26       | -0.670 966                   | 0.141 208  | -0.727 918 |
| OMZ | 45       | 04 | 14 S | 170       | 54 | 53 E | 95       | -0.699 729                   | 0.111 895  | -0.705 591 |
| ONE | 35       | 46 | 33 S | 174       | 21 | 45 E | 30       | -0.809 242                   | 0.079 882  | -0.582 019 |
| RAO | 29       | 15 | 06 S | 177       | 55 | 06 W | 110      | -0.873 304                   | -0.031 743 | -0.486 140 |
| RAR | 21       | 12 | 45 S | 159       | 46 | 24 W | 28       | -0.875 524                   | -0.322 593 | -0.359 711 |
| ROX | 45       | 28 | 33 S | 169       | 19 | 13 E | 106      | -0.691 423                   | 0.130 393  | -0.710 586 |
| SBA | 77       | 51 | 01 S | 166       | 45 | 22 E | 38       | -0.206 194                   | 0.048 529  | -0.977 307 |
| SNZ | 41       | 18 | 37 S | 174       | 42 | 17 E | 88       | -0.750 134                   | 0.069 526  | -0.657 621 |
| TCW | 41       | 12 | 48 S | 174       | 16 | 33 E | 150      | -0.750 697                   | 0.075 250  | -0.656 347 |
| THP | 44       | 32 | 42 S | 169       | 53 | 17 E | 760      | -0.703 954                   | 0.125 545  | -0.699 062 |
| TMP | 44       | 18 | 54 S | 170       | 07 | 12 E | 720      | -0.707 215                   | 0.123 175  | -0.696 186 |
| TNZ | 39       | 11 | 14 S | 174       | 22 | 49 E | 123      | -0.773 432                   | 0.076 105  | -0.629 294 |
| TRZ | 39       | 33 | 12 S | 176       | 49 | 17 E | 17       | -0.771 946                   | 0.042 870  | -0.634 241 |
| TUA | 38       | 48 | 29 S | 177       | 09 | 02 E | 274      | -0.780 343                   | 0.038 841  | -0.624 145 |
| WDW | 41       | 16 | 07 S | 174       | 59 | 37 E | 130      | -0.750 950                   | 0.065 784  | -0.657 074 |
| WEL | 41       | 17 | 10 S | 174       | 46 | 06 E | 122      | -0.750 486                   | 0.068 718  | -0.657 304 |
| WHW | 41       | 17 | 51 S | 174       | 44 | 17 E | 383      | -0.750 320                   | 0.069 103  | -0.657 453 |
| WIZ | 37       | 31 | 42 S | 177       | 11 | 21 E | 40       | -0.794 075                   | 0.038 988  | -0.605 568 |
| WNZ | 38       | 37 | 53 S | 176       | 06 | 10 E | 350      | -0.781 416                   | 0.053 234  | -0.621 736 |
| WIZ | 37       | 59 | 05 S | 176       | 59 | 18 E | 43       | -0.789 092                   | 0.041 516  | -0.612 871 |

## INSTRUMENTATION AND LITHOLOGY

## STANDARD NETWORK

Stations are listed in the alphabetical order of their international three-letter code designations. Pendulum and galvanometer periods,  $T_o$  and  $T_g$ , are given in seconds. The damping of electromagnetic instruments, when not listed, may be assumed to be critical. Magnifications listed are for the period of maximum response, except in the case of World-Wide Standard instruments, where the magnifications are given at the conventional periods of 1.0 and 15 seconds. Typical period response curves for Willmore II, Benioff, Wood-Anderson and Mark Products L-4C seismographs are shown at the end of this section.

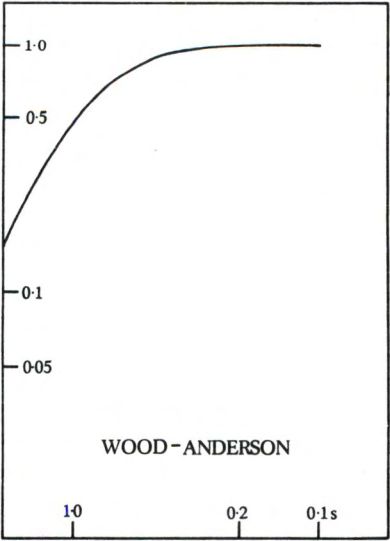
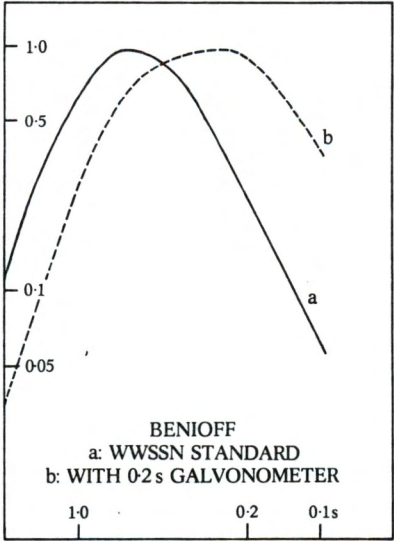
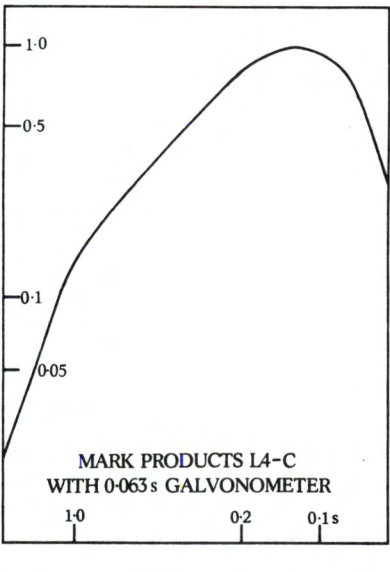
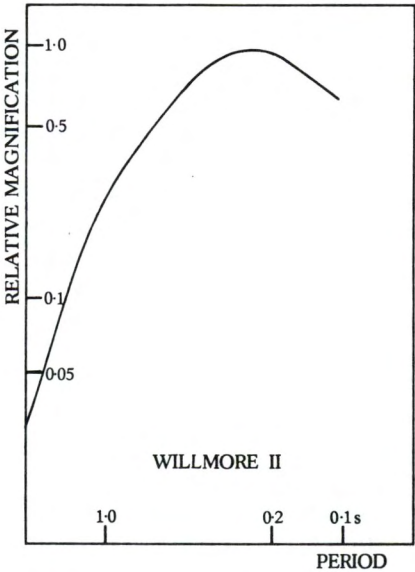
|     | Instrument                                                                                    | Compt | $T_o$ | $T_g$ | Damping | Magnification |
|-----|-----------------------------------------------------------------------------------------------|-------|-------|-------|---------|---------------|
| AFI | AFIAMALU                                                                                      |       |       |       |         |               |
|     | World-Wide Standard Station.                                                                  |       |       |       |         |               |
|     | Foundation: Basaltic lava flows.                                                              |       |       |       |         |               |
|     | Benioff                                                                                       | ZNE   | 1.0   | 0.75  |         | 12500 at 1.0s |
|     | Press-Ewing                                                                                   | ZNE   | 15    | 100   |         | 750 at 15s    |
| API | APIA                                                                                          |       |       |       |         |               |
|     | Foundation: Coral sand on Recent and Pleistocene basalt.                                      |       |       |       |         |               |
|     | Johnson-Matheson (photo-cell amplifier used with heated stylus recorder).                     |       |       |       |         |               |
|     |                                                                                               | Z     | 1.2   | 0.20  |         |               |
| AUC | AUCKLAND                                                                                      |       |       |       |         |               |
|     | Foundation: Volcanic beds on Tertiary sandstone and mudstone.                                 |       |       |       |         |               |
|     | Willmore I (photo-cell amplifier used with pen-and-ink recorder).                             |       |       |       |         |               |
|     |                                                                                               | Z     | 1.0   | 1.0   |         | 7600 at 0.8s  |
| CAZ | CASTLEPOINT                                                                                   |       |       |       |         |               |
|     | Foundation: Quaternary mudstone.                                                              |       |       |       |         |               |
|     | Willmore II (with Kinematics pen-and-ink recorder).                                           |       |       |       |         |               |
|     |                                                                                               | Z     | 1.0   |       |         | Variable      |
|     | This station is on an exposed coast. The magnification is reduced when high seas are running. |       |       |       |         |               |
| CBZ | CAMPBELL ISLAND                                                                               |       |       |       |         |               |
|     | Foundation: Basalt.                                                                           |       |       |       |         |               |
|     | Willmore II                                                                                   | Z     | 1.0   | 0.25  |         | 5000 at 0.25s |
| CHR | CHRISTCHURCH                                                                                  |       |       |       |         |               |
|     | Foundation: Alluvial sands, tills and gravels.                                                |       |       |       |         |               |
|     | Willmore I (Photo-cell amplifier used with pen-and-ink recorder).                             |       |       |       |         |               |
|     |                                                                                               | Z     | 1.0   | 0.25  |         | 4700 at .67s  |
| CIZ | CHATHAM ISLANDS                                                                               |       |       |       |         |               |
|     | Foundation: Clay over basalt.                                                                 |       |       |       |         |               |
|     | Willmore II                                                                                   | Z     | 1.0   | 0.25  |         | 4440 at 0.20s |
|     |                                                                                               | N     | 1.0   | 0.25  |         | 5110 at 0.20s |
|     |                                                                                               | E     | 1.0   | 0.25  |         | 4400 at 0.25s |

|     | Instrument                                                                                                                          | Compt | $T_o$ | $T_g$ | Damping | Magnification          |
|-----|-------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|---------|------------------------|
| CNZ | CHATEAU                                                                                                                             |       |       |       |         |                        |
|     | Foundation: Volcanic ash and lava.                                                                                                  |       |       |       |         |                        |
|     | Mark Products L-4C (Output telemetered to Kinometrics VR-1 pen-and-ink recorder).                                                   |       |       |       |         |                        |
|     | Z                                                                                                                                   |       | 1.0   |       |         | Variable               |
|     | This station is operated by the Geophysical Survey, D.S.I.R., for volcanological research. The magnification is changed frequently. |       |       |       |         |                        |
| COB | COBB RIVER                                                                                                                          |       |       |       |         |                        |
|     | Foundation: Schist.                                                                                                                 |       |       |       |         |                        |
|     | Willmore II                                                                                                                         | Z     | 1.0   | 0.25  |         | 27300 at 0.20s         |
| CRZ | CAPE REINGA                                                                                                                         |       |       |       |         |                        |
|     | Foundation: Cretaceous basic volcanics.                                                                                             |       |       |       |         |                        |
|     | Willmore II                                                                                                                         | Z     | 1.0   | 0.25  |         | 9350 at 0.25s          |
|     |                                                                                                                                     | N     | 1.0   | 0.25  |         | 10200 at 0.20s         |
|     |                                                                                                                                     | E     | 1.0   | 0.25  |         | 9790 at 0.20s          |
| ECZ | EAST CAPE                                                                                                                           |       |       |       |         |                        |
|     | Foundation: Mudstone and sandstone.                                                                                                 |       |       |       |         |                        |
|     | Willmore II                                                                                                                         | Z     | 1.0   | 0.25  |         | 4800 at 0.33s          |
| GBZ | GREAT BARRIER                                                                                                                       |       |       |       |         |                        |
|     | Foundation: Tertiary volcanics.                                                                                                     |       |       |       |         |                        |
|     | Willmore II                                                                                                                         | Z     | 1.0   | 0.25  |         | 23800 at 0.25s         |
| GNZ | GISBORNE                                                                                                                            |       |       |       |         |                        |
|     | Foundation: Alluvium on Tertiary mudstone.                                                                                          |       |       |       |         |                        |
|     | Willmore II                                                                                                                         | Z     | 1.0   | 0.25  |         | 27000 at 0.25s         |
|     |                                                                                                                                     | N     | 1.0   | 0.25  |         | 26700 at 0.25s         |
|     |                                                                                                                                     | E     | 1.0   | 0.25  |         | 25100 at 0.25s         |
| GPZ | GEBBIES PASS                                                                                                                        |       |       |       |         |                        |
|     | Foundation: Rhyolite.                                                                                                               |       |       |       |         |                        |
|     | Wood-Anderson                                                                                                                       | N     | 0.0   |       | crit.   | 2800                   |
|     | This station was closed down on October 31.                                                                                         |       |       |       |         |                        |
| GSZ | GLACIER SHELTER                                                                                                                     |       |       |       |         |                        |
|     | Foundation: Recent andesite.                                                                                                        |       |       |       |         |                        |
|     | Mark Products L-4C (Output telemetered to Kinometrics VR-1 pen-and-ink recorder).                                                   |       |       |       |         |                        |
|     | Z                                                                                                                                   |       | 1.0   |       |         | Variable               |
|     | This station is operated by the Geophysical Survey, D.S.I.R., for volcanological research. The magnification is frequently changed. |       |       |       |         |                        |
| KAI | KAIMATA                                                                                                                             |       |       |       |         |                        |
|     | Foundation: Moraine and river gravels over Tertiary mudstone and sandstone.                                                         |       |       |       |         |                        |
|     | Wood-Anderson                                                                                                                       | X     | 0.80  |       | crit.   | 2800                   |
|     | This instrument is oriented so that the X component lies north-east.                                                                |       |       |       |         |                        |
| KKY | KAIKOURA WEST                                                                                                                       |       |       |       |         |                        |
|     | Foundation: Tertiary limestone and sandstone.                                                                                       |       |       |       |         |                        |
|     | Willmore II                                                                                                                         | Z     | 1.0   | 0.20  |         | 40000 at 0.20s         |
|     | 35mm film recorder. Magnification as seen on 8 × viewer.                                                                            |       |       |       |         |                        |
| KRP | KARAPIRO                                                                                                                            |       |       |       |         |                        |
|     | Foundation: Greywacke.                                                                                                              |       |       |       |         |                        |
|     | Benioff                                                                                                                             | Z     | 1.0   | 0.20  |         | 46700 at 0.25s         |
|     |                                                                                                                                     | N     | 1.0   | 0.20  |         | approx. 40000 unstable |
|     |                                                                                                                                     | E     | 1.0   | 0.20  |         | 41000 at 0.50s         |
|     | Press-Ewing                                                                                                                         | ZNE   | 15    | 100   |         | 1000 approx. at 15s    |
| MNG | MANGAHAO                                                                                                                            |       |       |       |         |                        |
|     | Foundation: Greywacke.                                                                                                              |       |       |       |         |                        |
|     | Willmore II                                                                                                                         | Z     | 1.0   | 0.25  |         | 52000 at 0.33s         |



|     | Instrument                                                                                                                         | Compt        | $T_o$           | $T_g$            | Damping | Magnification                                      |
|-----|------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------|------------------|---------|----------------------------------------------------|
| MSZ | MILFORD SOUND<br>Foundation: Gneiss.<br>Willmore II                                                                                | Z            | 1.0             | 0.25             |         | 49800 at 0.25s                                     |
| MNW | MONOWAI<br>Foundation: Tertiary sandstone.<br>Willmore II<br>Wood-Anderson                                                         | Z<br>N       | 1.0<br>0.80     | 0.25             |         | 29100 at 0.25s<br>2800                             |
|     |                                                                                                                                    |              |                 |                  | crit.   |                                                    |
| MJZ | MOUNT JOHN<br>Foundation: Greywacke.<br>Willmore II                                                                                | Z<br>N<br>E  | 1.0             | 0.25             |         | 30500 at 0.25s<br>43600 at 0.25s<br>41100 at 0.25s |
| NDF | NADI<br>Foundation: Recent clays.<br>Willmore II (photo-cell amplifier used with heated stylus recorder).                          | Z            | 1.25            | 0.20             |         | 6000 approx.                                       |
| NGZ | NGAURUHOE<br>Foundation: Recent volcanic flows.<br>Mark Products L-4C (Output telemetered to Kinometrics pen-and-ink recorder).    | Z            | 1.0             |                  |         | Variable                                           |
|     | This station is operated by the Geophysical Survey, D.S.I.R. for volcanological research. The magnification is frequently changed. |              |                 |                  |         |                                                    |
| NUE | NIUE<br>Foundation: Hard coral.<br>Willmore II (with Kinometrics VR-1 pen-and-ink recorder).                                       | Z            | 1.0             |                  |         | 17200 at 0.10s                                     |
|     | Operation was intermittent during April and May because of a lightning strike.                                                     |              |                 |                  |         |                                                    |
| OBZ | OBAN<br>Foundation: Weathered granite.<br>Mark Products L-4C (with Kinometrics VR-1C pen-and-ink recorder).                        | Z            | 1.0             |                  |         | 12000 at 1.0s                                      |
| OMZ | OAMARU<br>Foundation: Recent deposits overlying Tertiary limestone.<br>Willmore II                                                 | Z            | 1.0             | 0.20             |         | 11500 at 0.20s                                     |
| ONE | ONERAHI<br>Foundation: Basalt.<br>Wood-Anderson                                                                                    | E            | 0.80            |                  | crit.   | 2800                                               |
| RAO | RAOUL ISLAND<br>Foundation: Volcanic rock.<br>Willmore II                                                                          | Z            | 1.0             | 0.25             |         | 4800 at 0.25s                                      |
| RAR | RAROTONGA<br>World-Wide Standard Station.<br>Foundation: Basalt.<br>Benioff<br>Press-Ewing                                         | ZNE<br>ZNE   | 1.0<br>15       | 0.75<br>100      |         | 6250 at 1s<br>375 at 15s                           |
| ROX | ROXBURGH<br>Foundation: chlorite schist.<br>Willmore I<br>Galitzin                                                                 | Z<br>Z<br>NE | 1.0<br>12<br>24 | 0.25<br>12<br>24 |         | 11500 at 0.25s<br>200 approx.<br>300 approx.       |

|     | Instrument                                                                                                                                                                                                                                                     | Compt | $T_o$ | $T_g$ | Damping | Magnification                           |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|---------|-----------------------------------------|
| SBA | SCOTT BASE                                                                                                                                                                                                                                                     |       |       |       |         |                                         |
|     | World-Wide Standard Station.                                                                                                                                                                                                                                   |       |       |       |         |                                         |
|     | Foundation: Frozen basaltic debris resting on lava flows.                                                                                                                                                                                                      |       |       |       |         |                                         |
|     | Benioff                                                                                                                                                                                                                                                        | ZNE   | 1.0   | 0.75  |         | 6250 (summer) at 1.0s<br>25000 (winter) |
|     | Press-Ewing                                                                                                                                                                                                                                                    | ZNE   | 15    | 100   |         | 750 (summer) at 15s<br>1500 (winter)    |
| TNZ | TARATA                                                                                                                                                                                                                                                         |       |       |       |         |                                         |
|     | Foundation: Pleistocene mudstone.                                                                                                                                                                                                                              |       |       |       |         |                                         |
|     | Willmore II                                                                                                                                                                                                                                                    | Z     | 1.0   | 0.25  |         | 4570 at 0.20s                           |
| TRZ | TARADALE                                                                                                                                                                                                                                                       |       |       |       |         |                                         |
|     | Foundation: Quaternary sands and silts, overlying Quaternary limestone.                                                                                                                                                                                        |       |       |       |         |                                         |
|     | Willmore II                                                                                                                                                                                                                                                    | Z     | 1.0   | 0.25  |         | 5550 at 0.25s                           |
| TUA | TUAI                                                                                                                                                                                                                                                           |       |       |       |         |                                         |
|     | Foundation: Thick Tertiary sandstone and mudstone.                                                                                                                                                                                                             |       |       |       |         |                                         |
|     | Willmore II                                                                                                                                                                                                                                                    | Z     | 1.0   | 0.25  |         | 7080 at 0.25s                           |
| WEL | WELLINGTON                                                                                                                                                                                                                                                     |       |       |       |         |                                         |
|     | World-Wide Standard Station.                                                                                                                                                                                                                                   |       |       |       |         |                                         |
|     | Foundation: Greywacke.                                                                                                                                                                                                                                         |       |       |       |         |                                         |
|     | Benioff                                                                                                                                                                                                                                                        | ZNE   | 1.0   | 0.75  |         | 6250 at 1.0s                            |
|     | Press-Ewing                                                                                                                                                                                                                                                    | ZNE   | 15    | 100   |         | 750 at 15s                              |
|     | Willmore II                                                                                                                                                                                                                                                    | Z     | 1.0   | 0.25  |         | 22750 at 0.20s                          |
|     | Wood-Anderson                                                                                                                                                                                                                                                  | NE    | 0.80  |       | crit.   | 1400                                    |
|     | Imamura                                                                                                                                                                                                                                                        | Z     | 1     |       | 5:1     | 2                                       |
|     |                                                                                                                                                                                                                                                                | NE    | 4     |       | 5:1     | 2                                       |
|     | The Willmore Z instrument operates at the bottom of a borehole approximately 60 metres deep. The Benioff vertical component operates both photographic and heated-stylus recorders. There is also a pen-and-ink recorder operated by a Willmore I seismometer. |       |       |       |         |                                         |
| WIZ | WHITE ISLAND                                                                                                                                                                                                                                                   |       |       |       |         |                                         |
|     | Foundation: Recent andesite.                                                                                                                                                                                                                                   |       |       |       |         |                                         |
|     | Mark Products L-4C (Output telemetered to Kinematics VR-1 pen-and-ink recorder).                                                                                                                                                                               |       |       |       |         |                                         |
|     |                                                                                                                                                                                                                                                                | Z     | 1.0   |       |         | Variable                                |
|     | This station is operated by the Geology Department of Victoria University of Wellington for volcanological research.                                                                                                                                           |       |       |       |         |                                         |
| WNZ | WAIRAKEI                                                                                                                                                                                                                                                       |       |       |       |         |                                         |
|     | Foundation: Pumice breccia.                                                                                                                                                                                                                                    |       |       |       |         |                                         |
|     | Willmore I                                                                                                                                                                                                                                                     | Z     | 1.0   | 0.25  |         | 200 (nominal)                           |
| WTZ | WHAKATANE                                                                                                                                                                                                                                                      |       |       |       |         |                                         |
|     | Foundation: Weathered Jurassic greywacke.                                                                                                                                                                                                                      |       |       |       |         |                                         |
|     | Willmore II                                                                                                                                                                                                                                                    | Z     | 1.0   | 0.20  |         | 24000 at 0.20s                          |



PERIOD RESPONSE CURVES  
SHORT PERIOD SEISMOGRAPHS



### PUKAKI NETWORK

The stations of the Pukaki network are operated by the Department of Energy Resources, Electricity Division and are intended to monitor any changes in regional seismicity associated with the use of the lake for the generation of electric power. The records are interpreted and retained at the Observatory and are available for other seismological studies.

The network consists of nine permanent stations linked by radio to a common film recorder at Twizel. The seismometers used are Mark Products L-4C instruments with a natural period of one second, and the recorder is a Teledyne Develocorder with galvanometers having a natural period of 0.063s (frequency 16Hz). The outputs from some stations are recorded on two traces after electrical modification to produce different period response and magnification. The high magnification response curve is shown in the diagram following this section. The period of maximum response is 0.10s. The low magnification response curve is similar to that of a Willmore II and reaches a peak magnification at 0.20s. The low magnification traces are set to give one fifth of the magnification of the high magnification trace at 1.0s. Magnifications quoted below are for the period of maximum response and refer to the image projected on a viewing screen, which magnifies the film twenty times.

| Station              | Component | Magnification      |
|----------------------|-----------|--------------------|
| BSP Bush Stream      | Z         | 1 500 000 at 0.10s |
| DMP Diadem           | Z         | 1 500 000 at 0.10s |
| GSP Gladstone Stream | Z         | 1 500 000 at 0.10s |
|                      |           | see below          |
| HGP Huxley Gorge     | Z         | 1 500 000 at 0.10s |
| HHP Hogget Hill      | Z         | 1 500 000 at 0.10s |
| MJP Mt John Pukaki   | Z         | 1 500 000 at 0.10s |
| MMP Mount Mary       | Z         | 1 500 000 at 0.10s |
| THP Tara Hills       | Z         | 1 500 000 at 0.10s |
| TMP Tomahawk Gully   | Z         | 1 500 000 at 0.10s |
|                      | N         | 200 000 at 0.20s   |
|                      | E         | 200 000 at 0.20s   |

The equipment at Twizel includes a conventional pen-and-ink recorder, which can be connected to the output of any of several stations. It is normally used to record the output of the Gladstone Stream (GSP) seismometer, providing a magnification of 275,000 at 0.10s. The lithological foundation at all stations is Mesozoic Greywacke.

## WELLINGTON NETWORK

The stations of the Wellington network are linked by radio or land-line to a common recorder at the main observatory site at Kelburn. The seismometers used are Mark Products L-4C instruments with a natural period of 1.0 second, except in the case of WEL, where the vertical component signal is derived from the Benioff short-period instrument of the World-Wide Standard Station. The recorder used is a Teledyne Develocorder with galvanometers having a period of 0.063s (frequency 16Hz). Magnifications quoted refer to the most sensitive channel, as projected on the screen of the Develocorder, which magnifies the film trace ten times. In some cases a second channel operating at a lower gain is also recorded. Magnifications in parentheses have been empirically determined by comparing magnitudes determined at these stations with magnitudes determined at calibrated stations.

The three letter code CPW assigned to Cannon Point in earlier reports has been changed to CAW because of accidental duplication with the station at Capitol Peak, Washington, U.S.A. This change has been approved by the International Seismological Centre. Other details of the station are unchanged.

| Station                                       | Component | Magnification at 0.10s |
|-----------------------------------------------|-----------|------------------------|
| BHW Baring Head                               | Z         | (150 000)              |
| CAW Cannon Point                              | Z         | (510 000)              |
| Magnification was 225 000 until February 1st. |           |                        |
| MRW Makara Radio                              | Z         | 400 000                |
| TCW Tory Channel                              | Z         | (1 000 000)            |
| Station installed on March 28.                |           |                        |
| WDW Wainui Dam                                | Z         | (260 000)              |
| WEL Wellington                                | Z         | (1 500)                |
|                                               | N         | (270 000)              |
| WHW Wright's Hill                             | Z         | 310 000                |

The lithological foundation at all stations is Jurassic-Permian Greywacke.

## SEISMIC RESEARCH OBSERVATORY

This station is sponsored by the United States Geological Survey. A three-component seismometer sealed in a gas-filled capsule is placed in a borehole 10cm in diameter and about 100m deep. Both digital and analogue recordings are made from the three long-period and the vertical component short-period outputs. The recorder is at the observatory site in Kelburn, and the signals are transmitted to it by land-line. The ground surface is 88m above and the seismometer 10m below sea-level.

| Station          | Component | Magnification at 0.10s |
|------------------|-----------|------------------------|
| SNZOSouth Karori | ZNE       | 20 000 at 25s          |
|                  | Z         | 6 250 at 1.0s          |

The lithological foundation is Jurassic-Permian Greywacke.

## TIMING ARRANGEMENTS

Unless stated otherwise, times in this Report are given in Universal Time. For seismological and civil purposes this may be regarded as the Mean Solar Time of the Greenwich meridian.

All permanent stations of the New Zealand networks have minute marks derived from reliable quartz crystal clocks of high stability. These are related to Universal Time by means of radio time-signals impressed directly on the records. In most cases these are the signals of the New Zealand Time Service, for which the Observatory is administratively responsible, and which are transmitted hourly through the stations of Radio New Zealand. Their error seldom exceeds two milliseconds. Details appear elsewhere in this Report. In areas of bad reception the Australian station VNG is used.

Stations of the World-Wide Standard Seismograph Network have the timing arrangements usual at such stations. At other stations beyond New Zealand time signals originating at the Observatory or from VNG are used. Signals from a quartz clock are impressed on the records of the Wellington and Pukaki networks each second. At Wellington they are derived directly from the national time-service. At Pukaki one trace of the recorder carries a continuous record of the signals from VNG.



It is sometimes desirable to know the local civil time at which an earthquake occurred. The times now used for civil purposes in New Zealand (except the Chatham Islands) are New Zealand Standard Time, and New Zealand Daylight Time, which are defined in the Time Act, 1974. The period of Daylight Time is specified periodically by Order in Council, as provided by the Act, and normally extends from 02<sup>h</sup> NZST on the last Sunday in October until 02<sup>h</sup> NZST on the first Sunday in March of the following year.

The time observed in the Chatham Islands is 45 minutes in advance of that currently in use in New Zealand. New Zealand time is observed at Scott Base and on Raoul Island. Times observed elsewhere in the South Pacific are decided by the governments of the respective countries. Those affecting stations of the New Zealand network are:

|               |                                 |               |
|---------------|---------------------------------|---------------|
| Western Samoa | 11 <sup>h</sup> 00 <sup>m</sup> | behind U.T.   |
| Niue          | 11 <sup>h</sup> 00 <sup>m</sup> | behind U.T.   |
| Rarotonga     | 10 <sup>h</sup> 30 <sup>m</sup> | behind U.T.   |
| Tonga         | 13 <sup>h</sup> 00 <sup>m</sup> | ahead of U.T. |

Note that Western Samoa, Niue, and Rarotonga are on the opposite side of the International Date Line from New Zealand.



# INSTRUMENTAL DATA

## INTRODUCTION

This section contains origin times, epicentres, focal depths, magnitudes, and station readings of those earthquakes in the New Zealand region that could be located from instrumental data. In general, origins are calculated for all shocks of magnitude 4.0 and greater within 10° of Wellington, together with those shocks of lower magnitude or at greater distances, that have been reported felt. A summary of the origins and magnitudes is given later in this section. The calculations are carried out by a PDP 11/34 digital computer using a FORTRAN programme developed by W. D. Smith, E. G. C. Smith and A. J. Haines. A provisional origin is repeatedly adjusted to obtain the best agreement between observed arrival-times for the various phases, and times computed from tables. More precisely, the origin is adjusted to minimise the sum of the squares of the weighted residuals (observed minus computed arrival-times).

## DETERMINATION OF ORIGINS

The earthquake origins are determined using the phases P, Pn, P\* and Pg, and the corresponding S phases. In computing travel times, it is assumed that the New Zealand crust is 33 km thick, and is divided into two uniform layers by a discontinuity at a depth of 12 km. Above the discontinuity the velocities of P and S are 5.5 and 3.3 km/s respectively (Pg and Sg) and below it they are 6.5 and 3.7 km/s (P\* and S\*). Travel times for Pn and Sn waves, which travel in the mantle, are calculated using mantle velocities of 8.1 km/s for Pn and 4.65 km/s for Sn. Several studies have shown that these values are close to the average velocities for Pn and Sn in New Zealand. Travel times for P and S are derived from the Jeffreys-Bullen '*Seismological Tables*' (British Association for the Advancement of Science, 1958). It is known that the mantle in New Zealand is not laterally homogeneous, but until such time as more accurate travel times can be routinely calculated, the Jeffreys-Bullen approximation will continue to be used in the interest of consistency with earlier reports.

In general, all four parameters of the earthquake origin are calculated (origin time, latitude, longitude, and focal depth).



In some cases, however, the focal depth is not allowed to vary, but is restricted to some chosen depth. This is most commonly done for crustal earthquakes. Unless there is a station within 25km of a shock in the upper crust, or within 50km of a shock in the lower crust, a nominal depth of either 12 or 33 km is assigned, according to the crustal phases present, and to the goodness of fit of the resultant solutions. The letter R (for 'restricted') after the depth indicates that the depth has been fixed at the given value.

In using the results in this section, it is essential to keep in mind that the position of earthquakes whose epicentres lie outside the network of seismograph stations can be very uncertain, even though the readings may be consistent with the computed origin (*i.e.* the residuals are small). Because of the presence of systematic errors, the true origin could be very different from the one calculated. Great care should therefore be taken not to attach significance to an epicentre in an unusual place or a focus at an unusual depth if the recording stations used are not well distributed about the epicentre.

## MAGNITUDES

The magnitudes assigned to local earthquakes are intended to be values of  $M_L$  as originally defined by C. F. Richter (*Bull. Seism. Soc. Am.* 25: 1-32, 1935), but his procedure for performing the magnitude calculation at other than the standard distance of 100 km has been modified by A. J. Haines, to take account of the observed characteristics of energy propagation in New Zealand, including the effects of focal depth.

### STANDARD NETWORK

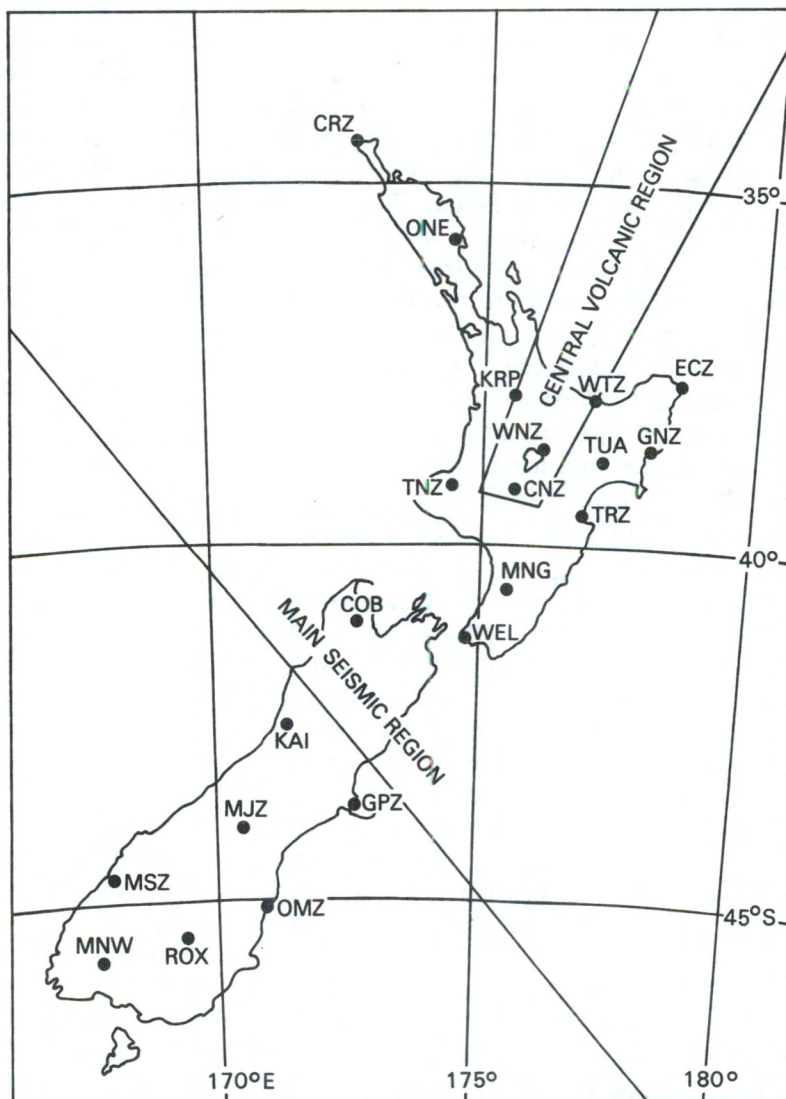
Magnitudes of earthquakes recorded by the standard network are based on the largest amplitudes in the P and S groups, recorded by the Willmore vertical and Wood-Anderson seismographs. (The deployment of these is described in the section on instrumentation.) Where two Wood-Anderson components are available, the root-mean-square amplitude is used. An amplitude-distance relationship of the form

$$A = A_0 R^{-n} \exp(-\alpha R)$$

has been found to be appropriate in all parts of the country, but the parameters vary. For crustal earthquakes  $n$  is 2 and  $\alpha$  generally takes a value close to 0. This corresponds to head-wave propagation with no attenuation.  $R$  is the epicentral distance. In the Central Volcanic Region, however, (see Map, p.30)  $\alpha$  takes values of  $0.8 \text{ deg}^{-1}$  for P waves and  $1.05 \text{ deg}^{-1}$  for S waves. Amplitudes are therefore adjusted according to the distance travelled in the volcanic region. For deep earthquakes in the Main Seismic Region the same parameters as for crustal earthquakes apply (*i.e.*  $n = 2$ ,  $\alpha = 0$ ) provided that (i)  $R$  now measures the slant distance from the focus to the base of the crust, and (ii) stations to the west of the volcanic region or south of the Main Seismic Region are not used, because the structure demands different spreading and attenuation terms there. For deep earthquakes in Fiordland the amplitude formula can also be used provided that (i)  $n$  takes the value 1 (*i.e.* body wave propagation), (ii)  $\alpha$  increases with focal depth, and (iii) stations MNW and MSZ and those in the Main Seismic Region are not used, because of the variation of coefficients  $n$  and  $\alpha$  there.

Corrections are applied to allow for station characteristics. These include the differences in frequency response and magnification of the instruments and site effects, and are determined empirically in such a manner as to give the most consistent estimates of magnitude from the different stations. The absolute level is adjusted to give a standard Wood-Anderson instrument at Wellington a zero correction, a procedure that can be justified on *a priori* grounds and provides a smooth connection with New Zealand magnitudes already published. It is hoped that further work will enable the resolution of station corrections into site and instrument terms. This will require recalibration of the instruments. Station corrections (Table 1) are added to the individual estimates of magnitude, which are then averaged. Particular values not used in determining the mean, for any of the above reasons, are marked with an asterisk.

The trace amplitudes (mm) on which the individual estimates of magnitude are based are given, but not the actual ground motion. This is because (i) the magnifications listed in the instrumentation section of this report are at a variety of frequencies, (ii) Wood-Anderson and Willmore magnitude calculations use not the actual instrument magnifications but empirical station constants, selected for consistency among stations.



Stations and Regions used in the Standard  
Magnitude Determination.



TABLE 1

MAGNITUDE CORRECTIONS FOR THE TWO CLASSES OF FOCAL DEPTH, FOR P AND S PHASES RECORDED ON WILLMORE AND WOOD-ANDERSON INSTRUMENTS.

| Station | Willmore P |        | Willmore S |        | Wood-Anderson |        |
|---------|------------|--------|------------|--------|---------------|--------|
|         | ≤33 km     | >33 km | ≤33 km     | >33 km | ≤33 km        | >33 km |
| CNZ     | -0.80      | -0.35  | -1.05      | -0.40  |               |        |
| COB     | 0.15       |        | -0.40      |        |               |        |
| CRZ     | 0.25       |        | 0.20       |        |               |        |
| ECZ     | 0.60       | 0.40   | 0.50       | 0.40   |               |        |
| GNZ     | 0.00       | 0.00   | -0.20      | -0.20  |               |        |
| GPZ     |            |        |            |        | 0.10          |        |
| KAI     |            |        |            |        | 0.30          |        |
| KRP     | -0.25      |        | -0.30      |        |               |        |
| MJZ     | -0.35      |        | -0.60      |        |               |        |
| MNG     | -0.35      | -0.40  | -0.45      | -0.50  |               |        |
| MNW     | -0.05      |        | -0.40      |        | 0.20          |        |
| MSZ     | -0.25      |        | -0.50      |        |               |        |
| OMZ     | 0.15       |        | -0.15      |        |               |        |
| ONE     |            |        |            |        | 0.15          |        |
| ROX     | 0.15       |        | -0.25      |        |               |        |
| TNZ     | 0.40       |        | 0.25       |        |               |        |
| TRZ     | 0.30       | 0.45   | 0.15       | 0.10   |               |        |
| TUA     | 0.40       | 0.40   | 0.35       | 0.40   |               |        |
| WEL     | 0.05       | 0.05   | -0.30      | -0.30  | 0.30          | 0.30   |
| WNZ     | 0.95       | 1.20   | 0.75       | 1.35   |               |        |
| WTZ     | -0.10      | 0.05   | -0.05      | 0.00   |               |        |

### PUKAKI NETWORK

The maximum amplitude on the viewing screen is used, together with a formula developed by Eaton (*Open File Report*, U.S. Geological Survey, 1970) which has been modified for consistency among stations and calibrated against available stations of the national network (e.g. MJZ) using a few selected shocks. This procedure is being refined and the formula may be further modified in subsequent years. Magnitudes presented here must therefore be regarded as provisional. There is no evidence that station corrections are required. Individual estimates of magnitude are averaged to produce the value presented in the list of origins.

## WELLINGTON NETWORK

Magnitudes are calculated using both the maximum amplitude on the viewing screen and the duration of the signal. The formulae are empirical, developed by R. Robinson for maximum consistency among stations. Both scales were calibrated against the Wood-Anderson determination at Wellington, for a selection of shocks that were large enough to record there. The formulae are

$$M_T = 0.54 + 2.33 \log_{10} T_i + C_i$$

$$M_A = \log_{10} A_i - 3.86 + 2.86 \log_{10} R_i + K_i$$

where  $T_i$  is the duration in seconds at station  $i$ ,  $A_i$  is the amplitude (mm) on the viewing screen,  $R_i$  is the slant distance from the focus (km), and  $C_i$  and  $K_i$  are the station corrections for determinations from durations and amplitudes respectively. Values of  $C$  and  $K$  are listed in Table 2. Individual estimates of magnitude are averaged to give the final values which appear in the list of origins.

### TABLE 2

MAGNITUDE CORRECTIONS USING AMPLITUDES AND  
DURATIONS FOR STATIONS OF THE WELLINGTON  
NETWORK.

| Station | Amplitudes | Durations |
|---------|------------|-----------|
| BHW     | 0.31       | 0.50      |
| CAW     | -0.22      | -0.10     |
| MRW     | 0.00       | 0.00      |
| TCW     | -0.66      | -0.15     |
| WDW     | 0.08       | 0.30      |
| WEL     | 2.30       | 0.00      |
| WELn†   | 0.06       | 0.00      |
| WHW     | 0.00       | 0.00      |

† WELn is a horizontal instrument, aligned North-South at Wellington.

## DATA FROM THE STANDARD NETWORK

The first line printed for each earthquake gives the reference number, used throughout the Report. The second line gives the parameters of its origin, the standard error of the residuals, and the average of the magnitude determinations. The standard error is derived from the equation

$$\text{S.E.} = \sqrt{\frac{\sum_{i=1}^n (w_i r_i / 100)^2}{n - m}}$$

where  $r_i$  is the  $i$ th residual,  $w_i$  is its weight,  $n$  the number of readings, and  $m$  the number of parameters determined. Below each parameter of the origin, its standard error is printed, or if the parameter was restricted to a particular value, the letter R. When the number of readings and the number of parameters to be determined is the same, the standard error is not defined. This is indicated by printing ND.

The information listed for each station includes the arrival times of the various phases, the directions of ground motion, the residuals, the epicentral distance in degrees ( $1^\circ = 111\text{km}$ ), the azimuth of the station from the epicentre, in degrees east of north, and magnitudes computed as described below. The directions of ground motion are indicated by the following letters: U - up, D - down, N - north, S - south, E - east, W - west. When the instruments are not oriented towards cardinal points, the letters are X for a movement in the northeast and F in the southwest quadrant (as at KAI), Y for one in the northwest and J in the southeast quadrant.

Residuals are listed for all readings used in calculating the origin and in certain other cases. A weight, in the range 0 to 100, is assigned to each residual by Jeffreys' Method (Jeffreys H., 1939: *Probability Theory*, Cambridge University Press), which severely diminishes the weight given to residuals greater than three standard errors. The absence of a weight indicates that that reading was suppressed by the seismologist who processed the earthquake, and was not used in determining the origin.



| 77/ 001     |                                                    |         |          |       |                  |      |     |      |     |     |     |     |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|-----|-----|
| JAN 01      | 13 <sup>h</sup> 42 <sup>m</sup> 53 <sup>s</sup> .4 | 45°.14s | 168°.06E | 33 km | M = 3.6          |      |     |      |     |     |     |     |
|             | ± 0.6                                              | 0.04    | 0.06     | R     | S.E. of RES. 1.7 |      |     |      |     |     |     |     |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P | W S |
| MSZ         | iP                                                 | 13      | 43       | 02.9  | U                | -0.6 | 100 | 0.48 | 348 |     | 3.5 | 3.6 |
|             | eS*                                                |         |          | 13    |                  | 2.0  | 100 |      |     |     |     |     |
| MNW         | Pn                                                 | 13      | 43       | 05.8  |                  | -0.9 | 100 | 0.71 | 206 | 3.5 | 3.5 | 3.3 |
|             | eSn                                                |         |          | 17    |                  | 0.5  | 100 |      |     |     |     |     |
| ROX         |                                                    |         |          |       |                  |      |     | 0.95 | 111 |     |     | 3.1 |
| GSP         | iPn                                                | 13      | 43       | 19.6  | U                | -0.9 | 100 | 1.73 | 55  |     |     |     |
|             | eSn                                                |         |          | 43    |                  | 2.2  | 99  |      |     |     |     |     |
| OMZ         | Pn                                                 | 13      | 43       | 25.0  |                  | 0.4  | 100 | 2.02 | 89  |     | 3.7 | 3.5 |
|             | eSn                                                |         |          | 50    |                  | 2.0  | 100 |      |     |     |     |     |
| MJZ         | Pn                                                 | 13      | 43       | 23.4  |                  | -1.8 | 100 | 2.07 | 57  |     | 3.4 | 3.8 |
|             | eSn                                                |         |          | 50    |                  | 0.9  | 100 |      |     |     |     |     |
| KAI         | eSn                                                | 13      | 44       | 25    |                  | -0.0 | 100 | 3.56 | 44  | 4.0 |     |     |
| GPZ         | eSn                                                | 13      | 44       | 24    |                  | -1.6 | 100 | 3.59 | 68  | 3.8 |     |     |
| COB         | eSn                                                | 13      | 45       | 04    |                  | -2.8 | 99  | 5.30 | 42  |     |     | 3.6 |
| AMPLITUDES: |                                                    | MSZ     |          | 22    | 41               | MNW  | 3.2 | 6.3  | 8.5 | ROX |     | 2.2 |
|             |                                                    | OMZ     |          | 0.7   | 0.9              | MJZ  |     | 1.0  | 4.4 | KAI | 0.3 |     |
|             |                                                    | GPZ     | 0.3      |       |                  | COB  |     |      | 0.3 |     |     |     |

| 77/ 002     |                                                    |         |          |        |                  |      |     |      |     |      |      |      |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|------|------|------|
| JAN 01      | 21 <sup>h</sup> 49 <sup>m</sup> 11 <sup>s</sup> .2 | 35°.29s | 179°.42w | 215 km | M = 4.4          |      |     |      |     |      |      |      |
|             | ± 1.3                                              | 0.08    | 0.14     | 24     | S.E. of RES. 1.3 |      |     |      |     |      |      |      |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
| ECZ         | eP                                                 | 21      | 50       | 01.5   |                  | 0.5  | 100 | 2.91 | 214 |      | 4.5  | 4.4  |
|             | e                                                  |         |          | 19.5   |                  |      |     |      |     |      |      |      |
|             | e                                                  |         |          | 51     | 15               |      |     |      |     |      |      |      |
| GNZ         |                                                    |         |          |        |                  |      |     | 3.92 | 211 |      | 4.5  | 4.5  |
| WTZ         | P                                                  | 21      | 50       | 12.1   |                  | -1.4 | 99  | 3.95 | 226 |      | 4.5  | 4.4  |
|             | eS                                                 |         |          | 51     | 01.5             | -0.2 | 100 |      |     |      |      |      |
| TUA         | eP                                                 | 21      | 50       | 19     |                  | -0.8 | 100 | 4.45 | 217 |      | 4.6  | 4.5  |
|             | e                                                  |         |          | 30     |                  |      |     |      |     |      |      |      |
|             | eS                                                 |         |          | 51     | 15               | 2.0  | 99  |      |     |      |      |      |
| KRP         | P                                                  | 21      | 50       | 24     |                  | -0.6 | 100 | 4.84 | 236 |      | 3.5* | 3.1* |
|             | e                                                  |         |          | 34     |                  |      |     |      |     |      |      |      |
|             | eS                                                 |         |          | 51     | 20               | -1.6 | 99  |      |     |      |      |      |
| ONE         | eP                                                 | 21      | 50       | 29     |                  | 1.2  | 100 | 5.09 | 263 | 3.4* |      |      |
|             | e                                                  |         |          | 40     |                  |      |     |      |     |      |      |      |
| TNZ         | e                                                  | 21      | 50       | 55.8   |                  |      |     | 6.30 | 230 |      | 3.7* |      |
| CRZ         | eP                                                 | 21      | 50       | 47     |                  | 0.5  | 100 | 6.55 | 275 |      |      |      |
| MNG         | eP                                                 | 21      | 50       | 48     |                  | -0.1 | 100 | 6.68 | 216 |      | 4.2  | 4.2  |
|             | eS                                                 |         |          | 52     | 04               | 0.3  | 100 |      |     |      |      |      |
|             | e                                                  |         |          | 53     | 08               |      |     |      |     |      |      |      |
| AMPLITUDES: |                                                    | ECZ     |          | 1.0    | 0.8              | GNZ  |     | 1.4  | 2.3 | WTZ  |      | 1.2  |
|             |                                                    | TUA     |          | 0.6    | 0.5              | KRP  |     | 1.0  | 0.4 | ONE  | 0.3  | 1.1  |
|             |                                                    | TNZ     |          | 0.3    |                  | MNG  |     | 0.7  | 0.9 |      |      |      |

| 77/ 003 |                                                    |         |          |        |                  |     |    |      |     |     |     |     |
|---------|----------------------------------------------------|---------|----------|--------|------------------|-----|----|------|-----|-----|-----|-----|
| JAN 01  | 23 <sup>h</sup> 01 <sup>m</sup> 20 <sup>s</sup> .4 | 35°.29s | 179°.52w | 163 km | M = 4.2          |     |    |      |     |     |     |     |
|         | ± 3.2                                              | 0.09    | 0.28     | 47     | S.E. of RES. 1.5 |     |    |      |     |     |     |     |
| STN     | PHASE                                              | H       | M        | S      | DIR              | RES | WT | DIST | AZ  | W-A | W P | W S |
| ECZ     | eP                                                 | 23      | 02       | 09     |                  | 1.9 | 99 | 2.86 | 213 |     | 4.2 | 4.2 |
|         | e                                                  |         |          | 27     |                  |     |    |      |     |     |     |     |

|             |     |            |     |      |     |      |     |      |      |
|-------------|-----|------------|-----|------|-----|------|-----|------|------|
| e           |     | 03 01      |     |      |     |      |     |      |      |
| GNZ         |     |            |     |      |     | 3.88 | 210 | 4.3  | 4.2  |
| WTZ         | P   | 23 02 18.8 |     | -1.6 | 99  | 3.89 | 225 | 4.3  | 4.1  |
| e           |     | 03 17      |     |      |     |      |     |      |      |
| GBZ         | P   | 23 02 23.2 |     | -0.9 | 100 | 4.18 | 256 |      |      |
| TUA         | eP  | 23 02 26   |     | -1.1 | 100 | 4.41 | 216 | 4.5  |      |
| e           |     | 37.5       |     |      |     |      |     |      |      |
| KRP         | eP  | 23 02 31   |     | -0.8 | 100 | 4.77 | 235 | 3.3* | 2.9* |
| e           |     | 38.5       |     |      |     |      |     |      |      |
| e           |     | 03 39      |     |      |     |      |     |      |      |
| ONE         | eP  | 23 02 36   |     | 1.0  | 100 | 5.02 | 263 | 3.4* |      |
| e           |     | 49         |     |      |     |      |     |      |      |
| TNZ         | e   | 23 03 03   |     |      |     | 6.23 | 230 |      |      |
| CRZ         | eP  | 23 02 55   |     | 0.6  | 100 | 6.48 | 275 |      |      |
| MNG         | P   | 23 02 57   |     | 0.6  | 100 | 6.62 | 215 | 4.1  | 4.1  |
| e           |     | 03 18      |     |      |     |      |     |      |      |
| eS          |     | 04 11.5    |     | 0.5  | 100 |      |     |      |      |
| e           |     | 56         |     |      |     |      |     |      |      |
| AMPLITUDES: | ECZ | 0.6        | 0.5 | GNZ  | 1.1 | 1.2  | WTZ | 0.9  | 0.7  |
|             | GBZ | 0.8        |     | TUA  | 0.5 |      | KRP | 0.7  | 0.3  |
|             | ONE | 0.3        |     | MNG  | 0.6 | 0.7  |     |      |      |

77/ 004

JAN 02 05<sup>h</sup>50<sup>m</sup>36<sup>s</sup>.3 39°.44s 175°.32E 169 km M = 5.2  
 ± 0.6 0.03 0.06 9 S.E. of RES. 1.6

| STN | PHASE | H       | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S |
|-----|-------|---------|------|---|-----|------|-----|------|-----|------|------|-----|
| TNZ | iP!   | 05 51   | 00.4 |   |     | -1.0 | 100 | 0.77 | 289 |      |      |     |
| WNZ | iP!   | 05 51   | 00.9 |   |     | -2.2 | 99  | 1.02 | 37  |      |      |     |
| TRZ | iP!   | 05 51   | 04.9 |   |     | 0.5  | 100 | 1.17 | 96  |      |      |     |
| MNG | iP!   | 05 51   | 05.9 |   |     | 1.4  | 100 | 1.19 | 174 |      |      |     |
| KRP | iP    | 05 51   | 06.5 |   | DSW | -1.3 | 100 | 1.52 | 6   | 4.7* | 4.4* |     |
| e   |       | 26      |      |   |     |      |     |      |     |      |      |     |
| TUA | iP    | 05 51   | 07.6 |   | D   | -0.6 | 100 | 1.56 | 67  | 5.0  | 5.3  |     |
| e   |       | 26      |      |   |     |      |     |      |     |      |      |     |
| CAZ | iP    | 05 51   | 11.0 |   | U   | 2.2  | 99  | 1.62 | 155 |      |      |     |
| WEL | iP    | 05 51   | 13.5 |   | SE  | 1.8  | 100 | 1.89 | 193 | 5.0  |      |     |
| eS  |       | 39      |      |   |     | 0.0  | 100 |      |     |      |      |     |
| WTZ | P     | 05 51   | 10.9 |   | D   | -1.5 | 100 | 1.95 | 42  |      |      |     |
| e   |       | 34      |      |   |     |      |     |      |     |      |      |     |
| COB | iP!   | 05 51   | 21.3 |   |     | 1.6  | 100 | 2.57 | 229 |      |      |     |
| AUC | P     | 05 51   | 20.0 |   |     | -0.2 | 100 | 2.61 | 350 |      |      |     |
| ECZ | iP    | 05 51   | 25.8 |   | D   | -0.2 | 100 | 3.08 | 56  | 5.2  | 5.4  |     |
| e   |       | 52      |      |   |     |      |     |      |     |      |      |     |
| GBZ | P     | 05 51   | 27.4 |   | U   | -0.4 | 100 | 3.22 | 2   |      |      |     |
| eS  |       | 52 09   |      |   |     | 1.6  | 100 |      |     |      |      |     |
| ONE | eP    | 05 51   | 35   |   |     | 0.6  | 100 | 3.73 | 348 | 3.6* |      |     |
| eS  |       | 52 18   |      |   |     | -1.2 | 100 |      |     |      |      |     |
| KAI | e     | 05 51   | 47   |   |     |      |     | 4.27 | 223 | 4.8* |      |     |
| eS  |       | 52 31   |      |   |     | -0.6 | 100 |      |     |      |      |     |
| GPZ | P     | 05 51   | 48.1 |   |     | 1.2  | 100 | 4.71 | 204 |      |      |     |
| eS  |       | 52 39.5 |      |   |     | -2.0 | 100 |      |     |      |      |     |
| CRZ | P     | 05 51   | 58.2 |   |     | 1.7  | 100 | 5.43 | 336 | 3.6* |      |     |
| GSP | P     | 05 52   | 08.3 |   |     | 2.5  | 99  | 6.15 | 218 |      |      |     |
| eS  |       | 53 15   |      |   |     | -0.5 | 100 |      |     |      |      |     |
| CIZ | eP    | 05 52   | 23   |   |     | -1.8 | 100 | 7.57 | 129 |      |      |     |
| e   |       | 53 37   |      |   |     |      |     |      |     |      |      |     |
| MSZ | eP    | 05 52   | 26   |   |     | 0.8  | 100 | 7.60 | 224 | 4.2* | 4.5* |     |
| eS  |       | 53 47   |      |   |     | -3.1 | 98  |      |     |      |      |     |

|             |     |     |     |     |     |     |     |         |
|-------------|-----|-----|-----|-----|-----|-----|-----|---------|
| AMPLITUDES: | KRP | 38  | 25  | TUA | 8.5 | 16  | WEL | 8.5     |
|             | ECZ | 4.8 | 7.0 | GBZ | 1.9 | 1.6 | ONE | 0.6     |
|             | KAI | 6.7 |     | CRZ | 0.4 |     | CIZ | 1.3 4.7 |
|             | MSZ | 3.7 | 12  |     |     |     |     |         |

FELT: In central parts of the North Island

JAN 03 13<sup>h</sup>27<sup>m</sup>08<sup>s</sup>.8 44°.70s 167°.87E 12 km M = 3.3  
 ± 0.8 0.04 0.06 R S.E. of RES. 1.3 77/ 005

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | iPg   | 13 | 27 | 09.9  | D   | -1.2 | 100 | 0.04 | 51  |     |     |     |
|     | eSg   |    |    | 13    |     | 0.3  | 100 |      |     |     |     |     |
| MNW | iP*   | 13 | 27 | 27.2  | U   | -1.5 | 100 | 1.10 | 189 | 3.1 | 3.3 | 3.5 |
|     | S*    |    |    | 45    |     | 1.7  | 99  |      |     |     |     |     |
| GSP | iP*   | 13 | 27 | 38.8  | D   | 0.8  | 100 | 1.65 | 71  |     |     |     |
|     | eS*   |    |    | 28 01 |     | 1.3  | 100 |      |     |     |     |     |
| MJZ | P*    | 13 | 27 | 45.0  |     | 1.0  | 100 | 2.00 | 70  |     | 3.2 | 3.2 |
|     | eS*   |    |    | 28 10 |     | -0.3 | 100 |      |     |     |     |     |
| OMZ | P*    | 13 | 27 | 46.2  |     | -1.3 | 100 | 2.20 | 101 |     | 3.6 | 3.2 |
|     | eSg   |    |    | 28 22 |     | -0.9 | 100 |      |     |     |     |     |
| KAI | e     | 13 | 29 | 10    |     |      |     | 3.37 | 51  |     |     |     |

|             |     |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | MSZ | 29  | 30  | MNW | 0.6 | 1.7 | 5.0 | MJZ | 0.7 | 1.2 |
|             | OMZ | 0.5 | 0.4 |     |     |     |     |     |     |     |

JAN 03 13<sup>h</sup>35<sup>m</sup>38<sup>s</sup>.7 44°.76s 167°.82E 12 km M = 3.3  
 ± 0.7 0.03 0.06 R S.E. of RES. 1.2 77/ 006

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | iPg   | 13 | 35 | 41.2  | D   | -0.6 | 100 | 0.11 | 38  |     |     |     |
|     | eSg   |    |    | 44    |     | 0.0  | 100 |      |     |     |     |     |
| MNW | P*    | 13 | 35 | 56.2  | U   | -1.3 | 100 | 1.03 | 188 | 3.3 | 3.3 | 3.5 |
|     | eSg   |    |    | 36 15 |     | 1.4  | 99  |      |     |     |     |     |
| GSP | iP*   | 13 | 36 | 09.8  | D   | 1.0  | 100 | 1.69 | 69  |     |     |     |
|     | eS*   |    |    | 32    |     | 0.8  | 100 |      |     |     |     |     |
| MJZ | P*    | 13 | 36 | 15.8  |     | 0.9  | 100 | 2.05 | 69  |     | 3.3 | 3.3 |
|     | eS*   |    |    | 42    |     | 0.2  | 100 |      |     |     |     |     |
| OMZ | P*    | 13 | 36 | 16.0  |     | -1.8 | 99  | 2.22 | 99  |     | 3.4 | 3.3 |
|     | eSg   |    |    | 53    |     | -0.6 | 100 |      |     |     |     |     |
| KAI | e     | 13 | 37 | 41    |     |      |     | 3.43 | 51  |     |     |     |

|             |     |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | MSZ | 38  | 36  | MNW | 1.0 | 1.6 | 6.2 | MJZ | 0.9 | 1.5 |
|             | OMZ | 0.3 | 0.5 |     |     |     |     |     |     |     |

JAN 04 00<sup>h</sup>05<sup>m</sup>27<sup>s</sup>.7 35°.40s 178°.58E 269 km M = 4.3  
 ± 3.1 0.22 0.46 26 S.E. of RES. 2.2 77/ 007

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|
| WTZ | P     | 00 | 06 | 20.2    |     | -0.3 | 100 | 2.88 | 206 |     | 4.3  | 3.9  |
|     | eS    |    |    | 59.5    |     | -2.1 | 100 |      |     |     |      |      |
| GNZ |       |    |    |         |     |      |     | 3.27 | 188 |     | 4.2  | 4.4  |
| KRP | P     | 00 | 06 | 29.8    |     | 2.5  | 99  | 3.52 | 223 |     | 3.3* |      |
| TRZ | eS    | 00 | 07 | 34      |     | 2.5  | 99  | 4.38 | 198 |     |      | 4.4  |
| MNG | P     | 00 | 06 | 53.0    |     | -0.9 | 100 | 5.76 | 204 |     | 4.6  | 4.2  |
|     | eS    |    |    | 08 00.5 |     | -0.8 | 100 |      |     |     |      |      |
| COB | eP    | 00 | 07 | 12      |     | -1.2 | 100 | 7.31 | 217 |     |      | 3.0* |
|     | eS    |    |    | 08 36   |     | 0.2  | 100 |      |     |     |      |      |



|             |                                                    |         |          |        |                  |      |     |      |     |         |     |     |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|---------|-----|-----|
| AMPLITUDES: |                                                    | WTZ     |          | 1.1    | 0.5              | GNZ  | 0.8 | 2.0  | KRP | 0.8     |     |     |
|             |                                                    | TRZ     |          | 0.7    |                  | MNG  | 2.0 | 1.0  | COB | 0.3     |     |     |
|             |                                                    |         |          |        |                  |      |     |      |     | 77/ 008 |     |     |
| JAN 04      | 15 <sup>h</sup> 07 <sup>m</sup> 02 <sup>s</sup> .3 | 38°.54s | 175°.88E | 172 km | M = 3.5          |      |     |      |     |         |     |     |
| ± 1.2       |                                                    | 0.04    | 0.08     | 8      | S.E. of RES. 1.4 |      |     |      |     |         |     |     |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A     | W P | W S |
| KRP         | eP                                                 | 15      | 07       | 27.5   |                  | 0.4  | 100 | 0.67 | 336 |         |     |     |
|             | eS                                                 |         |          | 45     |                  | -1.1 | 100 |      |     |         |     |     |
| CNZ         | iP                                                 | 15      | 07       | 27.8   | U                | 0.5  | 100 | 0.71 | 201 | 3.5     | 3.0 |     |
|             | eS                                                 |         |          | 49     |                  | 2.4  | 98  |      |     |         |     |     |
| TUA         | eP                                                 | 15      | 07       | 30     |                  | 0.5  | 100 | 1.03 | 106 | 3.5     | 3.6 |     |
|             | eS                                                 |         |          | 49     |                  | -1.5 | 100 |      |     |         |     |     |
| WTZ         | iP                                                 | 15      | 07       | 28.7   | D                | -0.7 | 100 | 1.03 | 58  | 3.3     | 3.0 |     |
|             | eS                                                 |         |          | 50     |                  | -0.6 | 100 |      |     |         |     |     |
| TRZ         | eP                                                 | 15      | 07       | 33     |                  | 1.6  | 99  | 1.25 | 144 |         | 3.6 |     |
|             | eS                                                 |         |          | 55     |                  | 1.1  | 100 |      |     |         |     |     |
| GNZ         |                                                    |         |          |        |                  |      |     | 1.68 | 94  | 3.8     | 3.3 |     |
| MNG         | iP                                                 | 15      | 07       | 40.3   |                  | 0.1  | 100 | 2.11 | 188 | 3.9     | 3.6 |     |
|             | eS                                                 |         |          | 08 08  |                  | -1.4 | 100 |      |     |         |     |     |
| ECZ         | eP?                                                | 15      | 07       | 42.5   |                  | 0.3  | 100 | 2.27 | 69  | 3.8     |     |     |
| WEL         | eS                                                 | 15      | 08       | 24.5   |                  | -1.4 | 100 | 2.88 | 197 |         |     |     |
| AMPLITUDES: |                                                    | CNZ     | 2.5      | 1.0    | TUA              | 0.4  | 0.5 | WTZ  | 0.6 | 0.3     |     |     |
|             |                                                    | TRZ     | 0.8      | GNZ    | 1.1              | 0.6  | MNG | 2.5  | 1.6 |         |     |     |
|             |                                                    | ECZ     | 0.3      |        |                  |      |     |      |     |         |     |     |

| 77/ 009     |                      |                                                    |    |                          |         |                    |                   |              |            |     |                  |     |  |
|-------------|----------------------|----------------------------------------------------|----|--------------------------|---------|--------------------|-------------------|--------------|------------|-----|------------------|-----|--|
| JAN 05      |                      | 01 <sup>h</sup> 55 <sup>m</sup> 19 <sup>s</sup> .0 |    |                          | 33°.61s |                    | 179°.08w          |              | 33 km      |     | M = 4.7          |     |  |
|             |                      | ± 2.0                                              |    |                          | 0.08    |                    | 0.15              |              | R          |     | S.E. of RES. 2.1 |     |  |
| STN         | PHASE                | H                                                  | M  | S                        | DIR     | RES                | WT                | DIST         | AZ         | W-A | W P              | W S |  |
| ECZ         | ePn<br>e             | 01                                                 | 56 | 26<br>57                 |         | 1.8                | 100               | 4.52         | 205        |     | 4.7              | 4.7 |  |
| GBZ         |                      |                                                    |    |                          |         |                    |                   | 5.17         | 238        |     |                  |     |  |
| WTZ         | Pn<br>e<br>e<br>eSn  | 01                                                 | 56 | 34.7<br>40.3<br>47<br>36 |         | -1.8               | 100               | 5.41         | 215        |     | 4.8              |     |  |
| GNZ         |                      |                                                    |    |                          |         | 0.9                | 100               |              |            |     |                  |     |  |
| ONE         | ePn                  | 01                                                 | 56 | 45                       |         | 3.0                | 99                | 5.54         | 204        |     | 4.8              | 4.6 |  |
| TUA         | Pn<br>eSn<br>eS*     | 01                                                 | 56 | 44.8<br>57 51<br>58 20   |         | 0.0<br>1.3<br>-1.0 | 100<br>100<br>100 | 5.82<br>6.02 | 246<br>209 | 5.3 | 4.9              | 4.8 |  |
| KRP         | Pn<br>eSn            | 01                                                 | 56 | 46.2<br>57 55.5          |         | -0.2<br>2.9        | 100<br>99         | 6.14         | 224        |     | 5.1              |     |  |
| CRZ         | ePn<br>eSn           | 01                                                 | 56 | 56<br>58 09              |         | -0.7<br>-1.6       | 100<br>100        | 6.89         | 261        |     |                  |     |  |
| MNG         | ePn<br>e<br>eSn<br>e | 01                                                 | 57 | 13<br>35<br>40<br>59 16  |         | -2.0<br>-3.0       | 100<br>99         | 8.23         | 210        |     | 4.3              | 4.3 |  |
| AMPLITUDES: |                      | ECZ                                                |    | 0.5                      | 0.6     | GBZ                |                   | 0.7          | WTZ        |     | 2.2              |     |  |
|             |                      | GNZ                                                |    | 1.5                      | 1.6     | ONE                | 0.3               |              | TUA        |     | 0.7              | 0.6 |  |
|             |                      | KRP                                                |    | 0.8                      |         | MNG                |                   | 0.5          | 0.7        |     |                  |     |  |

JAN 05    15<sup>h</sup>31<sup>m</sup>01<sup>s</sup>.7    36°.95S    176°.87E    301 km    77/ 010  
                  ± 1.7            0.09            0.13            10    S.E. of RES. 1.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|---|-----|---|
| WTZ | P     | 15 | 31 | 41.3 |     | -1.2 | 100 | 1.04 | 175 |     | 4.2  |   | 4.2 |   |
|     | e     |    |    | 42.1 |     |      |     |      |     |     |      |   |     |   |
|     | eS    |    |    | 56   |     |      |     |      |     |     |      |   |     |   |
|     | eS    |    | 32 | 11   |     | -3.5 | 97  |      |     |     |      |   |     |   |
| GBZ |       |    |    |      |     |      |     | 1.33 | 303 |     |      |   |     |   |
| KRP | eP    | 15 | 31 | 45   |     | 0.1  | 100 | 1.44 | 227 |     | 2.7* |   |     |   |
|     | eS    |    | 32 | 20   |     | 1.6  | 100 |      |     |     |      |   |     |   |
| ECZ | P     | 15 | 31 | 45.1 |     | -0.2 | 100 | 1.53 | 120 |     | 4.1  |   | 4.1 |   |
|     | e     |    |    | 50   |     |      |     |      |     |     |      |   |     |   |
|     | S     |    | 32 | 21.3 |     | 1.8  | 100 |      |     |     |      |   |     |   |
|     | e     |    |    | 35   |     |      |     |      |     |     |      |   |     |   |
| TUA | P     | 15 | 31 | 47.8 |     | 0.0  | 100 | 1.87 | 173 |     | 4.3  |   | 4.2 |   |
|     | eS    |    | 32 | 23   |     | -0.7 | 100 |      |     |     |      |   |     |   |
| GNZ |       |    |    |      |     |      |     | 1.93 | 152 |     | 4.6  |   | 4.4 |   |
| CNZ | P     | 15 | 31 | 53.9 |     | 1.0  | 100 | 2.48 | 204 |     | 3.7  |   | 4.1 |   |
|     | eS    |    | 32 | 34.5 |     | 1.6  | 100 |      |     |     |      |   |     |   |
| TRZ | P     | 15 | 31 | 54.3 |     | 0.2  | 100 | 2.60 | 181 |     | 4.3  |   | 4.5 |   |
|     | eS    |    | 32 | 35   |     | 0.1  | 100 |      |     |     |      |   |     |   |
| MNG | P     | 15 | 32 | 06.0 |     | -0.5 | 100 | 3.82 | 196 |     | 4.4  |   | 4.3 |   |
|     | eS    |    |    | 55   |     | -2.1 | 100 |      |     |     |      |   |     |   |
| CAZ | eS    | 15 | 33 | 03   |     | 2.7  | 99  | 3.99 | 187 |     |      |   |     |   |
| WEL | S     | 15 | 33 | 12   |     | -1.4 | 100 | 4.63 | 200 |     |      |   |     |   |

|             |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WTZ | 1.6 | 1.7 | GBZ | 1.2 | KRP | 0.3 |
|             | ECZ | 0.5 | 0.5 | TUA | 0.7 | GNZ | 3.2 |
|             | CNZ | 0.8 | 2.0 | TRZ | 0.5 | MNG | 2.3 |

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JAN 05 17<sup>h</sup>07<sup>m</sup>00<sup>s</sup>.9 44°.04s 172°.07E 12 km M = 3.6  
 ± 0.5 0.04 0.05 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|---|-----|---|
| GPZ | P*    | 17 | 07 | 10.9 | S   | -0.4 | 100 | 0.54 | 51  |     |     |   |     |   |
|     | eS*   |    |    | 17.7 |     | -1.0 | 100 |      |     |     |     |   |     |   |
| MJZ | P*    | 17 | 07 | 20.8 | D   | -1.1 | 100 | 1.16 | 272 |     | 3.4 |   | 3.7 |   |
|     | eS*   |    |    | 35   |     | -2.4 | 99  |      |     |     |     |   |     |   |
| OMZ | Pn    | 17 | 07 | 23.7 |     | -0.8 | 100 | 1.32 | 218 |     | 3.9 |   |     |   |
|     | ePg   |    |    | 27   |     | -0.7 | 100 |      |     |     |     |   |     |   |
|     | eSg   |    |    | 46.5 |     | 0.9  | 100 |      |     |     |     |   |     |   |
| GSP | Pn    | 17 | 07 | 26.7 |     | 0.0  | 100 | 1.48 | 266 |     |     |   |     |   |
|     | eSn   |    |    | 47   |     | 1.0  | 100 |      |     |     |     |   |     |   |
| KAI | eP*?  | 17 | 07 | 30   |     | 0.8  | 100 | 1.59 | 342 | 3.5 |     |   |     |   |
|     | e     |    |    | 42   |     |      |     |      |     |     |     |   |     |   |
| COB | ePg?  | 17 | 08 | 02   |     | 0.6  | 100 | 2.99 | 10  |     |     |   | 3.3 |   |
|     | e     |    |    | 26.5 |     |      |     |      |     |     |     |   |     |   |
| MSZ | ePn?  | 17 | 07 | 50   |     | 1.9  | 99  | 3.05 | 257 |     | 3.8 |   | 3.9 |   |
|     | eP*   |    |    | 56   |     | 1.9  | 99  |      |     |     |     |   |     |   |
|     | eS*   |    | 08 | 34   |     | 0.0  | 100 |      |     |     |     |   |     |   |
| MNW | ePg   | 17 | 08 | 15   |     | 1.1  | 100 | 3.62 | 240 |     |     |   | 3.6 |   |
|     | eSn   |    |    | 35   |     | -2.1 | 99  |      |     |     |     |   |     |   |

|             |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | MJZ | 3.7 | 11  | OMZ | 2.5 | KAI | 0.5 |
|             | COB | 0.5 | MSZ | 1.1 | 2.0 | MNW | 0.7 |

FELT: Ashburton (108) MM IV

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JAN 06 01<sup>h</sup>33<sup>m</sup>41<sup>s</sup>.2 40°.54s 174°.19E 12 km M = 3.5  
 ± 0.4 0.03 0.04 R S.E. of RES. 1.7

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WEL         | P*    | 01  | 33  | 57.8    |     | 0.7  | 100 | 0.86 | 150 | 3.6 |     |     |   |   |
|             | eS*   |     |     | 34 10   |     | 1.3  | 100 |      |     |     |     |     |   |   |
| MNG         | iP*   | 01  | 33  | 59.0    | U   | -0.2 | 100 | 0.99 | 95  |     | 3.1 | 3.5 |   |   |
|             | eS*   |     |     | 34 12.5 |     | 0.0  | 100 |      |     |     |     |     |   |   |
| COB         | P*    | 01  | 34  | 01.8    |     | -1.5 | 100 | 1.23 | 243 |     | 3.8 |     |   |   |
|             | eS*   |     |     | 18      |     | -1.7 | 100 |      |     |     |     |     |   |   |
| TNZ         | Pn    | 01  | 34  | 05.6    |     | 0.3  | 100 | 1.36 | 6   |     | 3.5 |     |   |   |
|             | eSn   |     |     | 24      |     | 0.7  | 100 |      |     |     |     |     |   |   |
| CAZ         | eSn   | 01  | 34  | 25      |     | -3.8 | 97  | 1.59 | 104 |     |     |     |   |   |
| CNZ         | Pn    | 01  | 34  | 09.8    | U   | -0.1 | 100 | 1.70 | 38  |     | 3.7 | 3.6 |   |   |
|             | e     |     |     | 20.5    |     |      |     |      |     |     |     |     |   |   |
|             | eSn   |     |     | 32      |     | 0.6  | 100 |      |     |     |     |     |   |   |
| KRP         | ePn   | 01  | 34  | 24.5    |     | -0.6 | 100 | 2.82 | 22  |     | 3.6 | 3.4 |   |   |
|             | eSn   |     |     | 58      |     | -0.3 | 100 |      |     |     |     |     |   |   |
|             | e     |     |     | 35 11   |     |      |     |      |     |     |     |     |   |   |
| KAI         | ePg   | 01  | 34  | 39      |     | -0.3 | 100 | 2.88 | 226 | 3.8 |     |     |   |   |
|             | e     |     |     | 42      |     |      |     |      |     |     |     |     |   |   |
|             | eSn   |     |     | 59      |     | -0.7 | 100 |      |     |     |     |     |   |   |
|             | eSg   |     |     | 35 16   |     | -2.1 | 100 |      |     |     |     |     |   |   |
| GPZ         | e     | 01  | 35  | 04      |     |      |     | 3.36 | 200 | 3.7 |     |     |   |   |
| MJZ         | ePn   | 01  | 34  | 50      |     | 3.1  | 99  | 4.42 | 218 |     | 3.5 | 3.4 |   |   |
|             | e     |     |     | 35 30   |     |      |     |      |     |     |     |     |   |   |
| GSP         | ePn   | 01  | 34  | 54      |     | 2.6  | 99  | 4.74 | 219 |     |     |     |   |   |
|             | eSn   |     |     | 35 46   |     | 1.6  | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: |       | WEL | 2.3 |         |     | MNG  | 2.2 | 7.0  | COB | 2.2 |     |     |   |   |
|             |       | TNZ | 0.6 |         |     | CNZ  | 7.2 | 11   | KRP | 0.7 | 0.5 |     |   |   |
|             |       | KAI | 0.3 |         |     | GPZ  | 0.3 |      | MJZ | 0.3 | 0.4 |     |   |   |

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JAN 06 03<sup>h</sup>07<sup>m</sup>43<sup>s</sup>.0 38°.31s 175°.95E 190 km M = 4.5  
 $\pm 0.6$  0.02 0.04 5 S.E. of RES. 1.0

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|------|---|---|
| WNZ | P     | 03 | 08 | 09.0  |     | 0.5  | 100 | 0.34 | 159 |     | 4.4  |      |   |   |
| KRP | iP    | 03 | 08 | 09.2  | UNW | 0.2  | 100 | 0.50 | 320 |     | 3.4* | 3.1* |   |   |
|     | eS    |    |    | 29    |     | -0.1 | 100 |      |     |     |      |      |   |   |
| WTZ | iP    | 03 | 08 | 10.0  | U   | -0.9 | 100 | 0.88 | 68  |     |      |      |   |   |
|     | e     |    |    | 15    |     |      |     |      |     |     |      |      |   |   |
|     | e     |    |    | 28    |     |      |     |      |     |     |      |      |   |   |
| CNZ | iP    | 03 | 08 | 11.9  | U   | 0.6  | 100 | 0.94 | 199 |     | 4.6  | 4.3  |   |   |
|     | e     |    |    | 12.1  |     |      |     |      |     |     |      |      |   |   |
|     | e     |    |    | 39.5  |     |      |     |      |     |     |      |      |   |   |
| TUA | iP    | 03 | 08 | 12.2  | U   | -0.1 | 100 | 1.06 | 118 |     | 4.3  | 4.7  |   |   |
|     | e     |    |    | 17.1  |     |      |     |      |     |     |      |      |   |   |
|     | S     |    |    | 33.6  |     | -1.2 | 100 |      |     |     |      |      |   |   |
| TRZ | iP    | 03 | 08 | 16.0  | U   | 0.8  | 100 | 1.41 | 151 |     | 4.8  | 4.7  |   |   |
|     | eS    |    |    | 41    |     | 0.9  | 100 |      |     |     |      |      |   |   |
| TNZ | P     | 03 | 08 | 17.7  |     | 1.6  | 99  | 1.50 | 234 |     |      |      |   |   |
| GNZ |       |    |    |       |     |      |     | 1.66 | 102 |     | 4.4  | 4.5  |   |   |
| AUC | P     | 03 | 08 | 18.0  |     | -0.1 | 100 | 1.73 | 327 |     |      |      |   |   |
| GBZ | iP    | 03 | 08 | 20.9  | D   | -1.4 | 99  | 2.12 | 350 |     |      |      |   |   |
| ECZ | P     | 03 | 08 | 22.1  |     | -0.4 | 100 | 2.14 | 74  |     | 4.4  | 4.3  |   |   |
|     | eS    |    |    | 53    |     | -0.1 | 100 |      |     |     |      |      |   |   |
| MNG | iP    | 03 | 08 | 25.3  | U   | 0.6  | 100 | 2.33 | 189 |     |      |      |   |   |
|     | eS    |    |    | 55    |     | -1.8 | 99  |      |     |     |      |      |   |   |
| CAZ | iP    | 03 | 08 | 29.0  | U   | 1.2  | 100 | 2.60 | 175 |     |      |      |   |   |
|     | eS    |    |    | 09 04 |     | 1.6  | 99  |      |     |     |      |      |   |   |



|             |    |            |         |     |      |     |      |           |
|-------------|----|------------|---------|-----|------|-----|------|-----------|
| ONE         | eP | 03 08 31   | 0.4     | 100 | 2.83 | 333 | 3.2* |           |
|             | eS | 09 08      | 0.6     | 100 |      |     |      |           |
| WEL         | P  | 03 08 33.6 | -0.2    | 100 | 3.10 | 197 | 4.4  |           |
|             | eS | 09 12      | -1.1    | 100 |      |     |      |           |
| COB         | eP | 03 08 40.3 | -1.2    | 100 | 3.72 | 221 |      | 3.9* 3.5* |
|             | eS | 09 26      | -0.6    | 100 |      |     |      |           |
| AMPLITUDES: |    | WNZ        | 0.5     | KRP | 2.5  | 1.6 | CNZ  | 24 14     |
|             |    | TUA        | 1.9 5.0 | TRZ | 4.5  | 9.0 | GNZ  | 4.7 9.0   |
|             |    | GBZ        | 0.9     | ECZ | 1.3  | 1.1 | ONE  | 0.3       |
|             |    | WEL        | 0.8     | COB | 1.2  | 2.0 |      |           |

FELT: Patoka (58) MM III

JAN 08 17<sup>h</sup>53<sup>m</sup>27<sup>s</sup>.0 38°.82S 175°.17E 227 km M = 4.1  
 ± 1.0 0.04 0.08 6 S.E. of RES. 0.9

| STN         | PHASE | H     | M       | S   | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-------|---------|-----|-----|------|-----|------|-----|------|------|------|
| CNZ         | iP    | 17 53 | 57.9    |     | U   | 0.7  | 100 | 0.48 | 142 |      | 4.6  | 4.3  |
|             | S     |       | 54 21.5 |     |     | 0.9  | 100 |      |     |      |      |      |
| TNZ         | P     | 17 53 | 58.6    |     | U   | 0.4  | 100 | 0.71 | 239 |      | 3.2* |      |
| KRP         | eP    | 17 53 | 59      |     |     | -0.4 | 100 | 0.94 | 18  |      |      |      |
|             | S     |       | 54 24   |     |     | -0.5 | 100 |      |     |      |      |      |
| TRZ         | P     | 17 54 | 04      |     |     | 0.9  | 100 | 1.48 | 120 |      | 3.9  | 4.3  |
|             | S     |       | 31.5    |     |     | 0.4  | 100 |      |     |      |      |      |
| TUA         | S     | 17 54 | 31      |     |     | -1.2 |     | 1.55 | 90  |      |      | 4.2  |
| WTZ         | P     | 17 54 | 04.0    |     | D   | -0.7 | 100 | 1.66 | 60  |      | 3.4  | 3.6  |
|             | S     |       | 33.5    |     |     | -0.3 | 100 |      |     |      |      |      |
| MNG         | iP    | 17 54 | 06.1    |     |     | 0.0  | 100 | 1.81 | 172 |      |      |      |
|             | S     |       | 34.5    |     |     | -1.7 | 98  |      |     |      |      |      |
| GNZ         |       |       |         |     |     |      |     | 2.24 | 86  |      | 4.0  | 4.2  |
| WEL         | P     | 17 54 | 12.3    |     | D   | -0.4 |     | 2.48 | 187 | 4.4  |      |      |
|             | S     |       | 46      |     |     | -2.1 |     |      |     |      |      |      |
| KAI         | S     | 17 55 | 29      |     |     | -5.4 |     | 4.68 | 217 | 3.3* |      |      |
| GPZ         | P     | 17 54 | 42.5    |     |     | -3.1 |     | 5.23 | 201 | 3.7* |      |      |
|             | S     |       | 55 41   |     |     | -5.8 |     |      |     |      |      |      |
| MJZ         | P     | 17 54 | 55.5    |     |     | -3.1 |     | 6.25 | 213 |      | 3.0* | 2.9* |
|             | S     |       | 56 03   |     |     | -7.1 |     |      |     |      |      |      |
| MSZ         | P     | 17 55 | 16      |     |     | -4.7 |     | 7.97 | 221 |      | 3.0* | 3.1* |
|             | S     |       | 56 44   |     |     | -5.6 |     |      |     |      |      |      |
| AMPLITUDES: |       | CNZ   | 21      | 13  | TNZ | 0.3  |     | TRZ  |     |      | 0.4  | 2.6  |
|             |       | TUA   |         | 0.9 | WTZ | 0.3  | 0.6 | GNZ  |     |      | 1.0  | 2.4  |
|             |       | WEL   | 1.2     |     | KAI | 0.2  |     | GPZ  | 0.6 |      |      |      |
|             |       | MJZ   | 0.3     | 0.4 | MSZ | 0.2  | 0.4 |      |     |      |      |      |

JAN 09 14<sup>h</sup>32<sup>m</sup>19<sup>s</sup>.2 37°.17S 176°.84E 254 km M = 4.0  
 ± 1.1 0.06 0.09 9 S.E. of RES. 1.0

| STN | PHASE | H     | M     | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|-------|---|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP    | 14 32 | 53.5  |   | U   | -0.4 | 100 | 0.83 | 172 |     | 4.1 | 3.6 |
|     | eS    |       | 33 20 |   |     | -0.9 | 100 |      |     |     |     |     |
| KRP | P     | 14 32 | 57.0  |   | U   | 0.4  | 100 | 1.28 | 233 |     |     |     |
| GBZ | P     | 14 32 | 58    |   |     | 0.2  | 100 | 1.45 | 311 |     |     |     |
| ECZ | P     | 14 32 | 58.6  |   |     | 0.7  | 100 | 1.46 | 112 |     | 4.1 | 3.8 |
| TUA | P     | 14 32 | 59.1  |   |     | -0.2 | 100 | 1.66 | 172 |     | 4.3 | 4.0 |
|     | eS    |       | 33 31 |   |     | 0.6  | 100 |      |     |     |     |     |
| GNZ |       |       |       |   |     |      |     | 1.75 | 148 |     | 4.4 | 4.3 |
| CNZ | P     | 14 33 | 03.5  |   |     | -1.3 | 99  | 2.27 | 206 |     | 3.7 | 3.7 |

|             |     |            |     |      |     |      |     |         |
|-------------|-----|------------|-----|------|-----|------|-----|---------|
|             | S   | 41         |     | 0.8  | 100 |      |     |         |
| TRZ         | P   | 14 33 05   |     | -0.9 |     | 2.38 | 180 | 3.8 4.0 |
|             | S   | 42         |     | -0.1 |     |      |     |         |
| TNZ         | P   | 14 33 10   |     | -0.1 |     | 2.80 | 223 | 3.0*    |
| MNG         | P   | 14 33 15.9 | U   | -3.1 |     | 3.61 | 197 | 4.2 4.0 |
|             | S   | 34 01      |     | -4.6 |     |      |     |         |
| WEL         | S   | 14 34 18   |     | -4.7 |     | 4.42 | 201 | 3.8     |
| COB         | S   | 14 34 31   |     | -5.5 |     | 5.06 | 218 | 2.9*    |
| GPZ         | S   | 14 35 19   |     | -7.1 |     | 7.27 | 205 | 3.0*    |
| AMPLITUDES: |     |            |     |      |     |      |     |         |
|             | WTZ | 2.2        | 0.7 | GBZ  | 0.6 | ECZ  |     | 0.6 0.3 |
|             | TUA | 0.9        | 0.5 | GNZ  | 2.7 | 3.5  | CNZ | 0.9 1.2 |
|             | TRZ | 0.2        | 0.7 | TNZ  | 0.1 |      | MNG | 2.0 1.7 |
|             | WEL | 0.1        |     | COB  |     | 0.3  | GPZ | 0.1     |

JAN 10 10<sup>h</sup>09<sup>m</sup>51<sup>s</sup>.9 38°.59s 179°.26E 12 km M = 3.8  
 ± 2.0 0.05 0.14 R S.E. of RES. 1.7

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S     |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|---------|
| GNZ         |       |    |    |         |     |      |     | 0.97 | 267 |     | 3.8 |         |
| ECZ         | P*    | 10 | 10 | 11      |     | -0.2 | 100 | 1.06 | 328 |     | 3.9 | 4.2     |
|             | S*    |    |    | 25      |     | -0.3 | 100 |      |     |     |     |         |
| TUA         | P*    | 10 | 10 | 21      |     | -0.5 | 100 | 1.66 | 262 |     | 3.6 | 3.8     |
|             | Pg    |    |    | 30      |     | 4.4  | 91  |      |     |     |     |         |
| WTZ         | Pn    | 10 | 10 | 22.5    |     | -0.7 | 100 | 1.89 | 288 |     | 4.1 | 4.0     |
| TRZ         | P*    | 10 | 10 | 28      |     | -1.4 | 100 | 2.12 | 242 |     | 3.5 | 3.7     |
|             | Sn    |    |    | 51      |     | -1.4 | 100 |      |     |     |     |         |
|             | S*    |    |    | 56      |     | -1.4 | 100 |      |     |     |     |         |
| CNZ         | Pn    | 10 | 10 | 38.8    |     | 1.0  | 100 | 2.96 | 257 |     | 3.7 | 3.8     |
|             | ePg   |    |    | 55      |     | 3.3  | 98  |      |     |     |     |         |
|             | Sn    |    |    | 11 12   |     | -0.4 | 100 |      |     |     |     |         |
| KRP         | P*    | 10 | 10 | 43      |     | -1.4 | 100 | 3.01 | 282 |     |     |         |
|             | Pg    |    |    | 52      |     | -0.6 | 100 |      |     |     |     |         |
| MNG         | Pn    | 10 | 10 | 46      |     | 0.1  | 100 | 3.55 | 234 |     | 3.6 | 4.0     |
|             | Sn    |    |    | 11 26.5 |     | -0.2 | 100 |      |     |     |     |         |
| WEL         | Sn    | 10 | 11 | 45      |     | -1.5 |     | 4.38 | 231 | 3.9 |     |         |
| COB         | ePn   | 10 | 11 | 13      |     | -1.0 |     | 5.61 | 242 |     | 3.7 | 3.7     |
|             | Sn    |    |    | 12 15   |     | -1.1 |     |      |     |     |     |         |
| CIZ         | ePn   | 10 | 11 | 31      |     | 8.7  |     | 6.22 | 151 |     |     |         |
|             | Sn    |    |    | 12 40   |     | 9.3  |     |      |     |     |     |         |
| GPZ         | Sn    | 10 | 12 | 51      |     | -1.8 |     | 7.14 | 222 | 3.9 |     |         |
| AMPLITUDES: |       |    |    |         |     |      |     |      |     |     |     |         |
|             | GNZ   |    |    | 6.0     |     | ECZ  |     | 1.3  | 3.5 | TUA |     | 0.5 0.8 |
|             | WTZ   |    |    | 3.8     | 2.3 | TRZ  |     | 0.3  | 0.6 | CNZ |     | 1.9 3.3 |
|             | MNG   |    |    | 0.6     | 1.7 | WEL  | 0.1 |      |     | COB |     | 0.1 0.3 |
|             | CIZ   |    |    | 0.3     | 0.5 | GPZ  | 0.1 |      |     |     |     |         |

JAN 10 16<sup>h</sup>07<sup>m</sup>33<sup>s</sup>.5 41°.63s 174°.71E 33 km M = 3.5  
 ± 0.3 0.02 0.04 R S.E. of RES. 0.9

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WEL | iP*   | 16 | 07 | 42.5    | D   | 0.8  | 100 | 0.34 | 8   | 3.2 |     |     |
|     | S*    |    |    | 48.9    |     | 1.2  | 99  |      |     |     |     |     |
| KKY | P*    | 16 | 07 | 53.9    |     | 0.2  | 100 | 1.10 | 223 |     |     |     |
|     | Sn    |    |    | 08 05.2 |     | -0.6 | 100 |      |     |     |     |     |
|     | S*    |    |    | 09      |     | 0.4  | 100 |      |     |     |     |     |
| MNG | iPn   | 16 | 07 | 51.8    |     | -1.2 | 99  | 1.17 | 30  |     | 3.9 |     |
| CAZ | Pn    | 16 | 07 | 55      |     | -0.6 | 100 | 1.36 | 58  |     |     |     |
| COB | Pn    | 16 | 07 | 58.2    | U   | -0.4 | 100 | 1.58 | 289 |     | 3.7 | 3.6 |

|             |     |            |     |      |     |      |     |     |     |
|-------------|-----|------------|-----|------|-----|------|-----|-----|-----|
|             | Sn  | 08 17.5    |     | 0.1  | 100 |      |     |     |     |
| GSZ         | Sn  | 16 08 37.5 |     | -0.7 |     | 2.44 | 16  |     |     |
| CNZ         | Pn  | 16 08 10.8 | U   | -0.5 | 100 | 2.51 | 15  | 3.3 | 3.7 |
|             | Sn  | 38.5       |     | -1.3 | 99  |      |     |     |     |
| GPZ         | Sn  | 16 08 41.5 |     | 0.3  | 100 | 2.56 | 216 | 3.5 |     |
| TRZ         | Sn  | 16 08 44   |     | 1.4  | 99  | 2.63 | 39  |     | 3.4 |
| TUA         | eSn | 16 08 58.5 |     | -2.3 |     | 3.38 | 34  |     | 3.5 |
| MJZ         | Pn  | 16 08 31.5 |     | 1.0  |     | 3.91 | 231 |     |     |
|             | Sn  | 09 15      |     | 1.5  |     |      |     |     |     |
| GNZ         |     |            |     |      |     | 3.91 | 42  |     | 3.6 |
| MJZ         |     |            |     |      |     | 3.91 | 231 | 4.0 | 3.1 |
| WTZ         | Sn  | 16 09 13   |     | -3.6 |     | 4.04 | 27  |     | 3.6 |
| GSP         | Pn  | 16 08 36.5 |     | 1.3  |     | 4.27 | 232 |     |     |
|             | Sn  | 09 24      |     | 2.1  |     |      |     |     |     |
| CIZ         | Sn  | 16 10 25   |     | 1.3  |     | 6.83 | 113 |     |     |
| AMPLITUDES: | WEL | 5.7        |     | MNG  | 10  | COB  |     | 1.2 | 3.3 |
|             | CNZ | 1.6        | 6.0 | GPZ  | 0.3 | TRZ  |     |     | 0.2 |
|             | TUA |            | 0.1 | GNZ  |     | 0.3  | MJZ | 1.3 | 0.3 |
|             | WTZ |            | 0.2 | CIZ  |     | 0.2  |     |     |     |

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JAN 11 02<sup>h</sup>43<sup>m</sup>04<sup>s</sup>.9 41°.66S 174°.81E 12 km M = 3.9  
 ± 0.5 0.03 0.04 R S.E. of RES. 1.6

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|---------|
| WEL         | P*    | 02  | 43 | 12.2  |     | -0.2 | 100 | 0.37 | 355 | 4.1 |         |
|             | Pg    |     |    | 14    |     | 1.2  | 100 |      |     |     |         |
|             | S*    |     |    | 17    |     | -0.7 | 100 |      |     |     |         |
| KKY         | iP*   | 02  | 43 | 26.0  | D   | 0.6  | 100 | 1.13 | 227 |     |         |
|             | S*    |     |    | 42    |     | 1.5  | 100 |      |     |     |         |
| MNG         | iP*   | 02  | 43 | 23.8  | D   | -2.0 | 99  | 1.15 | 26  |     |         |
| CAZ         | P*    | 02  | 43 | 26    |     | -2.4 | 99  | 1.30 | 55  |     |         |
|             | Pg    |     |    | 33    |     | 1.6  | 100 |      |     |     |         |
|             | Sg    |     |    | 52    |     | 3.0  | 98  |      |     |     |         |
| COB         | Pn    | 02  | 43 | 32.6  |     | -0.5 | 100 | 1.66 | 289 | 4.3 | 3.9     |
|             | Sn    |     |    | 55    |     | 0.7  | 100 |      |     |     |         |
| GSZ         | Pn    | 02  | 43 | 43    |     | -0.9 | 100 | 2.45 | 14  |     |         |
|             | P*    |     |    | 46.5  |     | -1.4 | 100 |      |     |     |         |
|             | Sn    |     |    | 44 12 |     | -1.2 | 100 |      |     |     |         |
|             | S*    |     |    | 21    |     | 0.9  | 100 |      |     |     |         |
| TNZ         | Pn    | 02  | 43 | 45.5  |     | 1.1  | 100 | 2.49 | 352 | 4.0 |         |
|             | P*    |     |    | 49    |     | 0.4  | 100 |      |     |     |         |
| GPZ         | Sn    | 02  | 44 | 14    |     | -2.5 | 99  | 2.59 | 217 | 3.7 |         |
| KAI         | Sn    | 02  | 44 | 18    |     | -0.6 | 100 | 2.68 | 250 | 3.7 |         |
|             | eSg   |     |    | 36.5  |     | 1.4  | 100 |      |     |     |         |
| KRP         | P*    | 02  | 44 | 08.5  |     | -1.9 |     | 3.77 | 9   |     |         |
|             | Pg    |     |    | 12    |     | -9.1 |     |      |     |     |         |
|             | S*    |     |    | 58    |     | -1.6 |     |      |     |     |         |
| MJZ         | P*    | 02  | 44 | 16    |     | 2.4  |     | 3.96 | 232 |     |         |
|             | Sn    |     |    | 49    |     | -0.4 |     |      |     |     |         |
| WTZ         | Pg    | 02  | 44 | 24    |     | -2.4 |     | 4.03 | 25  | 3.7 | 4.0     |
|             | Sn    |     |    | 47.5  |     | -3.8 |     |      |     |     |         |
| GSP         | Pg    | 02  | 44 | 30.5  |     | -1.4 |     | 4.30 | 233 |     |         |
|             | Sn    |     |    | 59    |     | 1.2  |     |      |     |     |         |
| CIZ         | Sn    | 02  | 45 | 53    |     | -3.5 |     | 6.75 | 113 |     |         |
| AMPLITUDES: | WEL   | 37  |    |       |     | COB  | 3.9 | 6.5  | TNZ | 0.5 |         |
|             | GPZ   | 0.5 |    |       |     | KAI  | 0.3 |      | WTZ | 0.3 | 0.6     |
|             | CIZ   |     |    |       | 0.4 |      |     |      |     |     |         |



FELT: Wellington (68) MM IV

JAN 11 13<sup>h</sup>41<sup>m</sup>35<sup>s</sup>.7 38°.57S 175°.29E 282 km 77/ 019  
 ± 0.7 0.04 0.06 5 S.E. of RES. 0.8 M = 4.7

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|------|------|------|
| WNZ         | P     | 13  | 42 | 12.8    |     | -0.0 | 100 | 0.64 | 96  |      | 4.9  | 4.2  |
| KRP         | iP    | 13  | 42 | 13.2    | DS  | 0.2  | 100 | 0.67 | 17  |      |      |      |
| GSZ         | P     | 13  | 42 | 13.5    |     | 0.2  | 100 | 0.75 | 162 |      |      |      |
|             | S     |     |    | 42      |     | -0.5 | 100 |      |     |      |      |      |
| TNZ         | eP    | 13  | 42 | 14      |     | -0.0 | 100 | 0.94 | 229 |      | 3.3* | 3.3* |
|             | S     |     |    | 44      |     | -0.0 | 100 |      |     |      |      |      |
| WTZ         | iP    | 13  | 42 | 16.4    | D   | -0.7 | 100 | 1.46 | 67  |      | 4.7  | 4.5  |
|             | S     |     |    | 48.5    |     | -0.8 | 100 |      |     |      |      |      |
| TUA         | iP    | 13  | 42 | 17.3    | D   | -0.0 |     | 1.48 | 100 |      | 5.1  | 4.8  |
|             | S     |     |    | 50.5    |     | 0.9  |     |      |     |      |      |      |
| TRZ         | P     | 13  | 42 | 17.8    | D   | 0.1  | 100 | 1.55 | 130 |      | 4.6  | 4.6  |
|             | S     |     |    | 52      |     | 1.6  | 95  |      |     |      |      |      |
| AUC         | P     | 13  | 42 | 20.0    |     | 0.7  | 100 | 1.75 | 347 |      |      |      |
| MNG         | iP    | 13  | 42 | 20.8    | U   | -0.8 | 100 | 2.05 | 176 |      |      |      |
| GBZ         | P     | 13  | 42 | 24.5    | D   | 0.2  | 100 | 2.36 | 4   |      |      |      |
| CAZ         | eP    | 13  | 42 | 25.5    |     | 0.3  |     | 2.44 | 163 |      |      |      |
|             | S     |     |    | 43 03.5 |     | -0.1 |     |      |     |      |      |      |
| ECZ         | P     | 13  | 42 | 28.2    | D   | 0.3  |     | 2.72 | 72  |      | 5.0  | 4.7  |
|             | S     |     |    | 43 09   |     | 0.6  |     |      |     |      |      |      |
| WEL         | P     | 13  | 42 | 26.5    |     | -1.6 |     | 2.74 | 188 | 4.8  |      |      |
|             | S     |     |    | 43 06   |     | -2.8 |     |      |     |      |      |      |
| ONE         | eP    | 13  | 42 | 31      |     | 1.4  |     | 2.89 | 345 | 3.1* |      |      |
|             | S     |     |    | 43 13.5 |     | 2.1  |     |      |     |      |      |      |
| COB         | iP    | 13  | 42 | 30.1    | U   | -2.5 |     | 3.19 | 217 |      | 4.5* | 3.9* |
|             | S     |     |    | 43 14   |     | -3.0 |     |      |     |      |      |      |
| KAI         | P     | 13  | 42 | 50.5    |     | -1.8 |     | 4.94 | 216 | 3.6* |      |      |
|             | S     |     |    | 43 46.5 |     | -5.8 |     |      |     |      |      |      |
| GPZ         | P     | 13  | 42 | 56      |     | -3.1 |     | 5.50 | 200 | 4.1* |      |      |
|             | S     |     |    | 43 58.5 |     | -5.8 |     |      |     |      |      |      |
| MJZ         | P     | 13  | 43 | 07.5    |     | -4.0 |     | 6.52 | 212 |      | 4.0* | 3.2* |
|             | eS    |     |    | 44 22   |     | -4.7 |     |      |     |      |      |      |
| AMPLITUDES: |       | WNZ |    | 0.6     | 0.1 | TNZ  |     | 0.3  | 0.4 | WTZ  | 4.8  | 3.2  |
|             |       | TUA |    | 6.0     | 2.7 | TRZ  |     | 1.6  | 3.2 | GBZ  | 1.7  |      |
|             |       | ECZ |    | 2.7     | 1.3 | WEL  | 1.8 |      |     | ONE  | 0.2  |      |
|             |       | COB |    | 5.0     | 5.0 | KAI  | 0.3 |      |     | GPZ  | 1.6  |      |
|             |       | MJZ |    | 2.7     | 0.8 |      |     |      |     |      |      |      |

JAN 11 20<sup>h</sup>28<sup>m</sup>22<sup>s</sup>.3 37°.74S 177°.47E 33 km 77/ 020  
 ± 0.6 0.04 0.04 R S.E. of RES. 1.6 M = 3.8

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iPn   | 20 | 28 | 31.2  | D   | -0.8 | 100 | 0.45 | 238 |     | 3.7 | 3.3 |
|     | eS*   |    |    | 41.5  |     | 2.4  | 99  |      |     |     |     |     |
| ECZ | iPn   | 20 | 28 | 36.2  | D   | -1.3 | 100 | 0.85 | 87  |     | 4.3 | 3.8 |
|     | eS*   |    |    | 52    |     | 1.7  | 100 |      |     |     |     |     |
| TUA | Pn    | 20 | 28 | 39    |     | -1.7 | 100 | 1.09 | 193 |     | 3.6 | 3.7 |
|     | S*    |    |    | 59    |     | 1.8  | 100 |      |     |     |     |     |
| KRP | iPn   | 20 | 28 | 46.0  | DE  | -0.9 | 100 | 1.54 | 263 |     |     |     |
|     | eP*   |    |    | 51    |     | 1.0  | 100 |      |     |     |     |     |
|     | Sn    |    |    | 29 06 |     | 0.7  | 100 |      |     |     |     |     |
| CNZ | Pn    | 20 | 28 | 53.5  |     | -0.9 | 100 | 2.10 | 226 |     | 3.8 | 3.8 |

|             |     |            |      |     |      |     |     |     |     |
|-------------|-----|------------|------|-----|------|-----|-----|-----|-----|
| GSZ         | S*  | 29 25      | -2.0 | 99  |      |     |     |     |     |
|             | Pn  | 20 28 55.5 | 0.6  |     | 2.13 | 223 |     |     |     |
| GBZ         | S*  | 29 28.5    | 0.5  |     |      |     |     |     |     |
|             | Pn  | 20 28 54.8 | -1.1 | 100 | 2.20 | 313 |     |     |     |
| MNG         | Sn  | 29 22.5    | 1.2  | 100 |      |     |     |     |     |
|             | Pn  | 20 29 07   | -3.3 |     | 3.26 | 208 |     | 3.8 | 3.8 |
| GPZ         | eP* | 17.5       | -1.6 |     |      |     |     |     |     |
|             | S*  | 30 01      | -0.7 |     |      |     |     |     |     |
| CIZ         | Sn  | 20 31 11   | -5.2 |     | 6.98 | 210 | 3.9 |     |     |
|             | Sn  | 20 31 28   | -4.8 |     | 7.68 | 146 |     |     |     |
| AMPLITUDES: |     | WTZ        | 25   | 10  | ECZ  | 6.0 | 2.2 | TUA | 1.1 |
|             |     | CNZ        | 3.5  | 4.5 | MNG  | 1.2 | 1.3 | GPZ | 0.1 |
|             |     | CIZ        |      | 0.4 |      |     |     |     |     |

77/ 021

JAN 12    16<sup>h</sup>17<sup>m</sup>16<sup>s</sup>.1    44°.44S    167°.98E    12 km    M = 4.0

± 0.7            0.04            0.05            R    S.E. of RES. 1.0

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MSZ         | iPg   | 16  | 17  | 21.6    | U   | 0.2  | 100 | 0.23 | 192 |     |     |     |   |   |
|             | Sg    |     |     | 25      |     | 0.1  | 100 |      |     |     |     |     |   |   |
| MNW         | eP*   | 16  | 17  | 41.5    |     | 0.9  | 100 | 1.37 | 191 |     | 4.1 | 4.3 |   |   |
|             | ePg   |     |     | 45      |     | 1.2  | 99  |      |     |     |     |     |   |   |
| ROX         | Pn    | 16  | 17  | 41.0    | D   | 0.2  | 100 | 1.40 | 138 |     | 4.0 | 3.5 |   |   |
| GSP         | Pn    | 16  | 17  | 42      |     | -0.0 | 100 | 1.49 | 79  |     |     |     |   |   |
|             | Sn    |     |     | 18 01   |     | -0.4 | 100 |      |     |     |     |     |   |   |
| MJZ         | Pn    | 16  | 17  | 46.5    |     | -0.3 | 100 | 1.84 | 77  |     | 4.1 | 4.0 |   |   |
|             | P*    |     |     | 48      |     | -0.7 | 100 |      |     |     |     |     |   |   |
|             | Sn    |     |     | 18 10   |     | 0.2  | 100 |      |     |     |     |     |   |   |
|             | S*    |     |     | 12      |     | -1.0 | 100 |      |     |     |     |     |   |   |
| OMZ         | ePn   | 16  | 17  | 52      |     | 0.6  | 100 | 2.19 | 108 |     | 4.2 | 4.1 |   |   |
|             | P*    |     |     | 55.5    |     | 0.9  | 100 |      |     |     |     |     |   |   |
| OBZ         | S*    |     |     | 18 24.5 |     | 1.3  | 99  |      |     |     |     |     |   |   |
|             | P*    | 16  | 17  | 58      |     | -1.4 | 99  | 2.47 | 178 |     |     |     |   |   |
|             | S*    |     |     | 18 30   |     | -1.8 | 98  |      |     |     |     |     |   |   |
| KAI         | S*    | 16  | 18  | 54.5    |     | 2.5  |     | 3.14 | 54  | 4.0 |     |     |   |   |
| GPZ         | P*    | 16  | 18  | 19      |     | 3.0  |     | 3.45 | 79  | 3.6 |     |     |   |   |
|             | Sn    |     |     | 49      |     | 0.8  |     |      |     |     |     |     |   |   |
|             | Sg    |     |     | 19 09   |     | -3.0 |     |      |     |     |     |     |   |   |
| COB         | Pn    | 16  | 18  | 26      |     | -1.7 |     | 4.84 | 48  |     | 4.1 | 3.5 |   |   |
|             | Sn    |     |     | 19 21   |     | -0.9 |     |      |     |     |     |     |   |   |
|             | eSg   |     |     | 53      |     | -6.2 |     |      |     |     |     |     |   |   |
| MNG         | Pn    | 16  | 18  | 56.5    |     | 3.0  |     | 6.73 | 58  |     | 4.1 |     |   |   |
| AMPLITUDES: |       | MSZ |     | 22      |     | MNW  | 6.0 | 20   | ROX |     | 2.7 | 2.6 |   |   |
|             |       | MJZ |     | 6.5     | 9.5 | OMZ  | 1.8 | 3.0  | KAI | 0.4 |     |     |   |   |
|             |       | GPZ | 0.2 |         |     | COB  | 0.3 | 0.3  | MNG |     | 0.5 |     |   |   |

77/ 022

JAN 13    04<sup>h</sup>41<sup>m</sup>27<sup>s</sup>.5    37°.77S    177°.55E    33 km    M = 3.6

± 0.6            0.04            0.05            R    S.E. of RES. 1.3

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ | P*    | 04 | 41 | 38.8    |     | 0.9  | 100 | 0.49 | 244 |     | 3.0 | 3.4 |   |   |
|     | S*    |    |    | 48      |     | 2.6  | 97  |      |     |     |     |     |   |   |
| ECZ | P*    | 04 | 41 | 44      |     | 1.3  | 100 | 0.79 | 85  |     | 3.6 | 3.7 |   |   |
| GNZ |       |    |    |         |     |      |     | 0.94 | 157 |     | 3.4 | 3.7 |   |   |
| TUA | P*    | 04 | 41 | 46.3    |     | -1.1 | 100 | 1.08 | 197 |     | 3.6 | 3.7 |   |   |
|     | S*    |    |    | 42 02.5 |     | 0.3  | 100 |      |     |     |     |     |   |   |
| KRP | Pn    | 04 | 41 | 52.2    | D   | -0.7 | 100 | 1.60 | 264 |     |     |     |   |   |

|             |     |            |         |      |         |      |         |     |     |
|-------------|-----|------------|---------|------|---------|------|---------|-----|-----|
| TRZ         | Sn  | 42 11      |         | -0.9 | 100     |      |         |     |     |
|             | Pn  | 04 41 56   |         | -0.6 | 100     | 1.87 | 197     | 3.7 | 3.8 |
|             | P*  | 42 01      |         | 0.3  | 100     |      |         |     |     |
|             | eSn | 17         |         | -1.4 | 100     |      |         |     |     |
| CNZ         | iPn | 04 42 00.4 | D       | 0.4  | 100     | 2.12 | 227     | 4.1 | 3.8 |
| GBZ         | Pn  | 04 42 01   |         | -1.0 | 100     | 2.27 | 312     |     |     |
| MNG         | Pn  | 04 42 12.5 |         | -3.1 |         | 3.27 | 209     | 3.8 | 3.7 |
|             | P*  | 21         |         | -3.4 |         |      |         |     |     |
|             | S*  | 43 07      |         | -0.1 |         |      |         |     |     |
| WEL         | Sn  | 04 43 10   |         | -2.4 |         | 4.12 | 211     | 3.6 |     |
|             | S*  | 29         |         | -3.6 |         |      |         |     |     |
| COB         | ePn | 04 42 33   |         | -6.2 |         | 4.99 | 227     | 3.9 | 3.4 |
|             | P*  | 48         |         | -5.7 |         |      |         |     |     |
| GPZ         | eSn | 04 44 16   |         | -5.6 |         | 6.99 | 211     |     |     |
| AMPLITUDES: |     | WTZ        | 4.3 9.5 | ECZ  | 1.2 2.0 | GNZ  | 2.2 6.7 |     |     |
|             |     | TUA        | 1.0 1.4 | TRZ  | 0.6 1.0 | CNZ  | 7.0 5.0 |     |     |
|             |     | MNG        | 1.2 1.1 | WEL  | 0.1     | COB  | 0.2 0.2 |     |     |

77/ 023

JAN 15 02<sup>h</sup>38<sup>m</sup>12<sup>s</sup>.3 38°.26S 176°.47E 12 km M = 2.3  
 $\pm 0.3$  0.02 0.02 R S.E. of RES. 0.5

| STN | PHASE | H  | M  | S  | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|----|-----|------|-----|------|-----|-----|-----|-----|
| WNZ | Pg    | 02 | 38 | 22 |     | -0.1 | 100 | 0.47 | 218 |     | 3.0 |     |
| WIZ | ePg   | 02 | 38 | 23 |     | 0.5  | 99  | 0.49 | 56  |     |     | 1.6 |
|     | Sg    |    |    | 29 |     | -0.3 | 100 |      |     |     |     |     |
| KRP | P*    | 02 | 38 | 27 |     | -0.3 | 100 | 0.81 | 294 |     |     |     |
|     | Pg    |    |    | 29 |     | 0.2  | 100 |      |     |     |     |     |

AMPLITUDES: WNZ 0.3 WIZ 0.1

FELT: Rotorua (33) MM IV

77/ 024

JAN 15 02<sup>h</sup>46<sup>m</sup>10<sup>s</sup>.7 40°.97S 172°.49E 12 km M = 4.0  
 $\pm 0.5$  0.03 0.04 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| COB | iPg   | 02 | 46 | 14.6    |     | -1.1 | 100 | 0.22 | 122 |     |     |     |
| KKY | iP*   | 02 | 46 | 39.5    | D   | -1.5 | 99  | 1.71 | 148 |     |     |     |
|     | S*    |    |    | 47 03   |     | -0.5 | 100 |      |     |     |     |     |
| WEL | P*    | 02 | 46 | 41      |     | -0.8 | 100 | 1.75 | 101 | 4.1 |     |     |
|     | Sn    |    |    | 47 03   |     | 0.8  | 100 |      |     |     |     |     |
| KAI | eP*   | 02 | 46 | 41      |     | -0.7 | 100 | 1.75 | 207 | 4.0 |     |     |
|     | Sn    |    |    | 47 02   |     | -0.1 | 100 |      |     |     |     |     |
|     | S*    |    |    | 03.5    |     | -1.3 | 100 |      |     |     |     |     |
| TNZ | P*    | 02 | 46 | 51.5    |     | 0.4  | 100 | 2.30 | 40  |     | 3.8 | 3.9 |
| MNG | P*    | 02 | 46 | 50.3    |     | -0.9 | 100 | 2.30 | 82  |     | 4.2 | 4.5 |
|     | i     |    |    | 52      |     |      |     |      |     |     |     |     |
|     | S*    |    |    | 47 23.5 |     | 2.1  | 99  |      |     |     |     |     |
| GPZ | eP*   | 02 | 46 | 59      |     | 0.6  | 100 | 2.73 | 178 | 3.7 |     |     |
|     | Sn    |    |    | 47 26   |     | 0.4  | 100 |      |     |     |     |     |
| CAZ | eSg   | 02 | 47 | 46      |     | -0.2 |     | 2.83 | 90  |     |     |     |
| GSZ | P*    | 02 | 47 | 01      |     | -0.7 | 100 | 2.92 | 56  |     |     |     |
|     | Pg    |    |    | 10      |     | 0.3  | 100 |      |     |     |     |     |
| MJZ | Pn    | 02 | 47 | 01.5    |     | -0.6 | 100 | 3.37 | 206 |     | 4.0 | 3.7 |
|     | Sn    |    |    | 43      |     | 2.0  | 99  |      |     |     |     |     |
|     | S*    |    |    | 55      |     | 1.7  | 99  |      |     |     |     |     |
| GSP | Pn    | 02 | 47 | 06.5    |     | 0.5  |     | 3.65 | 209 |     |     |     |
|     | Sn    |    |    | 50      |     | 2.2  |     |      |     |     |     |     |



|             |     |            |      |      |     |         |
|-------------|-----|------------|------|------|-----|---------|
| KRP         | Sg  | 48 18      | 4.4  | 3.85 | 39  |         |
|             | Pn  | 02 47 12   | 3.2  |      |     |         |
|             | eP* | 23         | 5.4  |      |     |         |
|             | Pg  | 28.5       | -0.0 |      |     |         |
|             | S*  | 48 07      | -0.9 |      |     |         |
| OMZ         | eSg | 19         | -1.4 | 4.26 | 195 | 4.0     |
|             | ePn | 02 47 11.5 | -2.8 |      |     |         |
|             | P*  | 26         | 1.5  |      |     |         |
| WTZ         | ePg | 02 47 38   | -5.3 | 4.59 | 51  | 4.0     |
| MSZ         | Pn  | 02 47 23.5 | -0.9 | 4.99 | 221 | 4.0 3.8 |
|             | Sn  | 48 20      | -0.2 |      |     |         |
| AMPLITUDES: |     |            |      |      |     |         |
|             | WEL | 1.5        | KAI  | 1.2  | TNZ | 0.4 0.7 |
|             | MNG | 6.0 13     | GPZ  | 0.4  | MJZ | 1.7 1.3 |
|             | OMZ | 0.3        | WTZ  | 0.1  | MSZ | 0.6 0.7 |

FELT: Northwest Nelson (74,75) MM IV

77/ 025

JAN 15    03<sup>h</sup>02<sup>m</sup>32<sup>s</sup>.6    39°.74s    176°.89E    33 km    M = 3.8

± 0.6            0.02            0.05            R    S.E. of RES. 1.3

| STN         | PHASE | H       | M    | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|---------|------|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| TRZ         | iP*   | 03      | 02   | 40.0 |     | 1.0  | 100 | 0.19 | 343 |     |     |     |   |   |
| TUA         | eS*   |         |      | 46   |     | 2.4  | 98  |      |     |     |     |     |   |   |
|             | P*    | 03      | 02   | 49   |     | -1.3 | 100 | 0.94 | 12  |     | 3.7 | 3.8 |   |   |
| GSZ         | e     |         |      | 54   |     |      |     |      |     |     |     |     |   |   |
|             | S*    | 03      | 02   | 52.5 |     | -0.8 | 100 |      |     |     |     |     |   |   |
|             | P*    | 03      | 02   | 52.5 |     | -0.5 | 100 | 1.11 | 294 |     |     |     |   |   |
| WNZ         | S*    | 03      | 08   |      |     | -0.1 | 100 |      |     |     |     |     |   |   |
|             | P*    | 03      | 02   | 54.5 |     | -1.1 | 100 | 1.26 | 331 |     | 4.2 | 4.0 |   |   |
|             | S*    | 03      | 11   |      |     | -1.6 | 100 |      |     |     |     |     |   |   |
| CAZ         | Pn    | 03      | 02   | 53   |     | -0.5 | 100 | 1.28 | 203 |     |     |     |   |   |
| MNG         | iPn   | 03      | 02   | 54.3 | D   | -0.9 | 100 | 1.39 | 230 |     |     |     |   |   |
|             | eSn   | 03      | 12.5 |      |     | 0.4  | 100 |      |     |     |     |     |   |   |
| GNZ         |       |         |      |      |     |      |     | 1.39 | 39  |     | 3.8 | 3.6 |   |   |
| MNG         |       |         |      |      |     |      |     | 1.39 | 230 |     | 3.8 | 3.7 |   |   |
| WTZ         | Pn    | 03      | 02   | 59.2 |     | -0.8 | 100 | 1.75 | 2   |     | 3.9 | 3.9 |   |   |
|             | Sn    | 03      | 22   |      |     | 1.4  | 100 |      |     |     |     |     |   |   |
| TNZ         | P*    | 03      | 03   | 09   |     | 0.6  | 100 | 2.02 | 285 |     | 3.4 | 3.6 |   |   |
| KRP         | Pn    | 03      | 03   | 04.8 |     | 0.0  | 100 | 2.10 | 329 |     |     |     |   |   |
|             | P*    | 03      | 11   |      |     | 1.4  | 100 |      |     |     |     |     |   |   |
| WEL         | eP*   | 03      | 03   | 14   |     | 1.9  | 99  | 2.24 | 226 | 3.7 |     |     |   |   |
|             | Sn    | 03      | 31   |      |     | -1.4 | 100 |      |     |     |     |     |   |   |
| COB         | Pn    | 03      | 03   | 22   |     | -1.3 |     | 3.46 | 246 |     | 3.8 | 3.5 |   |   |
|             | P*    | 03      | 33.5 |      |     | 0.8  |     |      |     |     |     |     |   |   |
|             | Sn    | 04      | 01.5 |      |     | -0.0 |     |      |     |     |     |     |   |   |
| GPZ         | Sn    | 03      | 04   | 36.5 |     | -4.1 |     | 5.08 | 217 | 4.3 |     |     |   |   |
| MJZ         | Pn    | 03      | 04   | 02   |     | -1.6 |     | 6.42 | 226 |     | 3.8 | 4.0 |   |   |
|             | Sn    | 05      | 10   |      |     | -2.6 |     |      |     |     |     |     |   |   |
| CIZ         | Pn    | 03      | 04   | 05.5 |     | 1.3  |     | 6.45 | 133 |     |     |     |   |   |
|             | Sn    | 05      | 13.5 |      |     | -0.1 |     |      |     |     |     |     |   |   |
| GSP         | Pn    | 03      | 04   | 06.5 |     | -1.8 |     | 6.76 | 227 |     |     |     |   |   |
|             | Sn    | 05      | 20   |      |     | -0.9 |     |      |     |     |     |     |   |   |
| OMZ         | Pn    | 03      | 04   | 08.5 |     | -2.2 |     | 6.93 | 218 |     |     | 3.9 |   |   |
|             | Sn    | 05      | 21.5 |      |     | -3.6 |     |      |     |     |     |     |   |   |
| MSZ         | Pn    | 03      | 05   | 54.5 |     | -3.3 |     | 8.30 | 231 |     |     | 3.9 |   |   |
|             | Sn    | 05      | 54.5 |      |     |      |     |      |     |     |     |     |   |   |
| AMPLITUDES: |       |         |      |      |     |      |     |      |     |     |     |     |   |   |
|             | TRZ   | 13      | TUA  |      |     | 1.7  | 2.6 | WNZ  |     |     | 0.7 | 0.6 |   |   |
|             | GNZ   | 2.5 2.9 | MNG  |      |     | 5.3  | 5.5 | WTZ  |     |     | 2.6 | 2.5 |   |   |
|             | TNZ   | 0.2 0.4 | WEL  | 0.4  |     |      |     | COB  |     |     | 0.3 | 0.5 |   |   |

GPZ 0.5 MJZ 0.3 0.8 CIZ 0.5 0.7  
OMZ 0.2 MSZ 0.3

FELT: Napier (52) MM V

JAN 16 00<sup>h</sup>42<sup>m</sup>45<sup>s</sup>.2 41°.69S 171°.97E 12 km 77/ 026  
± 0.5 0.03 0.04 R S.E. of RES. 1.3 M = 3.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| COB | iP*   | 00 | 43 | 00.5  | D   | -0.1 | 100 | 0.84 | 44  |     |     |     |   |   |
|     | Pg    |    |    | 04    |     | 1.8  | 99  |      |     |     |     |     |   |   |
|     | S*    |    |    | 11.5  |     | -0.3 | 100 |      |     |     |     |     |   |   |
| KAI | P*    | 00 | 43 | 01.5  |     | -0.7 | 100 | 0.94 | 207 | 3.5 |     |     |   |   |
|     | Pg    |    |    | 04    |     | -0.1 | 100 |      |     |     |     |     |   |   |
|     | S*    |    |    | 13    |     | -1.8 | 99  |      |     |     |     |     |   |   |
| KKY | iP*   | 00 | 43 | 11.5  | D   | 0.0  | 100 | 1.48 | 120 |     |     |     |   |   |
|     | S*    |    |    | 33.5  |     | 2.5  | 98  |      |     |     |     |     |   |   |
| GPZ | Pg    | 00 | 43 | 25.5  |     | -1.4 | 100 | 2.06 | 166 | 3.3 |     |     |   |   |
|     | Sn    |    |    | 44    |     | -0.1 | 100 |      |     |     |     |     |   |   |
|     | S*    |    |    | 48.5  |     | -0.2 | 100 |      |     |     |     |     |   |   |
| WEL | P*    | 00 | 43 | 23    |     | 0.1  | 100 | 2.14 | 80  | 3.3 |     |     |   |   |
|     | Pg    |    |    | 28    |     | -0.5 | 100 |      |     |     |     |     |   |   |
|     | S*    |    |    | 49    |     | -2.0 | 99  |      |     |     |     |     |   |   |
| MJZ | Pn    | 00 | 43 | 26    |     | 0.5  |     | 2.55 | 205 |     | 3.5 | 3.1 |   |   |
|     | eSn   |    |    | 57    |     | 1.2  |     |      |     |     |     |     |   |   |
|     | S*    |    |    | 44 07 |     | 3.8  |     |      |     |     |     |     |   |   |
| GSP | Pn    | 00 | 43 | 29.5  |     | 0.2  | 100 | 2.83 | 210 |     |     |     |   |   |
|     | Sn    |    |    | 44 04 |     | 1.4  | 100 |      |     |     |     |     |   |   |
|     | S*    |    |    | 13    |     | 1.3  | 100 |      |     |     |     |     |   |   |
| MSZ | Pn    | 00 | 43 | 46    |     | -2.0 |     | 4.20 | 224 |     | 3.6 | 3.5 |   |   |
|     | Sn    |    |    | 44 35 |     | -0.6 |     |      |     |     |     |     |   |   |
|     | Sg    |    |    | 45 09 |     | 2.3  |     |      |     |     |     |     |   |   |

AMPLITUDES: KAI 1.4 GPZ 0.3 WEL 0.2  
MJZ 0.9 0.7 MSZ 0.3 0.5

FELT: Murchison (80) MM IV

JAN 16 00<sup>h</sup>44<sup>m</sup>53<sup>s</sup>.2 41°.68S 171°.99E 12 km 77/ 027  
± 0.6 0.03 0.05 R S.E. of RES. 1.5 M = 3.7

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| COB | iP*   | 00 | 45 | 07.3  | U   | -1.0 | 100 | 0.81 | 43  |     |     |     | 3.5 |   |
|     | Pg    |    |    | 09.5  |     | -0.3 | 100 |      |     |     |     |     |     |   |
|     | S*    |    |    | 20    |     | 0.7  | 100 |      |     |     |     |     |     |   |
| KAI | P*    | 00 | 45 | 09    |     | -1.6 | 100 | 0.95 | 207 | 3.9 |     |     |     |   |
|     | Pg    |    |    | 13    |     | 0.4  | 100 |      |     |     |     |     |     |   |
|     | S*    |    |    | 21.5  |     | -1.9 | 100 |      |     |     |     |     |     |   |
| KKY | iP*   | 00 | 45 | 19.7  | D   | 0.3  | 100 | 1.47 | 121 |     |     |     |     |   |
|     | S*    |    |    | 41.5  |     | 2.7  | 99  |      |     |     |     |     |     |   |
| GPZ | Pg    | 00 | 45 | 34    |     | -1.1 | 100 | 2.07 | 167 | 3.3 |     |     |     |   |
|     | Sn    |    |    | 51.5  |     | -0.9 | 100 |      |     |     |     |     |     |   |
|     | S*    |    |    | 56.5  |     | -0.5 | 100 |      |     |     |     |     |     |   |
| WEL | P*    | 00 | 45 | 31.5  |     | 0.8  | 100 | 2.12 | 80  | 3.4 |     |     |     |   |
|     | S*    |    |    | 56.5  |     | -2.0 | 99  |      |     |     |     |     |     |   |
| MJZ | Pn    | 00 | 45 | 34    |     | 0.2  |     | 2.56 | 205 |     | 3.8 | 3.5 |     |   |
|     | Sn    |    |    | 46 05 |     | 0.7  |     |      |     |     |     |     |     |   |
|     | S*    |    |    | 12    |     | 0.2  |     |      |     |     |     |     |     |   |
| MNG | ePn   | 00 | 45 | 39    |     | 1.5  | 100 | 2.84 | 69  |     | 4.1 | 3.7 |     |   |

|             |     |     |         |     |      |         |      |         |         |
|-------------|-----|-----|---------|-----|------|---------|------|---------|---------|
|             | P*  |     | 45      |     | 2.1  | 99      |      |         |         |
|             | S*  |     | 46 18   |     | -2.1 | 99      |      |         |         |
| GSP         | iPn | 00  | 45 37.5 | U   | -0.1 | 100     | 2.85 | 210     |         |
|             | Sn  |     | 46 13   |     | 1.9  | 100     |      |         |         |
|             | S*  |     | 21.5    |     | 1.2  | 100     |      |         |         |
| GSZ         | eS* | 00  | 46 39   |     | -5.2 |         | 3.64 | 50      |         |
|             | Sg  |     | 51      |     | -4.9 |         |      |         |         |
| MSZ         | Sn  | 00  | 46 42.5 |     | -1.6 |         | 4.22 | 224     | 3.7 3.7 |
|             | eSg |     | 47 10   |     | -5.3 |         |      |         |         |
| AMPLITUDES: | COB |     | 3.0     | KAI | 3.6  | GPZ     | 0.3  |         |         |
|             | WEL | 0.2 |         | MIZ |      | 1.7 1.6 | MNG  | 3.0 1.3 |         |
|             | MSZ |     | 0.4 0.7 |     |      |         |      |         |         |

FELT: Murchison (80) MM IV

77/ 028

JAN 18    05<sup>h</sup>41<sup>m</sup>48<sup>s</sup>.9    41°.84s    174°.58E    33 km    M = 6.0

S.E. of RES. 0.8

± 0.4    0.03    0.06    R

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---------|
| WEL | iP*   | 05 | 42 | 00.3  |     | -0.2 | 100 | 0.58 | 14  |     |         |
|     | S*    |    |    | 08    |     | -1.0 | 99  |      |     |     |         |
| KKY | iP*   | 05 | 42 | 05.2  | D   | -0.2 | 100 | 0.87 | 229 |     |         |
| MNG | iPn   | 05 | 42 | 11.3  |     | -0.2 | 100 | 1.40 | 29  |     |         |
| CAZ | Pn    | 05 | 42 | 13.5  |     | -0.1 | 100 | 1.56 | 53  |     |         |
|     | e     |    |    | 21    |     |      |     |      |     |     |         |
| COB | iPn   | 05 | 42 | 13.7  | U   | -0.3 | 100 | 1.58 | 298 |     |         |
| CHR | iPn   | 05 | 42 | 22.0  | U   | -0.7 |     | 2.22 | 220 |     |         |
|     | P*    |    |    | 29    |     | 1.0  |     |      |     |     |         |
|     | S*    |    |    | 54    |     | -3.2 |     |      |     |     |         |
| GPZ | Pn    | 05 | 42 | 24.0  | N   | -0.3 | 100 | 2.34 | 217 |     |         |
|     | e     |    |    | 33    |     |      |     |      |     |     |         |
| KAI | Pn    | 05 | 42 | 26    |     | 0.1  | 100 | 2.46 | 253 |     |         |
|     | e     |    |    | 37    |     |      |     |      |     |     |         |
| TNZ | Pn    | 05 | 42 | 30.1  | U   | 1.4  | 98  | 2.66 | 357 |     |         |
| GSZ | iPn   | 05 | 42 | 30.0  |     | 1.0  | 99  | 2.68 | 17  |     |         |
| NGZ | iPn   | 05 | 42 | 31.7  |     | 1.4  |     | 2.77 | 17  |     |         |
| WNZ | ePn   | 05 | 42 | 39    |     | -0.1 |     | 3.42 | 20  | 6.2 | 6.2     |
|     | e     |    |    | 57    |     |      |     |      |     |     |         |
| TUA | Pn    | 05 | 42 | 39    |     | -2.8 |     | 3.62 | 34  | 5.9 | 6.1     |
|     | P*    |    |    | 53    |     | 1.3  |     |      |     |     |         |
|     | e     |    |    | 43 02 |     |      |     |      |     |     |         |
| MJZ | Pn    | 05 | 42 | 43.3  | USW | 0.3  |     | 3.71 | 233 |     |         |
| GSP | iPn   | 05 | 42 | 48.2  | U   | 0.4  |     | 4.06 | 234 |     |         |
| WTZ | Pn    | 05 | 42 | 48.4  |     | -2.4 |     | 4.28 | 26  |     |         |
|     | e     |    |    | 43 11 |     |      |     |      |     |     |         |
| AUC | Pn    | 05 | 43 | 01.5  | D   | 1.1  |     | 4.99 | 2   |     |         |
| ECZ | ePn   | 05 | 42 | 59    |     | -3.7 |     | 5.16 | 38  | 5.8 | 6.1     |
|     | e     |    |    | 43 33 |     |      |     |      |     |     |         |
| ROX | Pn    | 05 | 43 | 03.5  |     | -0.8 |     | 5.26 | 225 |     |         |
| MSZ | ePn   | 05 | 43 | 07.5  |     | -1.7 |     | 5.63 | 238 |     |         |
|     | P*    |    |    | 24.5  |     | -1.5 |     |      |     |     |         |
|     | Sn    |    |    | 44 10 |     | -0.1 |     |      |     |     |         |
| GBZ | Pn    | 05 | 43 | 10.0  | D   | 0.2  |     | 5.67 | 7   |     |         |
|     | P*    |    |    | 30.5  |     | 3.9  |     |      |     |     |         |
| ONE | Pn    | 05 | 43 | 16    |     | 0.8  |     | 6.07 | 358 | 5.8 |         |
|     | eP*   |    |    | 34    |     | 0.6  |     |      |     |     |         |
|     | Sn    |    |    | 44 19 |     | -1.6 |     |      |     |     |         |
|     | S*    |    |    | 49    |     | -3.2 |     |      |     |     |         |



|             |     |            |    |      |      |     |        |
|-------------|-----|------------|----|------|------|-----|--------|
| MNW         | Pn  | 05 43 19.3 |    | -0.4 | 6.39 | 230 |        |
| CIZ         | ePn | 05 43 26   | DW | 0.2  | 6.84 | 111 |        |
|             | Sn  | 44 38      |    | -1.2 |      |     |        |
| OBZ         | Pn  | 05 43 25.6 | D  | -0.5 | 6.87 | 220 |        |
|             | Sn  | 44 38      |    | -1.7 |      |     |        |
| AMPLITUDES: | WNZ | 8.3        | 10 | TUA  | 20   | 34  | ECZ    |
|             | ONE | 11         |    | CIZ  | 21   |     | 5.3 11 |

FELT: Taranaki to Banks Peninsula. Intensities exceeded MM V in places about Cook Strait, reaching MM VII at The Brothers lighthouse (78)

JAN 18 09<sup>h</sup>37<sup>m</sup>02<sup>s</sup>.5 41°.88S 174°.55E 33 km M = 4.7  
 ± 0.5 0.05 0.11 R S.E. of RES. 1.5 77/ 029

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WEL | iP*   | 09 | 37 | 14.0 | SW  | -0.8 | 100 | 0.61 | 16  |     |     |     |   |   |
|     | S*    |    |    | 21.5 |     | -2.3 | 99  |      |     |     |     |     |   |   |
| KKY | iP*   | 09 | 37 | 19.1 | D   | 0.7  | 100 | 0.84 | 229 |     |     |     |   |   |
| MNG | iPn   | 09 | 37 | 24.9 |     | -0.8 | 100 | 1.44 | 29  |     |     |     |   |   |
| COB | iPn   | 09 | 37 | 27.5 | U   | -0.1 | 100 | 1.57 | 300 |     |     |     |   |   |
| CAZ | iPn   | 09 | 37 | 27.8 | D   | -0.0 | 100 | 1.59 | 53  |     |     |     |   |   |
|     | i     |    |    | 35   |     |      |     |      |     |     |     |     |   |   |
| GPZ | ePn   | 09 | 37 | 37   |     | -0.4 | 100 | 2.29 | 217 | 4.5 |     |     |   |   |
|     | e     |    |    | 50.5 |     |      |     |      |     |     |     |     |   |   |
|     | Sn    |    | 38 | 04   |     | 0.4  | 100 |      |     |     |     |     |   |   |
|     | eS*   |    |    | 11.5 |     | -1.6 | 100 |      |     |     |     |     |   |   |
| KAI | P*    | 09 | 37 | 49   |     | 3.9  |     | 2.42 | 253 | 4.8 |     |     |   |   |
|     | e     |    |    | 58   |     |      |     |      |     |     |     |     |   |   |
|     | S*    |    | 38 | 23   |     | 6.1  |     |      |     |     |     |     |   |   |
| TNZ | Pn    | 09 | 37 | 45   |     | 2.2  | 99  | 2.69 | 357 |     |     |     |   |   |
| GSZ | Pn    | 09 | 37 | 44   |     | 0.8  | 100 | 2.72 | 17  |     |     |     |   |   |
|     | P*    |    |    | 53   |     | 2.9  | 98  |      |     |     |     |     |   |   |
|     | S*    |    | 38 | 24.5 |     | -1.2 | 100 |      |     |     |     |     |   |   |
| NGZ | Pn    | 09 | 37 | 45.5 |     | 1.0  |     | 2.82 | 17  |     |     |     |   |   |
|     | P*    |    |    | 54   |     | 2.3  |     |      |     |     |     |     |   |   |
| TRZ | Pn    | 09 | 37 | 45.5 |     | -0.1 | 100 | 2.90 | 37  |     | 4.7 | 4.7 |   |   |
|     | e     |    |    | 59   |     |      |     |      |     |     |     |     |   |   |
| WNZ | P*    | 09 | 38 | 07   |     | 4.3  |     | 3.46 | 21  |     | 5.2 | 5.1 |   |   |
|     | S*    |    |    | 58   |     | 10.2 |     |      |     |     |     |     |   |   |
|     | e     |    | 39 | 11.5 |     |      |     |      |     |     |     |     |   |   |
| TUA | e     | 09 | 38 | 12   |     |      |     | 3.65 | 34  |     | 4.7 | 4.7 |   |   |
|     | e     |    | 39 | 12   |     |      |     |      |     |     |     |     |   |   |
| MJZ | Pn    | 09 | 37 | 57   |     | 0.9  |     | 3.66 | 234 |     | 4.7 | 4.4 |   |   |
|     | e     |    | 38 | 12.5 |     |      |     |      |     |     |     |     |   |   |
|     | S*    |    |    | 56.5 |     | 2.4  |     |      |     |     |     |     |   |   |
|     | e     |    | 39 | 07   |     |      |     |      |     |     |     |     |   |   |
| GSP | Pn    | 09 | 38 | 02.5 |     | 1.6  |     | 4.01 | 234 |     |     |     |   |   |
|     | e     |    |    | 18.5 |     |      |     |      |     |     |     |     |   |   |
| GNZ |       |    |    |      |     |      |     | 4.18 | 41  |     | 4.8 | 4.6 |   |   |
| WTZ | Pn    | 09 | 38 | 03.5 |     | -1.5 |     | 4.32 | 27  |     | 4.5 | 4.5 |   |   |
|     | P*    |    |    | 17   |     | -0.3 |     |      |     |     |     |     |   |   |
|     | e     |    |    | 22.5 |     |      |     |      |     |     |     |     |   |   |
|     | Sn    |    |    | 49   |     | -3.3 |     |      |     |     |     |     |   |   |
|     | eS*   |    | 39 | 16   |     | 2.4  |     |      |     |     |     |     |   |   |
| AUC | eP*   | 09 | 38 | 27.5 |     | -1.7 |     | 5.02 | 2   |     |     |     |   |   |
| ECZ |       |    |    |      |     |      |     | 5.19 | 38  |     | 4.7 | 4.6 |   |   |
| ROX | ePn   | 09 | 38 | 18   |     | 0.6  |     | 5.23 | 225 |     |     |     |   |   |

|             |     |            |      |         |     |     |     |
|-------------|-----|------------|------|---------|-----|-----|-----|
| MSZ         | eSn | 39 16      | 1.9  |         |     |     |     |
|             | P*  | 09 38 36   | -3.0 | 5.59    | 238 | 4.7 | 4.6 |
|             | eSn | 39 25      | 2.2  |         |     |     |     |
| GBZ         | Pn  | 09 38 24   | 0.1  | 5.71    | 8   |     |     |
|             | P*  | 45.5       | 4.6  |         |     |     |     |
| ONE         | eP* | 09 38 49   | 1.3  | 6.10    | 359 | 4.6 |     |
| MNW         | Sn  | 09 39 40   | -1.1 | 6.35    | 230 | 4.4 | 4.5 |
| OBZ         | eSn | 09 39 52.5 | 0.1  | 6.82    | 220 |     |     |
| CIZ         | ePn | 09 38 40.5 | 1.0  | 6.85    | 111 |     |     |
|             | Sn  | 39 52      | -1.0 |         |     |     |     |
| AMPLITUDES: | GPZ | 4.2        | KAI  | 4.8     | TRZ | 2.5 | 3.1 |
|             | WNZ | 0.7 0.8    | TUA  | 1.1 1.3 | MJZ | 7.5 | 5.5 |
|             | GNZ | 3.2 3.2    | WTZ  | 1.7 1.5 | ECZ | 0.4 | 0.4 |
|             | MSZ | 2.3 3.0    | ONE  | 0.6     | MNW | 0.6 | 1.6 |
|             | CIZ | 0.4 2.2    |      |         |     |     |     |

FELT: Wellington city (68), MM IV and Marlborough Sounds

JAN 18 17<sup>h</sup>01<sup>m</sup>48<sup>s</sup>.4 41°.88S 174°.62E 33 km M = 3.5  
 ± 0.6 0.04 0.09 R S.E. of RES. 1.3

| STN         | PHASE | H       | M    | S   | DIR | RES     | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|---------|------|-----|-----|---------|-----|------|-----|-----|-----|-----|---|---|
| WEL         | P*    | 17 01   | 59.5 |     | DSW | -1.0    | 100 | 0.60 | 11  | 3.8 |     |     |   |   |
|             | S*    | 02 07.5 |      |     |     | -1.8    | 99  |      |     |     |     |     |   |   |
| KKY         | iP*   | 17 02   | 04.8 |     | D   | -0.2    | 100 | 0.88 | 231 |     |     |     |   |   |
|             | S*    | 17      |      |     |     | -0.2    | 100 |      |     |     |     |     |   |   |
| MNG         | iPn   | 17 02   | 10.8 |     |     | -0.5    | 100 | 1.41 | 28  |     |     |     |   |   |
| CAZ         | Pn    | 17 02   | 13.5 |     |     | 0.3     | 100 | 1.55 | 52  |     |     |     |   |   |
|             | e     | 21      |      |     |     |         |     |      |     |     |     |     |   |   |
| GPZ         | Sn    | 17 02   | 50.5 |     |     | 0.1     | 100 | 2.33 | 218 | 3.4 |     |     |   |   |
| KAI         | e     | 17 03   | 09   |     |     | 2.47    | 254 |      |     | 3.5 |     |     |   |   |
| TNZ         | eP*   | 17 02   | 35   |     |     | -0.6    | 100 | 2.69 | 356 |     | 3.3 | 3.8 |   |   |
|             | eSn   | 03 01   |      |     |     | 1.8     | 99  |      |     |     |     |     |   |   |
|             | e     | 17      |      |     |     |         |     |      |     |     |     |     |   |   |
| GSZ         | P*    | 17 02   | 38   |     |     | 2.3     | 98  | 2.70 | 16  |     |     |     |   |   |
|             | eS*   | 03 11   |      |     |     | -0.1    | 100 |      |     |     |     |     |   |   |
| NGZ         | Pn    | 17 02   | 31.5 |     |     | 1.3     |     | 2.80 | 16  |     |     |     |   |   |
|             | P*    | 39.5    |      |     |     | 2.1     |     |      |     |     |     |     |   |   |
|             | e     | 03 20   |      |     |     |         |     |      |     |     |     |     |   |   |
| TRZ         | e     | 17 02   | 44   |     |     |         |     | 2.86 | 37  |     | 3.3 |     |   |   |
| MJZ         | ePn   | 17 02   | 44   |     |     | 1.4     |     | 3.71 | 234 |     | 3.4 | 3.1 |   |   |
|             | e     | 59      |      |     |     |         |     |      |     |     |     |     |   |   |
|             | Sn    | 03 24   |      |     |     | 0.4     |     |      |     |     |     |     |   |   |
| GSP         | e     | 17 03   | 03.5 |     |     |         |     | 4.06 | 235 |     |     |     |   |   |
|             | Sn    | 33      |      |     |     | 1.0     |     |      |     |     |     |     |   |   |
| AMPLITUDES: | WEL   | 7.9     | GPZ  | 0.3 | KAI | 0.2     |     |      |     |     |     |     |   |   |
|             | TNZ   | 0.1 0.4 | TRZ  | 0.1 | MJZ | 0.3 0.3 |     |      |     |     |     |     |   |   |

FELT: Lower Hutt (68) MM III

JAN 18 22<sup>h</sup>43<sup>m</sup>50<sup>s</sup>.3 37°.14S 177°.44E 135 km M = 5.5  
 ± 1.1 0.05 0.07 13 S.E. of RES. 1.1

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ | iP    | 22 44 | 13.4 |   | U   | 0.4  | 100 | 0.92 | 203 |     |     |     |   |   |
| ECZ | iP    | 22 44 | 15.0 |   | U   | 0.8  | 100 | 1.04 | 122 |     |     |     |   |   |
| TUA | P     | 22 44 | 20.9 |   |     | -0.2 | 100 | 1.68 | 188 |     | 5.4 | 5.7 |   |   |
|     | S     | 43    |      |   |     | -1.5 | 99  |      |     |     |     |     |   |   |

|             |     |            |     |       |     |       |     |           |     |
|-------------|-----|------------|-----|-------|-----|-------|-----|-----------|-----|
| KRP         | iP  | 22 44 21.7 | DNE | 0.3   | 100 | 1.70  | 242 |           |     |
|             | S   | 46         |     | 0.9   | 100 |       |     |           |     |
| GBZ         | iP  | 22 44 21.3 | U   | -1.5  | 99  | 1.83  | 300 |           |     |
|             | S   | 47.5       |     | 0.0   | 100 |       |     |           |     |
| WNZ         | iP  | 22 44 23.4 |     | 0.6   | 100 | 1.83  | 215 |           |     |
| AUC         | iP  | 22 44 26.9 | U   | 0.1   | 100 | 2.15  | 277 |           |     |
| TRZ         | P   | 22 44 29.8 |     | -1.0  |     | 2.46  | 191 | 5.5       |     |
| CNZ         | iP  | 22 44 31.8 | D   | -0.1  |     | 2.54  | 215 |           |     |
| ONE         | P   | 22 44 34   |     | -1.6  |     | 2.83  | 298 | 3.5*      |     |
| TNZ         | P   | 22 44 40.8 | D   | 0.8   |     | 3.16  | 229 |           |     |
| MNG         | iP  | 22 44 44.9 | D   | -3.4  |     | 3.80  | 203 |           |     |
| CAZ         | P   | 22 44 47.2 | D   | -2.3  |     | 3.88  | 194 |           |     |
|             | S   | 45 33.5    |     | -1.2  |     |       |     |           |     |
| WEL         | P   | 22 44 55   |     | -4.4  |     | 4.63  | 206 | 5.4       |     |
|             | S   | 45 48.5    |     | -4.3  |     |       |     |           |     |
| COB         | P   | 22 45 04.8 | U   | -4.8  |     | 5.38  | 221 | 4.5* 4.2* |     |
|             | eS  | 46 07      |     | -3.8  |     |       |     |           |     |
| KKY         | eP  | 22 45 12.4 |     | -5.5  |     | 6.01  | 208 |           |     |
|             | S   | 46 21.5    |     | -4.5  |     |       |     |           |     |
| KAI         | S   | 22 46 44.5 |     | -8.1  |     | 7.11  | 219 | 4.2*      |     |
| GPZ         | P   | 22 45 31.5 |     | -6.6  |     | 7.51  | 208 | 4.6*      |     |
|             | S   | 46 52.5    |     | -9.6  |     |       |     |           |     |
| CIZ         | P   | 22 45 49.5 |     | 2.0   |     | 8.20  | 148 |           |     |
|             | S   | 47 20      |     | 1.1   |     |       |     |           |     |
| MJZ         | P   | 22 45 48.5 |     | -5.0  |     | 8.66  | 216 | 4.1* 4.0* |     |
|             | S   | 47 21      |     | -8.8  |     |       |     |           |     |
| GSP         | P   | 22 45 53   |     | -4.8  |     | 8.98  | 217 |           |     |
|             | S   | 47 30.5    |     | -7.0  |     |       |     |           |     |
| OMZ         | P   | 22 45 56.5 | D   | -6.0  |     | 9.33  | 210 | 4.1* 3.9* |     |
|             | S   | 47 38      |     | -7.9  |     |       |     |           |     |
| ROX         | S   | 22 48 00.5 |     | -9.1  |     | 10.32 | 214 |           |     |
| MSZ         | eP  | 22 46 09.5 |     | -7.4  |     | 10.41 | 221 | 4.0* 3.9* |     |
|             | S   | 48 00.5    |     | -11.3 |     |       |     |           |     |
| MNW         | P   | 22 46 25   |     | -4.2  |     | 11.35 | 217 | 4.0* 3.9* |     |
|             | S   | 48 25.5    |     | -8.3  |     |       |     |           |     |
| OBZ         | P   | 22 46 33.5 |     | -3.8  |     | 11.97 | 212 |           |     |
|             | S   | 48 41      |     | -7.3  |     |       |     |           |     |
| AMPLITUDES: | TUA | 23         | 43  | TRZ   | 13  | ONE   | 0.7 |           |     |
|             | WEL | 4.1        |     | COB   | 3.5 | 7.0   | KAI | 1.0       |     |
|             | GPZ | 3.9        |     | CIZ   | 1.5 | 6.0   | MJZ | 2.7       | 4.5 |
|             | OMZ | 0.9        | 1.1 | MSZ   | 1.5 | 2.3   | MNW | 1.0       | 1.7 |

FELT: Opotiki (35) MM III and Gisborne (45)

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JAN 19 09<sup>h</sup>42<sup>m</sup>04<sup>s</sup>.8 48°.20s 165°.14E 12 km M = 4.2  
 ± 1.4 0.09 0.14 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|---------|
| OBZ | Pn    | 09 | 42 | 43.0 | U   | 0.0  | 100 | 2.39 | 58 |     |         |
|     | Sn    |    | 43 | 11   |     | -0.7 | 100 |      |    |     |         |
| MNW | Pn    | 09 | 42 | 50   |     | -0.6 | 100 | 2.95 | 36 | 4.5 | 4.3     |
|     | eSn   |    | 43 | 25   |     | -0.2 | 100 |      |    |     |         |
| ROX | Pn    | 09 | 43 | 04   |     | -0.3 | 100 | 3.96 | 48 |     |         |
|     | P*    |    |    | 16   |     | 2.5  | 93  |      |    |     |         |
|     | Sn    |    |    | 49   |     | -0.2 | 100 |      |    |     |         |
|     | S*    |    |    | 58   |     | -7.1 |     |      |    |     |         |
| MSZ | Pn    | 09 | 43 | 04.5 |     | -0.6 | 100 | 4.02 | 30 | 4.4 | 4.3     |
|     | eSn   |    |    | 51   |     | 0.2  | 100 |      |    |     |         |



|     |     |            |      |      |    |     |     |
|-----|-----|------------|------|------|----|-----|-----|
| OMZ | ePn | 09 43 19   | -0.4 | 5.06 | 54 | 3.6 | 4.1 |
|     | eSn | 44 20      | 4.2  |      |    |     |     |
|     | eS* | 38         | -0.2 |      |    |     |     |
| GSP | ePn | 09 43 20.5 | -2.1 | 5.29 | 42 |     |     |
|     | P*  | 38.5       | 2.2  |      |    |     |     |
|     | Sn  | 44 21      | -0.4 |      |    |     |     |
|     | S*  | 38.5       | -6.6 |      |    |     |     |
| MJZ | eP* | 09 43 45   | 3.3  | 5.61 | 43 | 4.2 | 4.1 |
|     | eSn | 44 29      | 0.0  |      |    |     |     |
| GPZ | Sn  | 09 45 02.5 | 2.4  | 6.90 | 52 | 4.2 |     |
|     | S*  | 26.5       | -6.9 |      |    |     |     |
| COB | Pn  | 09 44 10.4 | -1.9 | 8.94 | 40 | 4.1 | 3.9 |
|     | Sn  | 45 48      | -0.9 |      |    |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | MNW | 3.0 | 4.5 | MSZ | 2.3 | 3.2 | OMZ | 0.1 | 0.6 |
|             | MJZ | 0.9 | 1.2 | GPZ | 0.2 |     | COB | 0.1 | 0.2 |

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JAN 19 13<sup>h</sup>52<sup>m</sup>58<sup>s</sup>.9 34°.29s 179°.11E 267 km M = 4.7  
 ± 1.9 0.16 0.23 36 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P | W S  |
|-----|-------|----|----|------|-----|------|-----|-------|-----|------|-----|------|
| ECZ | P     | 13 | 53 | 57   |     | -0.4 | 100 | 3.43  | 188 |      | 4.9 | 4.7  |
|     | e     |    | 54 | 34.5 |     |      |     |       |     |      |     |      |
|     | S     |    |    | 44   |     | 0.9  | 100 |       |     |      |     |      |
| GBZ | P     | 13 | 53 | 59   |     | 0.3  | 100 | 3.55  | 236 |      |     |      |
| WIZ | P     | 13 | 54 | 03.5 |     | -1.3 | 100 | 4.08  | 204 |      | 4.9 | 4.8  |
|     | e     |    |    | 51   |     |      |     |       |     |      |     |      |
|     | S     |    |    | 54.5 |     | -1.6 | 99  |       |     |      |     |      |
| GNZ |       |    |    |      |     |      |     | 4.44  | 191 |      | 5.1 | 4.7  |
| KRP | eP    | 13 | 54 | 13   |     | 1.5  | 99  | 4.64  | 218 |      |     |      |
| TUA | P     | 13 | 54 | 13   |     | -0.2 | 100 | 4.78  | 199 |      | 4.7 | 4.8  |
|     | e     |    | 55 | 08.5 |     |      |     |       |     |      |     |      |
|     | S     |    |    | 12   |     | 0.8  | 100 |       |     |      |     |      |
| TRZ | P     | 13 | 54 | 22   |     | -0.7 |     | 5.57  | 199 |      | 4.6 | 4.8  |
|     | S     |    | 55 | 27.5 |     | -0.7 |     |       |     |      |     |      |
| GSZ | eP    | 13 | 54 | 29   |     | 4.3  |     | 5.73  | 209 |      |     |      |
| MNG | P     | 13 | 54 | 38   |     | -1.8 |     | 6.95  | 203 |      | 4.4 | 4.6  |
|     | S     |    | 55 | 57.5 |     | -1.4 |     |       |     |      |     |      |
| WEL | S     | 13 | 56 | 17   |     | -0.8 |     | 7.79  | 205 | 4.2  |     |      |
| COB | S     | 13 | 56 | 35.5 |     | 2.5  |     | 8.47  | 215 |      |     | 2.9* |
| CIZ | S     | 13 | 57 | 15   |     | 2.2  |     | 10.22 | 162 |      |     |      |
| GPZ | S     | 13 | 57 | 22   |     | -0.6 |     | 10.66 | 206 | 3.2* |     |      |
| MJZ | eS    | 13 | 57 | 48.5 |     | 0.6  |     | 11.78 | 212 |      |     |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 1.7 | 1.1 | WTZ | 3.0 | 2.3 | GNZ | 4.0 | 2.7 |
|             | TUA | 0.6 | 0.8 | TRZ | 0.3 | 1.2 | MNG | 1.0 | 1.8 |
|             | WEL | 0.1 |     | COB |     | 0.2 | CIZ | 0.1 | 0.3 |
|             | GPZ | 0.1 |     |     |     |     |     |     |     |

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JAN 20 05<sup>h</sup>21<sup>m</sup>48<sup>s</sup>.1 45°.14s 167°.60E 126 km M = 3.9  
 ± 0.8 0.03 0.05 5 S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| MSZ | iP    | 05 | 22 | 07.2 | U   | 0.2  | 100 | 0.52 | 26  |     | 4.1* | 3.8* |
|     | S     |    |    | 21   |     | -0.4 | 100 |      |     |     |      |      |
| ROX | iP    | 05 | 22 | 14.7 | D   | 1.2  | 99  | 1.26 | 106 |     |      |      |
|     | S     |    |    | 33.5 |     | 0.5  | 100 |      |     |     |      |      |
| OBZ | P     | 05 | 22 | 20   |     | 0.2  | 100 | 1.80 | 169 |     |      |      |
|     | S     |    |    | 43   |     | -0.8 | 100 |      |     |     |      |      |



| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P       | W S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----------|-----|
| CNZ         | P     | 05  | 06 | 46.5    |     | 0.9  | 100 | 0.49 | 40  |     | 3.6       | 4.3 |
|             | S     |     |    | 58.5    |     | -0.2 | 100 |      |     |     |           |     |
| MNG         | P     | 05  | 06 | 52.0    |     | 1.3  | 99  | 1.07 | 166 |     |           |     |
| TRZ         | e     | 05  | 06 | 56.5    |     |      |     | 1.30 | 89  |     | 3.4       | 3.5 |
|             | S     |     |    | 07 13   |     | 0.7  | 100 |      |     |     |           |     |
| KRP         | P     | 05  | 06 | 58.8    |     | 0.9  | 100 | 1.68 | 11  |     | 2.7*      |     |
| WEL         | eP    | 05  | 06 | 59.3    |     | 0.8  | 100 | 1.73 | 189 |     |           |     |
|             | S     |     |    | 07 20.5 |     | -0.7 | 100 |      |     |     |           |     |
| TUA         | eS    | 05  | 07 | 21.2    |     | -0.3 | 100 | 1.75 | 64  |     | 3.8       |     |
| WTZ         | eP    | 05  | 07 | 04      |     | 0.1  | 100 | 2.15 | 43  |     | 3.1       | 3.6 |
|             | eS    |     |    | 30      |     | -0.5 | 100 |      |     |     |           |     |
| COB         | P     | 05  | 07 | 07.0    |     | -0.0 | 100 | 2.38 | 230 |     | 3.7* 3.2* |     |
|             | eS    |     |    | 34.5    |     | -1.3 | 99  |      |     |     |           |     |
| GNZ         | P     | 05  | 07 | 07.1    |     | -0.6 | 100 | 2.43 | 68  |     | 3.8       | 4.0 |
|             | S     |     |    | 36.0    |     | -1.1 | 99  |      |     |     |           |     |
| AMPLITUDES: |       | CNZ |    | 9.8     | 60  | TRZ  |     | 0.3  | 0.9 | KRP |           | 0.4 |
|             |       | TUA |    | 0.6     |     | WTZ  |     | 0.2  | 0.6 | COB |           | 1.3 |
|             |       | GNZ |    | 0.9     | 1.8 |      |     |      |     |     |           | 1.6 |

JAN 23 11<sup>h</sup>27<sup>m</sup>02<sup>s</sup>.2 41°.81S 174°.52E 33 km 77/ 037  
 $\pm 0.5$  0.06 0.10 R S.E. of RES. 1.1 M = 3.6

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WEL         | P     | 11  | 27 | 12.7 |     | -0.7 | 100 | 0.56 | 19  | 3.7 |     |     |
|             | S     |     |    | 20.5 |     | -1.1 | 100 |      |     |     |     |     |
| KKY         | P     | 11  | 27 | 17.7 |     | 0.1  | 100 | 0.86 | 225 |     |     |     |
|             | e     |     |    | 22.7 |     |      |     |      |     |     |     |     |
|             | S     |     |    | 30.6 |     | 1.7  | 99  |      |     |     |     |     |
| MNG         | P     | 11  | 27 | 24.8 |     | -0.1 | 100 | 1.39 | 32  |     | 3.4 |     |
|             | iS    |     |    | 41.8 |     | 0.0  | 100 |      |     |     |     |     |
| COB         | P     | 11  | 27 | 26.8 |     | 0.2  | 100 | 1.53 | 298 |     | 3.8 |     |
|             | e     |     |    | 32.7 |     |      |     |      |     |     |     |     |
| GPZ         | eS    | 11  | 28 | 02.5 |     | -1.8 | 99  | 2.33 | 216 | 3.2 |     |     |
| CNZ         | eP    | 11  | 27 | 43.5 |     | 0.5  | 100 | 2.73 | 17  |     | 3.7 |     |
|             | e     |     |    | 51.8 |     |      |     |      |     |     |     |     |
| TRZ         | eS    | 11  | 28 | 18   |     | 1.1  | 100 | 2.86 | 39  |     |     |     |
| KRP         |       |     |    |      |     |      |     | 3.96 | 12  |     | 4.0 |     |
| AMPLITUDES: |       | WEL |    | 6.0  |     | MNG  |     | 2.5  |     | COB |     | 1.6 |
|             |       | GPZ |    | 0.2  |     | CNZ  |     | 2.9  |     | KRP |     | 0.3 |

JAN 24 01<sup>h</sup>45<sup>m</sup>29<sup>s</sup>.6 32°.14S 179°.99W 511 km 77/ 038  
 $\pm 1.6$  0.15 0.31 13 S.E. of RES. 1.3 M = 4.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S |
|-----|-------|----|----|---------|-----|------|-----|-------|-----|------|------|-----|
| WTZ | P     | 01 | 47 | 11.0    |     | 0.4  | 100 | 6.34  | 202 |      | 4.9  | 4.6 |
|     | eS    |    |    | 48 30   |     | -0.8 | 100 |       |     |      |      |     |
| GNZ | P     | 01 | 47 | 15.5    |     | 1.4  | 99  | 6.70  | 193 |      | 4.8  | 4.6 |
|     | eS    |    |    | 48 37.0 |     | -0.1 | 100 |       |     |      |      |     |
| KRP | eP    | 01 | 47 | 16      |     | 0.4  | 100 | 6.85  | 211 |      | 3.3* |     |
|     | eS    |    |    | 48 40   |     | 0.3  | 100 |       |     |      |      |     |
| CNZ | e     | 01 | 47 | 35.0    |     |      |     | 7.94  | 206 |      | 4.7  |     |
| MNG | eP    | 01 | 47 | 37.8    |     | -2.3 | 97  | 9.22  | 202 |      | 4.5  | 4.4 |
|     | i     |    |    | 39.3    |     |      |     |       |     |      |      |     |
|     | eS    |    |    | 49 24   |     | 0.0  | 100 |       |     |      |      |     |
| GPZ | eS    | 01 | 50 | 35      |     | 0.6  | 100 | 12.92 | 205 | 3.6* |      |     |



|             |                                                    |         |          |        |                  |      |     |      |     |      |   |   |      |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|------|---|---|------|
| AMPLITUDES: |                                                    | WTZ     | 1.0      | 0.5    | GNZ              | 0.8  | 0.8 | KRP  | 0.4 |      |   |   |      |
|             |                                                    | CNZ     | 1.1      |        | MNG              | 0.7  | 0.7 | GPZ  | 0.2 |      |   |   |      |
| 77/ 039     |                                                    |         |          |        |                  |      |     |      |     |      |   |   |      |
| JAN 25      | 03 <sup>h</sup> 20 <sup>m</sup> 58 <sup>s</sup> .4 | 40°.58s | 174°.75E | 104 km | M = 4.0          |      |     |      |     |      |   |   |      |
| ± 0.9       |                                                    | 0.05    | 0.08     | 12     | S.E. of RES. 1.8 |      |     |      |     |      |   |   |      |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A  | W | P | W S  |
| MNG         | P                                                  | 03      | 21       | 14.8   |                  | -0.4 | 100 | 0.56 | 94  |      |   |   |      |
| WEL         | P                                                  | 03      | 21       | 17.3   |                  | 0.9  | 100 | 0.70 | 179 | 3.9  |   |   |      |
|             | S                                                  |         |          | 28.0   |                  | -2.2 | 99  |      |     |      |   |   |      |
| CAZ         | eP                                                 | 03      | 21       | 23.3   |                  | 2.1  | 99  | 1.17 | 107 |      |   |   |      |
|             | e                                                  |         |          | 25.8   |                  |      |     |      |     |      |   |   |      |
| COB         | P                                                  | 03      | 21       | 27.4   |                  | 0.7  | 100 | 1.61 | 251 |      |   |   | 4.0* |
|             | S                                                  |         |          | 48.5   |                  | 0.4  | 100 |      |     |      |   |   |      |
| TRZ         | e                                                  | 03      | 21       | 46.2   |                  |      |     | 1.89 | 58  |      |   |   | 4.0  |
|             | iS                                                 |         |          | 53     |                  | -0.9 | 100 |      |     |      |   |   |      |
| KKY         | eP                                                 | 03      | 21       | 34.0   |                  | 2.3  | 99  | 2.01 | 203 |      |   |   |      |
|             | e                                                  |         |          | 48.7   |                  |      |     |      |     |      |   |   |      |
|             | eS                                                 |         |          | 58.6   |                  | 2.3  | 99  |      |     |      |   |   |      |
| TUA         | e                                                  | 03      | 21       | 45.5   |                  |      |     | 2.56 | 47  |      |   |   | 4.0  |
| KRP         | P                                                  | 03      | 21       | 43.0   |                  | 1.5  | 100 | 2.73 | 13  |      |   |   | 3.2* |
|             | e                                                  |         |          | 51.0   |                  |      |     |      |     |      |   |   |      |
|             | e                                                  |         | 22       | 07     |                  |      |     |      |     |      |   |   |      |
|             | S                                                  |         |          | 13     |                  | -0.8 | 100 |      |     |      |   |   |      |
|             | e                                                  |         |          | 21.5   |                  |      |     |      |     |      |   |   |      |
| KAI         |                                                    |         |          |        |                  |      |     | 3.18 | 231 | 3.3* |   |   |      |
| GNZ         | S                                                  | 03      | 22       | 23.5   |                  | -1.5 | 100 | 3.19 | 54  |      |   |   |      |
| GPZ         | eS                                                 | 03      | 22       | 31     |                  | -1.4 | 100 | 3.49 | 206 | 3.3* |   |   |      |
| MJZ         | eS                                                 | 03      | 22       | 59     |                  | -2.1 | 100 | 4.66 | 222 |      |   |   | 3.0* |
| GSP         | e                                                  | 03      | 22       | 19.8   |                  |      |     | 4.99 | 223 |      |   |   |      |
|             | eS                                                 |         | 23       | 08     |                  | -1.4 | 100 |      |     |      |   |   |      |
| AMPLITUDES: |                                                    | WEL     | 3.3      |        | COB              | 3.5  |     | TRZ  | 0.8 |      |   |   |      |
|             |                                                    | TUA     | 0.5      |        | KRP              | 0.9  |     | KAI  | 0.3 |      |   |   |      |
|             |                                                    | GPZ     | 0.4      |        | MJZ              | 0.7  |     |      |     |      |   |   |      |

|             |                                                    |         |          |         |                  |      |     |      |     |     |   |   |         |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-----|---|---|---------|
| 77/ 040     |                                                    |         |          |         |                  |      |     |      |     |     |   |   |         |
| JAN 25      | 05 <sup>h</sup> 19 <sup>m</sup> 10 <sup>s</sup> .4 | 44°.71s | 166°.95E | 33 km   | M = 3.6          |      |     |      |     |     |   |   |         |
|             | ± 2.0                                              | 0.06    | 0.18     | R       | S.E. of RES. 1.4 |      |     |      |     |     |   |   |         |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A | W | P | W S     |
| MNW         | P                                                  | 05      | 19       | 30.2    |                  | 0.3  | 100 | 1.17 | 156 |     |   |   | 3.6 3.8 |
|             | S                                                  |         |          | 43.2    |                  | -1.2 | 100 |      |     |     |   |   |         |
| ROX         |                                                    |         |          |         |                  |      |     | 1.84 | 115 |     |   |   | 3.2 3.2 |
| GSP         | P                                                  | 05      | 19       | 46.7    |                  | 1.7  | 99  | 2.28 | 76  |     |   |   |         |
|             | e                                                  |         |          | 51.2    |                  |      |     |      |     |     |   |   |         |
|             | S                                                  |         |          | 20 13   |                  | 1.9  | 99  |      |     |     |   |   |         |
| OBZ         | i                                                  | 05      | 19       | 50.8    |                  |      |     | 2.34 | 160 |     |   |   |         |
|             | eS                                                 |         |          | 20 13   |                  | 0.4  | 100 |      |     |     |   |   |         |
| MJZ         | eP                                                 | 05      | 19       | 50.0    |                  | 0.2  | 100 | 2.63 | 75  |     |   |   | 3.7 3.4 |
|             | e                                                  |         |          | 59.0    |                  |      |     |      |     |     |   |   |         |
|             | S                                                  |         |          | 20 18.5 |                  | -1.0 | 100 |      |     |     |   |   |         |
| OMZ         | eP                                                 | 05      | 19       | 52.0    |                  | -0.7 | 100 | 2.84 | 99  |     |   |   | 3.7     |
| GPZ         |                                                    |         |          |         |                  |      |     | 4.22 | 78  | 3.7 |   |   |         |
| COB         | eS                                                 | 05      | 21       | 29      |                  | -1.6 | 99  | 5.59 | 52  |     |   |   | 3.7     |
| AMPLITUDES: |                                                    | MNW     | 3.0      | 9.0     | ROX              | 0.3  | 0.7 | MJZ  | 1.2 | 1.1 |   |   |         |
|             |                                                    | OMZ     | 0.4      |         | GPZ              | 0.2  |     | COB  | 0.3 |     |   |   |         |

JAN 25 21<sup>h</sup>00<sup>m</sup>09<sup>s</sup>.7 36°.90S 178°.83E 158 km 77/ 041  
 $\pm 1.7$  0.11 0.12 9 S.E. of RES. 1.7 M = 4.5

| STN         | PHASE | H   | M    | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P | W    | S |
|-------------|-------|-----|------|-------|-----|------|-----|------|-----|------|------|---|------|---|
| ECZ         | P     | 21  | 00   | 32.2  |     | -1.8 | 100 | 0.83 | 196 |      | 4.7  |   | 4.5  |   |
|             | S     |     |      | 52.5  |     | -0.2 | 100 |      |     |      |      |   |      |   |
| WTZ         | P     | 21  | 00   | 43.0  |     | -0.6 | 100 | 1.83 | 233 |      | 4.6  |   | 4.7  |   |
|             | i     |     |      | 44.2  |     |      |     |      |     |      |      |   |      |   |
|             | i     |     |      | 46.8  |     |      |     |      |     |      |      |   |      |   |
|             | S     | 01  | 13   |       |     | 3.3  | 97  |      |     |      |      |   |      |   |
| GNZ         | P     | 21  | 00   | 44.4  |     | 0.4  | 100 | 1.85 | 200 |      | 4.4  |   |      |   |
|             | i     |     |      | 53.0  |     |      |     |      |     |      |      |   |      |   |
| TUA         | eP    | 21  | 00   | 49.5  |     | 0.0  | 100 | 2.32 | 214 |      | 4.5  |   |      |   |
| KRP         | P     | 21  | 00   | 56.0  |     | 0.3  | 100 | 2.82 | 248 |      | 3.6* |   | 3.4* |   |
|             | S     | 01  | 28.4 |       |     | -2.5 | 99  |      |     |      |      |   |      |   |
| AUC         | P     | 21  | 01   | 01.5  |     | 0.3  | 100 | 3.25 | 269 |      |      |   |      |   |
| MNG         | eP    | 21  | 01   | 18.8  |     | 0.7  | 100 | 4.54 | 214 |      | 3.8  |   |      |   |
| WEL         | e     | 21  | 02   | 27    |     |      |     | 5.41 | 215 | 4.5  |      |   |      |   |
|             | eS    |     |      | 30    |     | -1.2 | 100 |      |     |      |      |   |      |   |
| COB         | eP    | 21  | 01   | 43    |     | 1.3  | 100 | 6.33 | 227 |      | 3.5* |   | 3.4* |   |
|             | e     |     |      | 02 58 |     |      |     |      |     |      |      |   |      |   |
| GPZ         | eS    | 21  | 03   | 35    |     | -4.8 |     | 8.28 | 213 | 3.7* |      |   |      |   |
| AMPLITUDES: |       | ECZ | 7.5  | 5.5   | WTZ | 6.8  | 8.5 | GNZ  | 4.8 |      |      |   |      |   |
|             |       | TUA | 1.6  |       | KRP | 2.1  | 1.6 | AUC  | 3.0 |      |      |   |      |   |
|             |       | MNG | 0.6  |       | WEL | 0.4  |     | COB  | 0.3 | 0.8  |      |   |      |   |
|             |       | GPZ | 0.4  |       |     |      |     |      |     |      |      |   |      |   |

JAN 26 18<sup>h</sup>06<sup>m</sup>18<sup>s</sup>.6 37°.77S 177°.45E 149 km 77/ 042  
 $\pm 1.6$  0.09 0.14 13 S.E. of RES. 2.0 M = 4.9

| STN | PHASE | H  | M    | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P | W    | S |
|-----|-------|----|------|------|-----|------|-----|------|-----|------|------|---|------|---|
| WTZ | P     | 18 | 06   | 36.6 |     | -3.0 | 99  | 0.42 | 240 |      |      |   |      |   |
| ECZ | P     | 18 | 06   | 42.0 |     | -0.3 | 100 | 0.87 | 85  |      | 4.8  |   |      |   |
| GNZ | P     | 18 | 06   | 44.2 |     | 0.9  | 100 | 0.98 | 153 |      |      |   |      |   |
|     | e     |    |      | 48.8 |     |      |     |      |     |      |      |   |      |   |
|     | S     | 07 | 01.0 |      |     | -1.1 | 100 |      |     |      |      |   |      |   |
| TUA | P     | 18 | 06   | 44.5 |     | 0.6  | 100 | 1.06 | 193 |      | 4.7  |   | 5.0  |   |
|     | i     |    |      | 57.8 |     |      |     |      |     |      |      |   |      |   |
|     | S     | 07 | 04.3 |      |     | 1.0  | 100 |      |     |      |      |   |      |   |
| KRP | P     | 18 | 06   | 47.7 |     | -0.9 | 100 | 1.52 | 264 |      | 3.7* |   |      |   |
|     | e     | 07 | 06   |      |     |      |     |      |     |      |      |   |      |   |
| TRZ | eP    | 18 | 06   | 54.0 |     | 1.8  | 100 | 1.84 | 195 |      |      |   |      |   |
|     | e     |    |      | 59   |     |      |     |      |     |      |      |   |      |   |
| CNZ | P     | 18 | 06   | 58.1 |     | 3.3  | 99  | 2.06 | 226 |      | 5.1  |   | 5.1  |   |
|     | e     | 07 | 31   |      |     |      |     |      |     |      |      |   |      |   |
| MNG | P     | 18 | 07   | 10.1 |     | 0.5  | 100 | 3.23 | 208 |      |      |   |      |   |
| WEL | eP    | 18 | 07   | 21   |     | 0.2  | 100 | 4.08 | 210 | 4.6  |      |   |      |   |
|     | S     | 08 | 08.8 |      |     | 0.4  | 100 |      |     |      |      |   |      |   |
| COB | eP    | 18 | 07   | 32.0 |     | -0.0 | 100 | 4.93 | 226 |      | 4.1* |   | 3.7* |   |
|     | eS    | 08 | 29.5 |      |     | 0.8  | 100 |      |     |      |      |   |      |   |
|     | e     |    |      | 34   |     |      |     |      |     |      |      |   |      |   |
| GPZ | eS    | 18 | 09   | 13   |     | -4.1 | 96  | 6.96 | 210 | 3.9* |      |   |      |   |
| CIZ | eP    | 18 | 08   | 18.0 |     | 9.3  |     | 7.66 | 146 |      |      |   |      |   |
|     | S     | 09 | 36   |      |     | 1.8  |     |      |     |      |      |   |      |   |
| MJZ | P     | 18 | 08   | 15.0 |     | -0.1 |     | 8.16 | 218 |      | 3.6* |   | 3.6* |   |
|     | S     | 09 | 43.0 |      |     | -3.0 |     |      |     |      |      |   |      |   |

|             |     |            |      |      |     |             |
|-------------|-----|------------|------|------|-----|-------------|
| GSP         | P   | 18 08 21.2 | 1.8  | 8.49 | 219 |             |
|             | S   | 09 51      | -2.9 |      |     |             |
| MSZ         | eP  | 18 08 40   | 1.1  | 9.95 | 223 | 3.7* 3.4*   |
|             | eS  | 10 25      | -3.6 |      |     |             |
| AMPLITUDES: | ECZ | 11         | TUA  | 7.2  | 16  | KRP 4.8     |
|             | CNZ | 47 43      | WEL  | 0.9  |     | COB 1.5 2.5 |
|             | GPZ | 0.9        | CIZ  | 6.0  | 25  | MJZ 0.9 1.9 |
|             | MSZ | 0.9 0.8    |      |      |     |             |

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JAN 27 10<sup>h</sup>18<sup>m</sup>58<sup>s</sup>.2 39°.80s 176°.39E 12 km M = 3.2  
 ± 0.6 0.04 0.05 R S.E. of RES. 1.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| TRZ | Pg    | 10 | 19 | 06.1    |     | -0.7 | 100 | 0.41 | 54  |     | 2.6 | 3.0 |   |   |
|     | Sg    |    |    | 14.5    |     | 1.9  | 100 |      |     |     |     |     |   |   |
| CNZ | Pg    | 10 | 19 | 14.3    |     | -1.8 | 100 | 0.88 | 312 |     | 3.7 | 3.5 |   |   |
|     | Sg    |    |    | 29.2    |     | 1.1  | 100 |      |     |     |     |     |   |   |
| MNG | Pn    | 10 | 19 | 15.2    |     | -3.1 | 98  | 1.07 | 220 |     | 2.8 |     |   |   |
| TUA | eSg   | 10 | 19 | 36      |     | -1.1 | 100 | 1.15 | 31  |     | 3.5 |     |   |   |
|     | e     |    |    | 42.5    |     |      |     |      |     |     |     |     |   |   |
| GNZ | ePg   | 10 | 19 | 33      |     | 0.1  | 100 | 1.72 | 48  |     | 3.0 |     |   |   |
|     | e     |    |    | 40.3    |     |      |     |      |     |     |     |     |   |   |
| WTZ | ePg   | 10 | 19 | 35.6    |     | -0.4 | 100 | 1.87 | 15  |     | 3.0 |     |   |   |
|     | e     |    |    | 43.0    |     |      |     |      |     |     |     |     |   |   |
| WEL | eS*   | 10 | 20 | 00      |     | 2.2  | 99  | 1.93 | 219 | 3.3 |     |     |   |   |
| KRP | ePn   | 10 | 19 | 32.2    |     | 1.4  | 100 | 1.99 | 340 |     | 3.5 |     |   |   |
|     | ePg   |    |    | 38.8    |     | 0.5  | 100 |      |     |     |     |     |   |   |
|     | e     |    |    | 20 08   |     |      |     |      |     |     |     |     |   |   |
| COB | eP*   | 10 | 19 | 53      |     | 1.2  | 100 | 3.08 | 244 |     | 3.7 |     |   |   |
|     | ePg   |    |    | 59      |     | -1.2 | 100 |      |     |     |     |     |   |   |
|     | e     |    |    | 20 33.5 |     |      |     |      |     |     |     |     |   |   |

|             |     |     |     |     |     |    |     |     |
|-------------|-----|-----|-----|-----|-----|----|-----|-----|
| AMPLITUDES: | TRZ | 1.0 | 3.2 | CNZ | 25  | 29 | MNG | 0.9 |
|             | TUA | 0.7 |     | GNZ | 0.3 |    | WTZ | 0.3 |
|             | WEL | 0.2 |     | KRP | 0.4 |    | COB | 0.3 |

FELT: Waipawa (60) MM IV

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JAN 27 18<sup>h</sup>49<sup>m</sup>33<sup>s</sup>.6 35°.66s 178°.77E 228 km M = 4.2  
 ± 1.6 0.09 0.16 16 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|-----|---|---|
| ECZ | P     | 18 | 50 | 14.8    |     | -0.2 | 100 | 2.03 | 185 |     | 4.3  |     |   |   |
| GBZ | P     | 18 | 50 | 20.9    |     | -1.2 | 100 | 2.73 | 257 |     |      |     |   |   |
| WTZ | iP    | 18 | 50 | 23.0    |     | 0.9  | 100 | 2.73 | 211 |     | 4.7  | 4.1 |   |   |
|     | S     |    |    | 51 00.0 |     | 0.2  | 100 |      |     |     |      |     |   |   |
| GNZ | P     | 18 | 50 | 24.0    |     | -1.6 | 99  | 3.04 | 191 |     | 4.3  | 4.4 |   |   |
|     | S     |    |    | 51 06.5 |     | 0.5  | 100 |      |     |     |      |     |   |   |
| KRP | eP    | 18 | 50 | 31      |     | 0.8  | 100 | 3.45 | 228 |     | 2.7* |     |   |   |
| CNZ | P     | 18 | 50 | 43.8    |     | 2.2  | 99  | 4.36 | 215 |     | 4.0  |     |   |   |
| MNG | eP    | 18 | 50 | 56.7    |     | -0.1 | 100 | 5.59 | 207 |     | 3.8  | 3.8 |   |   |
|     | eS    |    |    | 52 00.4 |     | -1.2 | 100 |      |     |     |      |     |   |   |

|             |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 1.0 | GBZ | 0.3 | WTZ | 3.6 | 0.9 |
|             | GNZ | 1.3 | 2.8 | KRP | 0.2 | CNZ | 0.8 |
|             | MNG | 0.4 | 0.5 |     |     |     |     |



| 77/ 045     |                                                    |         |          |       |                  |      |     |      |     |     |         |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|
| JAN 28      | 14 <sup>h</sup> 09 <sup>m</sup> 07 <sup>s</sup> .8 | 37°.48s | 176°.85E | 12 km | M = 3.9          |      |     |      |     |     |         |
|             | ± 1.3                                              | 0.07    | 0.05     | R     | S.E. of RES. 2.0 |      |     |      |     |     |         |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |
| WIZ         | P*                                                 | 14      | 09       | 14.3  |                  | -3.5 | 98  | 0.52 | 168 |     | 3.7 4.1 |
|             | i                                                  |         |          | 19.5  |                  |      |     |      |     |     |         |
|             | S*                                                 |         |          | 26    |                  | 1.0  | 100 |      |     |     |         |
| KRP         | P*                                                 | 14      | 09       | 29.0  |                  | 0.7  | 100 | 1.13 | 246 |     | 3.4     |
|             | eSn                                                |         |          | 43.7  |                  | -0.7 | 100 |      |     |     |         |
|             | eS*                                                |         |          | 45.7  |                  | 2.2  | 100 |      |     |     |         |
| TUA         | Pn                                                 | 14      | 09       | 29.8  |                  | -1.9 | 100 | 1.35 | 170 |     | 4.4 4.0 |
|             | iP*                                                |         |          | 30.9  |                  | -1.1 | 100 |      |     |     |         |
|             | eS*                                                |         |          | 49    |                  | -0.9 | 100 |      |     |     |         |
| ECZ         | P*                                                 | 14      | 09       | 33.2  |                  | 1.0  | 100 | 1.37 | 100 |     | 3.8     |
| GNZ         | Pn                                                 | 14      | 09       | 33.0  |                  | -0.6 | 100 | 1.48 | 142 |     | 4.2     |
|             | iP*                                                |         |          | 35.2  |                  | 0.9  | 100 |      |     |     |         |
|             | eS*                                                |         |          | 57.0  |                  | 2.9  | 99  |      |     |     |         |
| CNZ         | ePn                                                | 14      | 09       | 41.7  |                  | 1.1  |     | 2.01 | 210 |     | 3.7     |
|             | eP*                                                |         |          | 48.0  |                  | 4.8  |     |      |     |     |         |
| TRZ         | ePn                                                | 14      | 09       | 38.5  |                  | -3.1 |     | 2.08 | 181 |     | 4.3     |
|             | eP*                                                |         |          | 45.3  |                  | 0.9  |     |      |     |     |         |
| MNG         | eP*                                                | 14      | 10       | 08.5  |                  | 3.0  |     | 3.32 | 198 |     | 3.9     |
|             | e                                                  |         |          | 09.2  |                  |      |     |      |     |     |         |
| AMPLITUDES: |                                                    | WIZ     |          | 14    | 25               | KRP  |     | 1.1  | TUA |     | 2.6 1.1 |
|             |                                                    | ECZ     |          | 0.5   |                  | GNZ  |     | 4.4  | CNZ |     | 1.7     |
|             |                                                    | TRZ     |          | 1.0   |                  | MNG  |     | 0.7  |     |     |         |

| 77/ 046     |                                                    |         |          |         |                  |      |     |         |     |      |         |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|---------|-----|------|---------|
| JAN 29      | 05 <sup>h</sup> 26 <sup>m</sup> 58 <sup>s</sup> .9 | 33°.97s | 178°.71W | 270 km  | M = 4.8          |      |     |         |     |      |         |
|             | ± 1.2                                              | 0.14    | 0.25     | 12      | S.E. of RES. 1.2 |      |     |         |     |      |         |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST    | AZ  | W-A  | W P W S |
| ECZ         | P                                                  | 05      | 28       | 07.6    |                  | -0.4 | 100 | 4.34    | 210 |      | 4.8     |
|             | e                                                  |         |          | 58.2    |                  |      |     |         |     |      |         |
|             | e                                                  |         |          | 29 05.3 |                  |      |     |         |     |      |         |
| WIZ         | P                                                  | 05      | 28       | 18      |                  | -1.7 | 99  | 5.32    | 220 |      | 5.1 4.9 |
|             | S                                                  |         |          | 29 23   |                  | 0.2  | 100 |         |     |      |         |
| GNZ         | P                                                  | 05      | 28       | 19.8    |                  | -0.4 | 100 | 5.36    | 209 |      | 4.9 4.8 |
|             | S                                                  |         |          | 29 24.0 |                  | 0.2  | 100 |         |     |      |         |
| TUA         | P                                                  | 05      | 28       | 27.0    |                  | 0.5  | 100 | 5.88    | 213 |      | 5.1 4.9 |
|             | S                                                  |         |          | 29 34.5 |                  | -0.6 | 100 |         |     |      |         |
| KRP         | P                                                  | 05      | 28       | 30.8    |                  | 1.3  | 100 | 6.11    | 228 |      | 3.3*    |
| TRZ         | eP                                                 | 05      | 28       | 36.0    |                  | 0.2  | 100 | 6.63    | 211 |      | 4.8 4.8 |
|             | S                                                  |         |          | 29 54   |                  | 2.1  | 99  |         |     |      |         |
| MNG         | eP                                                 | 05      | 28       | 54.8    |                  | 0.6  | 100 | 8.09    | 213 |      | 4.2 4.6 |
|             | eS                                                 |         |          | 30 23   |                  | -1.7 | 99  |         |     |      |         |
| WEL         | eS                                                 | 05      | 30       | 43      |                  | -1.0 | 100 | 8.95    | 213 | 4.9  |         |
| GPZ         | eS                                                 | 05      | 31       | 50      |                  | 1.3  | 100 | 11.83   | 212 | 3.7* |         |
| MJZ         | eS                                                 | 05      | 32       | 16      |                  | -0.5 | 100 | 13.07   | 217 |      |         |
| AMPLITUDES: |                                                    | ECZ     |          | 0.8     |                  | WIZ  |     | 2.8 2.0 | GNZ |      | 2.0 2.6 |
|             |                                                    | TUA     |          | 1.1     | 0.7              | KRP  |     | 0.5     | TRZ |      | 0.4 0.8 |
|             |                                                    | MNG     |          | 0.5     | 1.6              | WEL  | 0.3 |         | GPZ | 0.3  |         |

| 77/ 047 |                                                    |         |          |        |                  |  |  |  |  |  |  |
|---------|----------------------------------------------------|---------|----------|--------|------------------|--|--|--|--|--|--|
| JAN 29  | 05 <sup>h</sup> 54 <sup>m</sup> 49 <sup>s</sup> .6 | 33°.76s | 178°.89W | 271 km | M = 4.8          |  |  |  |  |  |  |
|         | ± 2.2                                              | 0.23    | 0.45     | 19     | S.E. of RES. 2.0 |  |  |  |  |  |  |

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST  | AZ  | W-A  | W    | P   | W    | S |
|-------------|-------|-----|-----|------|-----|------|-----|-------|-----|------|------|-----|------|---|
| ECZ         | eP    | 05  | 55  | 59.3 |     | -0.8 | 100 | 4.45  | 207 |      | 4.9  | 5.0 |      |   |
|             | i     |     | 56  | 03.0 |     |      |     |       |     |      |      |     |      |   |
|             | eS    |     |     | 59   |     | 3.9  | 97  |       |     |      |      |     |      |   |
|             | e     |     | 57  | 03   |     |      |     |       |     |      |      |     |      |   |
| WTZ         | eP    | 05  | 56  | 09.5 |     | -1.8 | 100 | 5.38  | 217 |      | 5.1  | 4.8 |      |   |
|             | i     |     |     | 11.0 |     |      |     |       |     |      |      |     |      |   |
|             | i     |     |     | 12.2 |     |      |     |       |     |      |      |     |      |   |
|             | S     |     | 57  | 14.2 |     | -0.9 | 100 |       |     |      |      |     |      |   |
| GNZ         | P     | 05  | 56  | 12.4 |     | -0.1 | 100 | 5.48  | 206 |      | 5.0  | 4.7 |      |   |
|             | S     |     | 57  | 15   |     | -2.2 | 100 |       |     |      |      |     |      |   |
| TUA         | P     | 05  | 56  | 19.0 |     | 0.6  | 100 | 5.97  | 211 |      | 5.1  |     |      |   |
| KRP         | eP    | 05  | 56  | 22.0 |     | 1.4  | 100 | 6.15  | 226 |      | 3.6* |     |      |   |
| MNG         | P     | 05  | 56  | 46.5 |     | 0.4  | 100 | 8.19  | 212 |      | 4.3  | 4.6 |      |   |
|             | S     |     | 58  | 17.5 |     | 0.0  | 100 |       |     |      |      |     |      |   |
| WEL         | eS    | 05  | 58  | 34   |     | -2.8 | 99  | 9.05  | 212 | 4.8  |      |     |      |   |
| GPZ         | eS    | 05  | 59  | 43   |     | 1.4  | 100 | 11.92 | 211 | 3.7* |      |     |      |   |
| MJZ         | eS    | 06  | 00  | 10   |     | 1.1  | 100 | 13.15 | 216 |      |      |     | 3.3* |   |
| AMPLITUDES: |       | ECZ |     | 1.0  | 1.2 | WTZ  |     | 3.0   | 1.6 | GNZ  |      | 2.2 | 2.0  |   |
|             |       | TUA |     | 1.0  |     | KRP  |     | 0.9   |     | MNG  |      | 0.6 | 1.3  |   |
|             |       | WEL | 0.3 |      |     | GPZ  | 0.3 |       |     | MJZ  |      |     | 0.5  |   |

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JAN 29 07<sup>h</sup>02<sup>m</sup>41<sup>s</sup>.0 34°.02s 178°.43w 242 km M = 4.7  
 ± 0.9 0.06 0.13 9 S.E. of RES. 0.9

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST  | AZ  | W-A  | W    | P   | W   | S |
|-------------|-------|-----|-----|-------|-----|------|-----|-------|-----|------|------|-----|-----|---|
| ECZ         | P     | 07  | 03  | 50.7  |     | 0.7  | 100 | 4.42  | 213 |      | 4.6  | 4.8 |     |   |
|             | e     |     |     | 04 44 |     |      |     |       |     |      |      |     |     |   |
| WTZ         | P     | 07  | 04  | 01.5  |     | -1.1 | 99  | 5.44  | 222 |      | 4.9  | 4.8 |     |   |
|             | eS    |     | 05  | 06    |     | -0.1 | 100 |       |     |      |      |     |     |   |
| GNZ         | P     | 07  | 04  | 02.2  |     | -0.4 | 100 | 5.44  | 211 |      | 4.9  | 4.7 |     |   |
|             | S     |     | 05  | 05.8  |     | -0.4 | 100 |       |     |      |      |     |     |   |
| TUA         | eP    | 07  | 04  | 08    |     | -1.2 | 99  | 5.97  | 215 |      | 5.0  |     |     |   |
| ONE         | eP    | 07  | 04  | 12    |     | 0.1  | 100 | 6.18  | 251 |      |      |     |     |   |
| KRP         | P     | 07  | 04  | 13.0  |     | 0.1  | 100 | 6.26  | 230 |      | 3.4* |     |     |   |
| TRZ         | eP    | 07  | 04  | 20    |     | 1.3  | 99  | 6.71  | 213 |      | 4.8  | 4.5 |     |   |
|             | eS    |     | 05  | 36    |     | 0.9  | 100 |       |     |      |      |     |     |   |
| CNZ         | eP    | 07  | 04  | 24.7  |     | 1.3  | 99  | 7.09  | 221 |      | 4.8  |     |     |   |
|             | i     |     |     | 33.5  |     |      |     |       |     |      |      |     |     |   |
| MNG         | eP    | 07  | 04  | 36.5  |     | -1.0 | 100 | 8.19  | 215 |      | 4.1  | 4.6 |     |   |
|             | eS    |     | 06  | 09    |     | 0.4  | 100 |       |     |      |      |     |     |   |
| WEL         | eS    | 07  | 06  | 27    |     | -1.2 | 99  | 9.05  | 215 | 4.9  |      |     |     |   |
| GPZ         | eS    | 07  | 07  | 34    |     | 0.4  | 100 | 11.91 | 213 | 3.7* |      |     |     |   |
|             | e     |     |     | 39    |     |      |     |       |     |      |      |     |     |   |
| MJZ         | eS    | 07  | 08  | 02    |     | -0.1 | 100 | 13.18 | 218 |      |      |     |     |   |
| AMPLITUDES: |       | ECZ |     | 0.6   | 0.8 | WTZ  |     | 1.7   | 1.5 | GNZ  |      | 1.8 | 1.8 |   |
|             |       | TUA |     | 0.8   |     | KRP  |     | 0.6   |     | TRZ  |      | 0.4 | 0.4 |   |
|             |       | CNZ |     | 2.3   |     | MNG  |     | 0.4   | 1.5 | WEL  | 0.3  |     |     |   |
|             |       | GPZ | 0.3 |       |     |      |     |       |     |      |      |     |     |   |

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JAN 29 09<sup>h</sup>44<sup>m</sup>19<sup>s</sup>.7 37°.91s 177°.16E 62 km M = 3.6  
 ± 1.0 0.05 0.05 8 S.E. of RES. 1.6

| STN | PHASE | H  | M  | S    | DIR | RES | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|------|-----|-----|-----|------|-----|-----|---|---|---|---|
| WTZ | P     | 09 | 44 | 30.0 |     | 0.3 | 100 | 0.16 | 240 |     |   |   |   |   |
|     | S     |    |    | 37.8 |     | 0.7 | 100 |      |     |     |   |   |   |   |

|             |    |            |         |      |         |         |
|-------------|----|------------|---------|------|---------|---------|
| TUA         | e  | 09 44 42.0 |         | 0.90 | 181     | 3.6     |
|             | S  | 49.0       | -1.0    | 100  |         |         |
| GNZ         | P  | 09 44 37.8 | -0.5    | 100  | 1.00    | 138     |
|             | S  | 52.1       | -0.1    | 100  |         | 3.5     |
| ECZ         | P  | 09 44 41.2 | 1.3     | 100  | 1.12    | 79      |
|             | e  | 45 06      |         |      |         | 3.4 3.5 |
| KRP         | P  | 09 44 41.8 | -0.3    | 100  | 1.29    | 269     |
|             | S  | 58.7       | -0.3    | 100  |         | 3.6*    |
| TRZ         | eP | 09 44 48   | 0.7     | 100  | 1.66    | 189     |
|             | eS | 45 07      | -0.9    | 100  |         | 3.7 3.5 |
|             | e  | 13.5       |         |      |         |         |
| CNZ         | P  | 09 44 48.0 | -1.2    | 100  | 1.81    | 224     |
| MNG         | P  | 09 45 03.8 | -2.3    | 99   | 3.01    | 205     |
|             | e  | 48         |         |      |         | 3.7     |
| WEL         | eS | 09 46 06   | 3.6     | 94   | 3.85    | 208     |
|             |    |            |         |      | 4.0     |         |
| AMPLITUDES: |    | WTZ        | 10 24   | TUA  | 1.4     | GNZ     |
|             |    | ECZ        | 0.6 0.8 | KRP  | 5.3     | TRZ     |
|             |    | CNZ        | 2.8     | MNG  | 0.7 1.7 | WEL 0.2 |

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JAN 29 17<sup>h</sup>59<sup>m</sup>20<sup>s</sup>.2 37°.38s 176°.70E 284 km M = 4.8  
 ± 0.9 0.04 0.06 5 S.E. of RES. 1.1

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|------|------|-----|
| WTZ         | P     | 17  | 59  | 56.2  |     | -1.3 | 100 | 0.65 | 160 |      | 4.5  | 4.6 |
|             | i     | 18  | 00  | 22.2  |     |      |     |      |     |      |      |     |
|             | iS    |     |     | 24.1  |     | -2.6 | 94  |      |     |      |      |     |
| KRP         | P     | 17  | 59  | 59.7  |     | 0.3  | 100 | 1.07 | 239 |      | 3.6* |     |
|             | S     | 18  | 00  | 30.7  |     | 0.8  | 100 |      |     |      |      |     |
| TUA         | P     | 18  | 00  | 02.2  |     | 0.4  | 100 | 1.47 | 166 |      | 5.1  | 5.0 |
|             | S     |     |     | 33.8  |     | -0.3 | 100 |      |     |      |      |     |
| ECZ         | P     | 18  | 00  | 01.4  |     | -0.6 | 100 | 1.50 | 103 |      | 4.9  | 4.9 |
|             | S     |     |     | 35.9  |     | 1.4  | 99  |      |     |      |      |     |
| AUC         | P     | 18  | 00  | 02.4  |     | -0.5 | 100 | 1.63 | 288 |      |      |     |
| GNZ         | P     | 18  | 00  | 03.5  |     | 0.6  | 100 | 1.64 | 141 |      |      |     |
|             | S     |     |     | 35.3  |     | -0.9 | 100 |      |     |      |      |     |
| CNZ         | P     | 18  | 00  | 07.1  |     | 1.0  | 100 | 2.03 | 206 |      | 4.4  | 4.6 |
|             | eS    |     |     | 43.5  |     | 1.8  | 99  |      |     |      |      |     |
| TRZ         | P     | 18  | 00  | 08.1  |     | 0.8  | 100 | 2.17 | 178 |      | 4.7  | 5.1 |
|             | e     |     |     | 40.0  |     |      |     |      |     |      |      |     |
|             | S     |     |     | 44.2  |     | 0.2  | 100 |      |     |      |      |     |
| MNG         | P     | 18  | 00  | 19.3  |     | 0.2  | 100 | 3.37 | 196 |      |      |     |
|             | e     |     |     | 58    |     |      |     |      |     |      |      |     |
|             | eS    |     |     | 01 05 |     | -0.1 | 100 |      |     |      |      |     |
| WEL         | eS    | 18  | 01  | 21    |     | -0.1 | 100 | 4.18 | 200 | 4.7  |      |     |
| KAI         | eS    | 18  | 02  | 11    |     | -1.1 | 100 | 6.56 | 217 | 3.7* |      |     |
| GPZ         | eS    | 18  | 02  | 22    |     | -0.5 | 100 | 7.03 | 205 | 3.6* |      |     |
| AMPLITUDES: |       | WTZ | 4.5 | 6.0   | KRP | 2.3  |     | TUA  | 5.6 | 4.6  |      |     |
|             |       | ECZ | 3.8 | 3.6   | CNZ | 5.5  | 9.7 | TRZ  | 1.6 | 8.6  |      |     |
|             |       | WEL | 0.8 |       | KAI | 0.3  |     | GPZ  | 0.4 |      |      |     |

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JAN 31 10<sup>h</sup>44<sup>m</sup>41<sup>s</sup>.1 40°.64s 174°.96E 12 km M = 3.6  
 ± 0.5 0.03 0.08 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WEL | P*    | 10 | 44 | 53.5    |     | -0.0 | 100 | 0.66 | 193 | 3.4 |     |     |
|     | S*    |    |    | 45 03.0 |     | 0.5  | 100 |      |     |     |     |     |
| CNZ | P*    | 10 | 45 | 07.2    |     | -0.8 | 100 | 1.51 | 18  |     | 4.0 | 3.6 |



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| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | P     | 17 | 43 | 45.3 | U   | 0.1  | 100 | 0.52 | 20  |     |     |     |
| MNW | P     | 17 | 43 | 47.3 |     | 1.5  | 100 | 0.62 | 183 |     |     |     |
|     | S     |    | 44 | 00.3 |     | -0.2 | 100 |      |     |     |     |     |
| ROX | P     | 17 | 43 | 53.9 |     | 2.7  | 99  | 1.21 | 106 |     | 4.4 |     |
|     | S     |    | 44 | 11.5 |     | 1.5  | 100 |      |     |     |     |     |
| OBZ | P     | 17 | 43 | 56.2 |     | -1.6 | 100 | 1.77 | 170 |     |     |     |
|     | S     |    | 44 | 19.5 |     | -1.9 | 99  |      |     |     |     |     |
| GSP | P     | 17 | 44 | 00.2 |     | -0.0 | 100 | 1.97 | 59  |     |     |     |
|     | eS    |    |    | 25   |     | -0.5 | 100 |      |     |     |     |     |
| OMZ | P     | 17 | 44 | 06.2 |     | 1.6  | 100 | 2.30 | 89  |     | 4.4 | 4.7 |
|     | eS    |    |    | 33   |     | -0.1 | 100 |      |     |     |     |     |
| MJZ | P     | 17 | 44 | 04.6 |     | -0.3 | 100 | 2.32 | 60  |     | 4.0 | 4.9 |

|             |     |            |      |     |      |     |     |     |     |
|-------------|-----|------------|------|-----|------|-----|-----|-----|-----|
|             | S   | 31.4       | -2.2 | 99  |      |     |     |     |     |
| KAI         | eS  | 17 45 05   | -3.4 |     | 3.78 | 47  | 4.5 |     |     |
| GPZ         | eP  | 17 44 23   | -2.5 |     | 3.85 | 69  | 4.5 |     |     |
|             | eS  | 45 07.2    | -3.1 |     |      |     |     |     |     |
| COB         | eP  | 17 44 46.5 | -1.2 |     | 5.51 | 44  |     | 4.6 | 4.6 |
|             | eS  | 45 44      | -6.4 |     |      |     |     |     |     |
| AMPLITUDES: | ROX | 5.0        | OMZ  | 1.8 | 6.0  | MJZ | 2.3 | 23  |     |
|             | KAI | 0.3        | GPZ  | 0.5 |      | COB | 0.3 | 0.5 |     |

FELT: Queenstown (132)

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JAN 31 23<sup>h</sup>22<sup>m</sup>19<sup>s</sup>.1 31°.41S 179°.38W 521 km M = 5.4  
 ± 1.9 0.20 0.42 21 S.E. of RES. 2.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|-------|-----|------|------|------|
| ECZ | P     | 23 | 24 | 04.0 |     | 1.9  | 100 | 6.51  | 195 |      | 5.2  | 5.6  |
|     | eS    |    | 25 | 26   |     | 2.2  | 100 |       |     |      |      |      |
| WTZ | P     | 23 | 24 | 08.5 |     | -0.6 | 100 | 7.22  | 203 |      | 5.9  | 5.4  |
|     | eS    |    | 25 | 32.0 |     | -4.5 | 97  |       |     |      |      |      |
| GNZ | P     | 23 | 24 | 12.5 |     | 0.2  | 100 | 7.53  | 196 |      | 5.6  | 5.3  |
|     | S     |    | 25 | 41.0 |     | -1.3 | 100 |       |     |      |      |      |
| KRP | P     | 23 | 24 | 15.0 |     | 0.6  | 100 | 7.74  | 211 |      | 4.1* |      |
|     | eS    |    | 25 | 49   |     | 3.0  | 99  |       |     |      |      |      |
| TUA | eP    | 23 | 24 | 17.0 |     | 0.8  | 100 | 7.92  | 200 |      | 5.3  | 5.6  |
|     | eS    |    | 25 | 48   |     | -1.3 | 100 |       |     |      |      |      |
| TRZ | P     | 23 | 24 | 24.0 |     | -0.3 | 100 | 8.70  | 200 |      | 5.6  | 5.6  |
|     | S     |    | 26 | 04   |     | 0.0  | 100 |       |     |      |      |      |
| CNZ | P     | 23 | 24 | 23.7 |     | -1.7 | 100 | 8.82  | 207 |      | 5.1  | 5.0  |
|     | eS    |    | 26 | 05   |     | -1.0 | 100 |       |     |      |      |      |
| WEL | eS    | 23 | 26 | 44   |     | -2.1 | 100 | 10.93 | 204 | 5.1  |      |      |
| COB | eP    | 23 | 24 | 51   |     | -2.9 | 99  | 11.57 | 211 |      | 3.8* | 3.4* |
|     | eS    |    | 26 | 59   |     | 0.8  | 100 |       |     |      |      |      |
| GPZ | eS    | 23 | 27 | 42   |     | 2.1  | 100 | 13.81 | 205 | 3.9* |      |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 0.8 | 2.3 | WTZ | 8.8 | 2.7 | GNZ | 4.3 | 3.8 |
|             | KRP | 2.1 |     | TUA | 0.8 | 1.6 | TRZ | 1.2 | 2.9 |
|             | CNZ | 2.6 | 2.0 | WEL | 0.3 |     | COB | 0.3 | 0.5 |
|             | GPZ | 0.4 |     |     |     |     |     |     |     |

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FEB 01 02<sup>h</sup>27<sup>m</sup>59<sup>s</sup>.6 36°.66S 178°.14E 33 km M = 3.7  
 ± 1.7 0.11 0.09 R S.E. of RES. 1.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P     | 02 | 28 | 17.8    |     | -0.1 | 100 | 1.08 | 163 |     | 3.7 |     |
|     | e     |    |    | 20.0    |     |      |     |      |     |     |     |     |
|     | e     |    |    | 38.0    |     |      |     |      |     |     |     |     |
| WTZ | P     | 02 | 28 | 24.4    |     | -0.8 | 100 | 1.61 | 214 |     | 3.7 | 3.8 |
|     | i     |    |    | 27.0    |     |      |     |      |     |     |     |     |
|     | eS    |    |    | 43.4    |     | -0.9 | 100 |      |     |     |     |     |
| GNZ | eP    | 02 | 28 | 31      |     | 0.7  | 100 | 1.98 | 183 |     | 3.3 | 3.3 |
|     | S     |    |    | 54.0    |     | 0.7  | 100 |      |     |     |     |     |
| TUA | P     | 02 | 28 | 32.0    |     | -2.4 | 99  | 2.29 | 200 |     | 4.0 | 3.9 |
|     | e     |    |    | 29 01   |     |      |     |      |     |     |     |     |
| KRP | P     | 02 | 28 | 36.2    |     | -0.2 | 100 | 2.43 | 238 |     | 4.1 |     |
|     | S     |    |    | 29 04.4 |     | 0.4  | 100 |      |     |     |     |     |
| CNZ | P     | 02 | 28 | 50.0    |     | 2.3  | 99  | 3.27 | 218 |     | 3.8 | 3.7 |
|     | e     |    |    | 29 30   |     |      |     |      |     |     |     |     |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 0.8 | WTZ | 1.8 | 2.0 | GNZ | 0.4 | 0.7 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|

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FEB 01    08<sup>h</sup>40<sup>m</sup>36<sup>s</sup>.3    37°.92s    177°.55E    33 km    M = 4.6

1.6 1.6

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M = 4.6

S.E. of RES. 1.6

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | P     | 08  | 40 | 46.2 | D   | 0.2  | 100 | 0.45 | 261 |     |     |     |
| GNZ         | P     | 08  | 40 | 50.8 |     | -0.2 | 100 | 0.82 | 153 |     |     |     |
| ECZ         | P     | 08  | 40 | 51.8 |     | 0.7  | 100 | 0.82 | 75  |     | 4.4 |     |
| TUA         | P     | 08  | 40 | 52.2 |     | -0.5 | 100 | 0.94 | 199 |     | 4.3 | 4.5 |
|             | i     |     |    | 54.0 |     |      |     |      |     |     |     |     |
|             | i     |     | 41 | 07.0 |     |      |     |      |     |     |     |     |
| WNZ         | eP    | 08  | 40 | 57.9 |     | -0.3 | 100 | 1.34 | 237 |     | 4.3 |     |
| KRP         | P     | 08  | 41 | 01.2 |     | -0.3 | 100 | 1.59 | 269 |     | 4.3 | 4.7 |
|             | S     |     |    | 20.0 |     | -0.5 | 100 |      |     |     |     |     |
| TRZ         | P     | 08  | 41 | 02.9 |     | -0.6 | 100 | 1.73 | 199 |     | 4.8 |     |
|             | i     |     |    | 06.8 |     |      |     |      |     |     |     |     |
|             | i     |     |    | 13.2 |     |      |     |      |     |     |     |     |
|             | iS    |     |    | 26.5 |     | 2.7  | 99  |      |     |     |     |     |
| CNZ         | P     | 08  | 41 | 07.4 |     | -0.1 | 100 | 2.02 | 230 |     | 4.6 | 4.8 |
|             | S     |     |    | 33.5 |     | 2.6  | 99  |      |     |     |     |     |
| AUC         | P     | 08  | 41 | 14.0 |     | 0.8  | 100 | 2.45 | 295 |     |     |     |
| WEL         | e     | 08  | 41 | 43   |     |      |     | 4.00 | 212 | 4.5 |     |     |
|             | S     |     | 42 | 15.2 |     | -3.0 | 98  |      |     |     |     |     |
|             | e     |     |    | 33   |     |      |     |      |     |     |     |     |
| COB         | eP    | 08  | 41 | 44   |     | -2.6 | 99  | 4.89 | 228 |     | 4.8 | 4.8 |
|             | e     |     |    | 50.0 |     |      |     |      |     |     |     |     |
|             | S     |     | 42 | 40.5 |     | 0.7  | 100 |      |     |     |     |     |
|             | e     |     |    | 49   |     |      |     |      |     |     |     |     |
| KAI         |       |     |    |      |     |      |     | 6.58 | 224 | 4.5 |     |     |
| GPZ         | eP    | 08  | 42 | 10   |     | -3.6 |     | 6.88 | 211 | 4.7 |     |     |
|             | eS    |     | 43 | 19   |     | -8.3 |     |      |     |     |     |     |
| CIZ         | P     | 08  | 42 | 21.5 |     | -0.7 |     | 7.51 | 145 |     |     |     |
|             | S     |     | 43 | 35   |     | -7.5 |     |      |     |     |     |     |
| MJZ         | P     | 08  | 42 | 27.0 |     | -3.3 |     | 8.10 | 219 |     | 5.1 | 4.3 |
|             | S     |     | 43 | 50.8 |     | -6.0 |     |      |     |     |     |     |
| GSP         | P     | 08  | 42 | 31.0 |     | -3.8 |     | 8.42 | 220 |     |     |     |
|             | eS    |     | 44 | 02   |     | -2.7 |     |      |     |     |     |     |
| AMPLITUDES: | ECZ   |     |    | 8.0  | TUA | 7.3  | 12  | WNZ  |     | 0.6 |     |     |
|             | KRP   |     |    | 4.1  | 9.2 | TRZ  | 7.8 | CNZ  |     | 23  | 48  |     |
|             | WEL   | 0.8 |    |      |     | COB  | 1.5 | 4.9  | KAI | 0.3 |     |     |
|             | GPZ   | 0.7 |    |      |     | MJZ  | 3.2 | 1.1  |     |     |     |     |

FELT: Gisborne (45) MM III

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FEB 01    20<sup>h</sup>05<sup>m</sup>36<sup>s</sup>.7    39°.77s    174°.12E    172 km    M = 4.2

1.5

S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| CNZ | P     | 20 | 06 | 07.0 |     | 1.2  | 100 | 1.24 | 63  |     | 4.4  | 4.4  |
|     | S     |    |    | 30.3 |     | 2.0  | 99  |      |     |     |      |      |
| WEL | eP    | 20 | 06 | 11   |     | 1.8  | 99  | 1.59 | 162 | 3.9 |      |      |
|     | S     |    |    | 34   |     | -0.2 | 100 |      |     |     |      |      |
| COB | iP    | 20 | 06 | 10.9 |     | 0.7  | 100 | 1.69 | 218 |     | 4.4* | 4.0* |
|     | S     |    |    | 34.0 |     | -2.1 | 99  |      |     |     |      |      |
| TRZ | P     | 20 | 06 | 13.5 |     | -1.2 | 100 | 2.10 | 85  |     | 4.4  | 3.9  |
|     | S     |    |    | 44.5 |     | 0.6  | 100 |      |     |     |      |      |
|     | e     |    |    | 55   |     |      |     |      |     |     |      |      |



|             |    |            |      |     |      |     |           |     |     |     |
|-------------|----|------------|------|-----|------|-----|-----------|-----|-----|-----|
| KRP         | eP | 20 06 15.3 | 0.0  | 100 | 2.15 | 31  | 2.9* 2.7* |     |     |     |
|             | eS | 45         | 0.0  | 100 |      |     |           |     |     |     |
| TUA         | eS | 20 06 51   | -2.2 | 99  | 2.54 | 69  |           |     |     |     |
| WTZ         | eS | 20 06 59   | -1.2 | 100 | 2.86 | 52  |           |     |     |     |
| GNZ         | P  | 20 06 29.5 | 1.0  | 100 | 3.24 | 71  | 4.2 4.4   |     |     |     |
|             | e  | 07 06.2    |      |     |      |     |           |     |     |     |
|             | S  | 08.0       | -0.4 | 100 |      |     |           |     |     |     |
| KAI         | eS | 20 07 12   | -0.9 |     | 3.43 | 216 | 3.5*      |     |     |     |
| GPZ         | S  | 20 07 22.0 | -5.6 |     | 4.08 | 195 | 4.0*      |     |     |     |
| MJZ         | P  | 20 06 55   | 3.4  |     | 5.02 | 212 | 3.4* 3.0* |     |     |     |
|             | e  | 57.3       |      |     |      |     |           |     |     |     |
|             | eS | 07 46      | -3.5 |     |      |     |           |     |     |     |
| AMPLITUDES: |    | CNZ        | 13   | 16  | WEL  | 0.7 | COB       | 7.5 | 10  |     |
|             |    | TRZ        | 1.1  | 0.8 | KRP  | 0.5 | 0.4       | GNZ | 1.1 | 2.8 |
|             |    | KAI        | 0.4  |     | GPZ  | 1.8 |           | MJZ | 1.1 | 0.7 |

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FEB 01 22<sup>h</sup>13<sup>m</sup>17<sup>s</sup>.9 41°.99S 173°.80E 12 km M = 3.8  
 ± 0.4 0.03 0.05 R S.E. of RES. 1.6

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| KKY         | P*    | 22  | 13  | 25.9    |     | -0.7 | 100 | 0.44 | 190 |     |     |     |   |   |
|             | S*    |     |     | 36.0    |     | 3.2  | 98  |      |     |     |     |     |   |   |
| WEL         | P*    | 22  | 13  | 36.0    |     | -0.3 | 100 | 1.01 | 46  | 3.8 |     |     |   |   |
|             | S*    |     |     | 50.3    |     | 0.5  | 100 |      |     |     |     |     |   |   |
| COB         | P*    | 22  | 13  | 38.8    |     | -0.8 | 100 | 1.21 | 318 |     | 3.8 | 3.5 |   |   |
|             | S*    |     |     | 56.2    |     | 0.5  | 100 |      |     |     |     |     |   |   |
| KAI         | e     | 22  | 14  | 07.0    |     |      |     | 1.85 | 252 | 3.6 |     |     |   |   |
|             | eSn   |     |     | 13.5    |     | 1.6  | 100 |      |     |     |     |     |   |   |
| GPZ         | ePn   | 22  | 13  | 49      |     | -0.5 | 100 | 1.91 | 206 | 3.9 |     |     |   |   |
|             | eP*   |     |     | 52.0    |     | 0.3  | 100 |      |     |     |     |     |   |   |
|             | Sn    |     |     | 14 10   |     | -3.2 | 98  |      |     |     |     |     |   |   |
| CNZ         | ePn   | 22  | 14  | 04.4    |     | -1.2 | 100 | 3.09 | 26  |     | 4.0 | 4.2 |   |   |
|             | iP*   |     |     | 11.2    |     | -0.6 | 100 |      |     |     |     |     |   |   |
|             | e     |     |     | 15 00.3 |     |      |     |      |     |     |     |     |   |   |
| MJZ         | Sn    | 22  | 14  | 43.5    |     | 0.2  | 100 | 3.16 | 230 |     |     | 3.6 |   |   |
| GSP         | iP*   | 22  | 14  | 17.0    |     | -2.0 | 99  | 3.51 | 231 |     |     |     |   |   |
|             | Sn    |     |     | 52      |     | 0.4  | 100 |      |     |     |     |     |   |   |
| KRP         | ePn   | 22  | 14  | 24      |     | 2.2  | 99  | 4.27 | 19  |     |     |     |   |   |
|             | eP*   |     |     | 33      |     | 1.0  | 100 |      |     |     |     |     |   |   |
|             | eS*   |     |     | 15 27   |     | -0.7 | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: |       | WEL | 2.2 |         |     | COB  | 2.6 | 4.6  | KAI | 0.5 |     |     |   |   |
|             |       | GPZ | 1.3 |         |     | CNZ  | 5.0 | 13   | MJZ |     | 1.4 |     |   |   |

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FEB 01 22<sup>h</sup>43<sup>m</sup>04<sup>s</sup>.7 38°.04S 176°.69E 175 km M = 4.4  
 ± 1.0 0.04 0.06 8 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|------|---|---|
| WTZ | iP    | 22 | 43 | 27.0  |     | -1.2 | 100 | 0.24 | 77  |     |      |      |   |   |
| TUA | P     | 22 | 43 | 31.9  |     | 1.0  | 100 | 0.85 | 155 |     | 4.4  | 4.7  |   |   |
|     | S     |    |    | 51.4  |     | 0.2  | 100 |      |     |     |      |      |   |   |
| KRP | iP    | 22 | 43 | 31.9  | D   | 0.6  | 100 | 0.92 | 277 |     | 3.9* | 3.5* |   |   |
|     | S     |    |    | 50.8  |     | -1.2 | 100 |      |     |     |      |      |   |   |
| GNZ | P     | 22 | 43 | 34.7  |     | 0.9  | 100 | 1.21 | 120 |     |      |      |   |   |
|     | S     |    |    | 54.6  |     | -1.6 | 100 |      |     |     |      |      |   |   |
| CNZ | P     | 22 | 43 | 37.3  |     | 1.2  | 100 | 1.46 | 217 |     | 4.2  | 4.2  |   |   |
|     | e     |    |    | 44 08 |     |      |     |      |     |     |      |      |   |   |
| ECZ | P     | 22 | 43 | 36.9  |     | 0.3  | 100 | 1.51 | 77  |     | 4.4  | 4.3  |   |   |

|             |     |       |         |     |      |     |      |     |           |
|-------------|-----|-------|---------|-----|------|-----|------|-----|-----------|
|             | e   |       | 51.2    |     |      |     |      |     |           |
|             | eS  |       | 44 00.0 |     | -1.3 | 100 |      |     |           |
| TRZ         | P   | 22 43 | 39.0    |     | 2.3  | 99  | 1.51 | 176 | 4.4 4.7   |
|             | S   | 44    | 03.0    |     | 1.7  | 100 |      |     |           |
| AUC         | P   | 22 43 | 41.6    |     | 0.7  | 100 | 1.93 | 307 |           |
| GBZ         | P   | 22 43 | 41.9    |     | -0.5 | 100 | 2.06 | 332 |           |
| WEL         | S   | 22 44 | 43.5    |     | -0.5 | 100 | 3.56 | 204 | 4.4       |
| COB         | eP  | 22 44 | 10.4    |     | 0.0  | 100 | 4.31 | 224 | 3.3* 3.2* |
|             | S   | 45    | 02.0    |     | 0.9  | 100 |      |     |           |
| GPZ         | eS  | 22 45 | 47      |     | -3.8 | 90  | 6.43 | 207 | 3.6*      |
| AMPLITUDES: | WTZ |       | 11      | TUA | 3.5  | 7.7 | KRP  | 7.6 | 4.0       |
|             | CNZ | 7.2   | 9.2     | ECZ | 1.9  | 1.6 | TRZ  | 1.7 | 7.5       |
|             | GBZ | 8.5   |         | WEL | 0.7  |     | COB  | 0.3 | 0.8       |
|             | GPZ | 0.4   |         |     |      |     |      |     |           |

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FEB 02    01<sup>h</sup>11<sup>m</sup>48<sup>s</sup>.3    40°.09s    174°.67E    33 km    M = 4.0

S.E. of RES. 1.0

± 0.4    0.02    0.06    R

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| TNZ         | P     | 01 | 12 | 04.7 |     | 0.1  | 100 | 0.94 | 346 |     |         |
| CNZ         | P     | 01 | 12 | 05.9 |     | -1.2 | 99  | 1.12 | 37  |     | 3.9     |
|             | S     |    |    | 19.5 |     | -1.6 | 99  |      |     |     |         |
| WEL         | P     | 01 | 12 | 08.2 |     | 0.1  | 100 | 1.20 | 176 | 4.2 |         |
|             | S     |    |    | 22.9 |     | -0.0 | 100 |      |     |     |         |
| TRZ         | e     | 01 | 12 | 27   |     |      |     | 1.75 | 73  |     | 4.1     |
| KRP         | eP    | 01 | 12 | 22.7 |     | -0.1 | 100 | 2.27 | 18  | 4.5 |         |
|             | i     |    |    | 29.8 |     |      |     |      |     |     |         |
|             | i     |    |    | 31.5 |     |      |     |      |     |     |         |
|             | S     |    |    | 50.0 |     | 1.2  | 99  |      |     |     |         |
|             | e     |    |    | 55   |     |      |     |      |     |     |         |
| KKY         | P     | 01 | 12 | 25.3 |     | 0.1  | 100 | 2.44 | 197 |     |         |
| WTZ         | eP    | 01 | 12 | 30.5 |     | 0.8  | 100 | 2.77 | 41  |     | 4.3     |
|             | i     |    |    | 38.8 |     |      |     |      |     |     |         |
| GNZ         | eP    | 01 | 12 | 31.8 |     | -0.6 | 100 | 2.98 | 62  |     | 3.6     |
|             | eS    |    | 13 | 07   |     | 1.3  | 99  |      |     |     |         |
| GPZ         |       |    |    |      |     |      |     | 3.91 | 202 | 3.7 |         |
| AMPLITUDES: | CNZ   |    |    | 28   | WEL | 4.1  |     |      |     |     | 2.3     |
|             | KRP   |    |    | 3.0  | WTZ | 1.0  |     |      |     |     | 0.4     |
|             | GPZ   |    |    | 0.2  |     |      |     |      |     |     |         |

FELT: Wanganui district (57), maximum intensity MM V

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FEB 02    10<sup>h</sup>09<sup>m</sup>31<sup>s</sup>.3    44°.84s    167°.71E    75 km    M = 3.3

S.E. of RES. 1.0

± 0.8    0.03    0.06    6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S   |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----------|
| MSZ | P     | 10 | 09 | 44.0 |     | 1.0  | 100 | 0.22 | 42  |     |           |
|     | S     |    |    | 51.0 |     | -0.8 | 100 |      |     |     |           |
| MNW | P     | 10 | 09 | 50.0 |     | 0.2  | 100 | 0.94 | 184 |     | 3.5* 3.6* |
|     | S     |    | 10 | 02.9 |     | -0.8 | 100 |      |     |     |           |
| ROX | e     | 10 | 10 | 00.8 |     |      |     | 1.30 | 120 |     | 3.2 2.9   |
|     | S     |    |    | 14.0 |     | 2.1  | 96  |      |     |     |           |
| GSP | P     | 10 | 10 | 01.1 |     | 0.2  | 100 | 1.80 | 68  |     |           |
|     | S     |    |    | 23.5 |     | 0.6  | 100 |      |     |     |           |
| OBZ | eP    | 10 | 10 | 05   |     | 0.1  | 100 | 2.09 | 172 |     |           |
|     | S     |    |    | 29.5 |     | -0.3 | 100 |      |     |     |           |
| MJZ | eP    | 10 | 10 | 05.5 |     | -0.3 | 100 | 2.15 | 68  |     | 3.3 3.3   |

|             |    |     |    |      |     |      |     |      |     |     |     |     |  |
|-------------|----|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|--|
| OMZ         | S  |     |    | 31.0 |     | -0.3 | 100 |      |     |     |     |     |  |
|             | eP | 10  | 10 | 07.8 |     | 0.1  | 100 | 2.29 | 97  |     | 3.3 |     |  |
| KAI         | eS |     |    | 33   |     | -1.8 | 98  |      |     |     |     |     |  |
|             | eS | 10  | 11 | 06   |     | -0.2 | 100 | 3.55 | 51  | 3.7 |     |     |  |
| AMPLITUDES: |    | MSZ |    | 14   | 28  | MNW  |     | 2.7  | 8.0 | ROX | 0.5 | 0.7 |  |
|             |    | OBZ |    | 0.6  | 1.7 | MJZ  |     | 1.1  | 1.7 | OMZ | 0.3 |     |  |
|             |    | KAI |    | 0.2  |     |      |     |      |     |     |     |     |  |

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FEB 02 22<sup>h</sup>34<sup>m</sup>04<sup>s</sup>.5 39°.97S 175°.03E 107 km M = 4.9  
 ± 0.7 0.05 0.10 13 S.E. of RES. 1.7

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|------|-----------|
| CNZ         | P     | 22  | 34 | 20.9    |     | -3.4 | 97  | 0.87 | 28  |      |           |
| TNZ         | P     | 22  | 34 | 23.9    |     | -1.0 | 100 | 0.94 | 327 |      |           |
| WEL         | P     | 22  | 34 | 31.1    |     | 1.7  | 100 | 1.32 | 189 | 5.0  |           |
|             | S     |     |    | 48.5    |     | 0.1  | 100 |      |     |      |           |
| TRZ         | P     | 22  | 34 | 30.7    |     | -0.1 | 100 | 1.44 | 74  |      |           |
|             | i     |     |    | 32.2    |     |      |     |      |     |      |           |
| TUA         | P     | 22  | 34 | 38.5    |     | 0.5  | 100 | 2.02 | 55  |      | 4.8       |
|             | i     |     |    | 41.2    |     |      |     |      |     |      |           |
| KRP         | i     |     |    | 43.0    |     |      |     |      |     |      |           |
|             | eP    | 22  | 34 | 37.2    |     | -1.7 | 100 | 2.09 | 11  |      | 4.5*      |
| WTZ         | i     |     |    | 41.2    |     |      |     |      |     |      |           |
|             | eS    |     |    | 35 08   |     | 3.5  | 97  |      |     |      |           |
| KAI         | P     | 22  | 34 | 44.8    |     | 0.1  | 100 | 2.50 | 38  |      | 4.9       |
|             | i     |     |    | 49.2    |     |      |     |      |     |      |           |
| KKY         | i     |     |    | 35 08.2 |     |      |     |      |     |      |           |
|             | i     |     |    | 14.8    |     |      |     |      |     |      |           |
| GNZ         | P     | 22  | 34 | 48.4    |     | 1.9  | 100 | 2.65 | 202 |      |           |
| ECZ         | P     | 22  | 34 | 46.9    |     | -0.0 | 100 | 2.67 | 61  |      | 4.7       |
| KAI         | P     | 22  | 34 | 59.0    |     | -0.1 | 100 | 3.57 | 51  |      | 5.0       |
|             | e     | 22  | 35 | 08      |     |      |     | 3.73 | 226 | 3.8* |           |
| GPZ         | eP    | 22  | 35 | 06      |     | -0.7 | 100 | 4.13 | 205 | 4.3* |           |
|             | S     |     |    | 53      |     | -1.3 | 100 |      |     |      |           |
| MJZ         | P     | 22  | 35 | 23.0    |     | 0.8  | 100 | 5.26 | 219 |      | 3.6* 3.6* |
|             | S     |     |    | 36 22.2 |     | 0.1  | 100 |      |     |      |           |
| GSP         | P     | 22  | 35 | 28.5    |     | 1.9  |     | 5.59 | 220 |      |           |
| OMZ         | i     |     |    | 43.0    |     |      |     |      |     |      |           |
|             | eP    | 22  | 35 | 31.8    |     | 0.6  |     | 5.94 | 209 |      |           |
| CIZ         | e     |     |    | 41.4    |     |      |     |      |     |      |           |
|             | eS    |     |    | 36 36   |     | -2.5 |     |      |     |      |           |
| CIZ         | eP    | 22  | 35 | 51      |     | -0.8 |     | 7.42 | 125 |      |           |
|             | S     |     |    | 37 08.0 |     | -6.9 |     |      |     |      |           |
| AMPLITUDES: |       | WEL |    | 16      |     | TUA  |     | 4.7  |     | KRP  | 22        |
|             |       | WTZ |    | 7.7     |     | GNZ  |     | 6.0  |     | ECZ  | 2.7       |
|             |       | KAI |    | 0.8     |     | GPZ  | 3.5 |      |     | MJZ  | 1.7 2.9   |
|             |       | CIZ |    | 0.4     | 1.5 |      |     |      |     |      |           |

FELT: Central and southern parts of the North Island. Maximum intensity MM V in the Wanganui district (57)

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FEB 03 07<sup>h</sup>01<sup>m</sup>24<sup>s</sup>.5 37°.47S 177°.37E 145 km M = 4.1  
 ± 1.2 0.05 0.07 9 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| WTZ | P     | 07 | 01 | 45.4 |     | -0.5 | 100 | 0.60 | 210 |     | 3.9 4.1 |



|             |     |            |      |     |      |     |      |     |
|-------------|-----|------------|------|-----|------|-----|------|-----|
|             | S   | 02 01.0    | -1.4 | 100 |      |     |      |     |
| ECZ         | P   | 07 01 48.1 | -0.4 | 100 | 0.96 | 104 | 4.1  |     |
|             | e   | 02 13.2    |      |     |      |     |      |     |
| GNZ         | P   | 07 01 52.0 | 0.3  | 100 | 1.29 | 157 | 4.4  |     |
|             | S   | 02 12.0    | -0.5 | 100 |      |     |      |     |
| TUA         | S   | 07 02 14.6 | 0.9  | 100 | 1.35 | 187 | 4.2  |     |
| KRP         | P   | 07 01 54.8 | 0.5  | 100 | 1.52 | 252 | 3.6* |     |
|             | S   | 02 17.3    | 0.3  | 100 |      |     |      |     |
| TRZ         | S   | 07 02 31.0 | 1.8  | 99  | 2.13 | 191 | 4.1  |     |
| AUC         | P   | 07 02 01.5 | -0.1 | 100 | 2.16 | 285 |      |     |
| CNZ         | P   | 07 02 03.8 | 1.1  | 100 | 2.25 | 219 | 3.9  |     |
| WEL         | eS  | 07 03 17   | -2.8 | 96  | 4.32 | 207 | 4.2  |     |
| AMPLITUDES: | WTZ | 4.1        | 7.8  | ECZ | 2.3  | GNZ | 7.5  |     |
|             | TUA |            | 1.7  | KRP | 3.2  | TRZ |      | 1.6 |
|             | CNZ | 2.2        |      | WEL | 0.3  |     |      |     |

FEB 03 11<sup>h</sup>01<sup>m</sup>03<sup>s</sup>.9 37°.95S 177°.48E 54 km 77/ 064  
 $\pm 1.1$  0.05 0.05 12 S.E. of RES. 1.7 M = 3.9

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|---|---|
| WTZ         | P     | 11 | 01 | 14.2 | D   | -0.6 | 100 | 0.39 | 265 |     |      |      |   |   |
|             | S     |    |    | 22.3 |     | -0.6 | 100 |      |     |     |      |      |   |   |
| GNZ         | P     | 11 | 01 | 18.0 |     | -1.7 | 100 | 0.81 | 148 |     | 3.3  |      |   |   |
|             | S     |    |    | 30.4 |     | -1.0 | 100 |      |     |     |      |      |   |   |
| ECZ         | P     | 11 | 01 | 19.0 |     | -1.6 | 100 | 0.88 | 73  |     | 3.8  | 4.1  |   |   |
|             | S     |    |    | 35.9 |     | 2.9  | 98  |      |     |     |      |      |   |   |
| TUA         | P     | 11 | 01 | 20.9 |     | 0.2  | 100 | 0.89 | 197 |     | 4.0  | 3.8  |   |   |
|             | i     |    |    | 22.4 |     |      |     |      |     |     |      |      |   |   |
|             | eS    |    |    | 34.3 |     | 1.1  | 100 |      |     |     |      |      |   |   |
| KRP         | P     | 11 | 01 | 29.0 |     | -0.5 | 100 | 1.54 | 270 |     | 3.2* | 3.2* |   |   |
|             | S     |    |    | 50.0 |     | 1.2  | 100 |      |     |     |      |      |   |   |
| TRZ         | P     | 11 | 01 | 30.0 |     | -1.5 | 100 | 1.68 | 198 |     | 4.2  | 3.8  |   |   |
|             | e     |    |    | 35.2 |     |      |     |      |     |     |      |      |   |   |
|             | i     |    |    | 42.8 |     |      |     |      |     |     |      |      |   |   |
|             | eS    |    |    | 54   |     | 1.9  | 99  |      |     |     |      |      |   |   |
| CNZ         | P     | 11 | 01 | 35.2 |     | -0.2 |     | 1.96 | 230 |     | 4.0  |      |   |   |
|             | i     |    |    | 37.2 |     |      |     |      |     |     |      |      |   |   |
|             | eS    |    | 02 | 02   |     | 3.2  |     |      |     |     |      |      |   |   |
|             | e     |    |    | 08.5 |     |      |     |      |     |     |      |      |   |   |
| TNZ         | P     | 11 | 01 | 49.0 |     | 2.7  |     | 2.73 | 242 |     | 3.5* |      |   |   |
| WEL         | e     | 11 | 02 | 11   |     |      |     | 3.93 | 211 | 4.1 |      |      |   |   |
|             | eS    |    |    | 43.2 |     | -5.5 |     |      |     |     |      |      |   |   |
| AMPLITUDES: | GNZ   |    |    | 2.6  | ECZ |      | 2.3 | 5.0  | TUA |     | 3.8  | 2.3  |   |   |
|             | KRP   |    |    | 1.6  | 1.8 | TRZ  |     | 1.6  | 1.4 | CNZ |      | 4.5  |   |   |
|             | TNZ   |    |    | 0.4  |     | WEL  | 0.3 |      |     |     |      |      |   |   |

FEB 03 22<sup>h</sup>55<sup>m</sup>07<sup>s</sup>.1 40°.85S 178°.06E 33 km 77/ 065  
 $\pm 0.4$  0.03 0.04 R S.E. of RES. 1.4 M = 4.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| TUA | eP    | 22 | 55 | 40.0    |     | -0.2 | 100 | 2.16 | 341 |     | 4.1 | 4.4 |   |   |
|     | eS    |    |    | 56 03   |     | -2.1 | 99  |      |     |     |     |     |   |   |
| GNZ | P     | 22 | 55 | 40.2    |     | -0.6 | 100 | 2.21 | 359 |     | 3.8 | 4.1 |   |   |
|     | S     |    |    | 56 06.2 |     | 0.0  | 100 |      |     |     |     |     |   |   |
| WEL | eP    | 22 | 55 | 44.5    |     | -0.7 | 100 | 2.53 | 259 | 4.1 |     |     |   |   |
|     | S     |    |    | 56 13.2 |     | -0.6 | 100 |      |     |     |     |     |   |   |
| CNZ | eP    | 22 | 55 | 47.0    |     | 1.6  | 100 | 2.54 | 310 |     | 4.1 | 4.3 |   |   |

|             |     |       |         |      |     |      |     |     |     |
|-------------|-----|-------|---------|------|-----|------|-----|-----|-----|
|             | i   |       | 56.2    |      |     |      |     |     |     |
|             | S   |       | 56 16.5 | 2.3  | 99  |      |     |     |     |
| WTZ         | P   | 22 55 | 50      | -1.4 | 100 | 2.99 | 344 | 3.8 |     |
|             | e   |       | 56 23   |      |     |      |     |     |     |
| ECZ         | e   | 22 56 | 00      |      |     | 3.19 | 7   |     |     |
|             | e   |       | 35      |      |     |      |     |     |     |
| KRP         | eP  | 22 56 | 00      | 1.2  | 100 | 3.52 | 325 | 3.8 |     |
| KKY         | eP  | 22 55 | 57.1    | -3.1 | 96  | 3.63 | 243 |     |     |
|             | eS  |       | 56 40.5 | 0.1  | 100 |      |     |     |     |
| COB         | eP  | 22 56 | 05.8    | -0.1 | 100 | 4.04 | 265 | 4.6 | 4.3 |
|             | S   |       | 52.0    | 1.8  | 100 |      |     |     |     |
| GPZ         | S   | 22 57 | 10      | -1.4 | 100 | 4.92 | 233 | 4.3 |     |
| CIZ         | P   | 22 56 | 20.0    | 0.4  | 100 | 5.05 | 130 |     |     |
|             | S   |       | 57 15.0 | 0.6  | 100 |      |     |     |     |
| KAI         | eS  | 22 57 | 19      | -0.4 | 100 | 5.26 | 249 | 4.5 |     |
| MJZ         | eP  | 22 56 | 40      | 1.4  | 100 | 6.43 | 238 | 4.3 | 4.0 |
|             | S   |       | 57 47   | -0.8 | 100 |      |     |     |     |
| GSP         | eP  | 22 56 | 45      | 1.6  | 100 | 6.79 | 238 |     |     |
|             | S   |       | 57 56.5 | 0.2  | 100 |      |     |     |     |
| AMPLITUDES: |     |       |         |      |     |      |     |     |     |
|             | TUA |       | 0.8     | 1.9  | GNZ | 1.1  | 3.6 | WEL | 0.9 |
|             | CNZ |       | 8.2     | 19   | WTZ | 0.8  |     | KRP | 0.3 |
|             | COB |       | 1.5     | 2.6  | GPZ | 0.6  |     | CIZ | 1.7 |
|             | KAI | 0.5   |         |      | MJZ | 0.8  | 0.8 |     | 1.8 |

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FEB 04 14<sup>h</sup>35<sup>m</sup>48<sup>s</sup>.7 40°.46S 173°.70E 197 km M = 4.4  
 ± 0.9 0.05 0.08 7 S.E. of RES. 1.5

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|------|-----------|
| COB | iP    | 14 36 | 17.9    |   | U   | -0.1 | 100 | 0.96 | 229 |      | 4.3* 3.8* |
|     | e     |       | 36.0    |   |     |      |     |      |     |      |           |
|     | eS    |       | 41      |   |     | 0.2  | 100 |      |     |      |           |
| WEL | iP    | 14 36 | 21.9    |   | DSE | 2.4  | 99  | 1.16 | 136 | 4.5  |           |
|     | eS    |       | 45      |   |     | 1.7  | 100 |      |     |      |           |
| TNZ | e     | 14 36 | 28      |   |     |      |     | 1.38 | 23  |      | 3.4*      |
|     | eS    |       | 46      |   |     | -0.5 | 100 |      |     |      |           |
|     | e     |       | 58      |   |     |      |     |      |     |      |           |
| CNZ | iP    | 14 36 | 26.0    |   | D   | -0.3 | 100 | 1.90 | 49  |      | 4.3 4.9   |
|     | eS    |       | 53      |   |     | -2.4 | 99  |      |     |      |           |
| KKY | eP    | 14 36 | 28      |   |     | 1.1  | 100 | 1.96 | 180 |      |           |
|     | e     |       | 49.5    |   |     |      |     |      |     |      |           |
|     | eS    |       | 55.5    |   |     | -0.9 | 100 |      |     |      |           |
|     | e     |       | 58      |   |     |      |     |      |     |      |           |
| TRZ | P     | 14 36 | 34      |   |     | 0.5  | 100 | 2.56 | 70  |      |           |
|     | e     |       | 43      |   |     |      |     |      |     |      |           |
|     | e     |       | 52      |   |     |      |     |      |     |      |           |
| KAI | eP    | 14 36 | 34      |   |     | -1.0 | 100 | 2.69 | 219 | 3.7* |           |
|     | e     |       | 37 07   |   |     |      |     |      |     |      |           |
| KRP | eP    | 14 36 | 39      |   |     | 1.4  | 100 | 2.91 | 30  |      | 2.8* 3.0* |
|     | e     |       | 51      |   |     |      |     |      |     |      |           |
|     | e     |       | 37 11   |   |     |      |     |      |     |      |           |
|     | e     |       | 30      |   |     |      |     |      |     |      |           |
| TUA | P     | 14 36 | 40.0    |   |     | -0.4 | 100 | 3.14 | 59  |      | 4.3 4.6   |
|     | e     |       | 49.0    |   |     |      |     |      |     |      |           |
|     | e     |       | 57      |   |     |      |     |      |     |      |           |
|     | eS    |       | 37 20   |   |     | -0.2 | 100 |      |     |      |           |
| GPZ | eP    | 14 36 | 44      |   |     | 1.3  | 100 | 3.33 | 193 | 4.1* |           |
|     | eS    |       | 37 21.5 |   |     | -2.8 | 98  |      |     |      |           |
| WTZ | e?    | 14 36 | 33.5    |   |     |      |     | 3.55 | 47  |      | 4.0       |

|             |     |            |     |     |      |     |      |    |         |
|-------------|-----|------------|-----|-----|------|-----|------|----|---------|
| e           | 37  | 04         |     |     |      |     |      |    |         |
| e           |     | 15         |     |     |      |     |      |    |         |
| eS          |     | 31         |     |     | 1.6  | 100 |      |    |         |
| GNZ         | P   | 14 36 48.1 |     |     | -0.5 | 100 | 3.81 | 63 | 4.1 4.5 |
| eS          |     | 37 33      |     |     | -1.9 | 99  |      |    |         |
| AMPLITUDES: | COB | 7.6        | 8.3 | WEL | 3.4  |     | TNZ  |    | 0.7     |
|             | CNZ | 6.7        | 27  | KAI | 0.8  |     | KRP  |    | 0.3 0.5 |
|             | TUA | 0.6        | 1.2 | GPZ | 2.5  |     | WTZ  |    | 0.5     |
|             | GNZ | 0.6        | 2.5 |     |      |     |      |    |         |

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FEB 05    11<sup>h</sup>03<sup>m</sup>23<sup>s</sup>.2    31°.85s    179°.80w    503 km    M = 4.7

S.E. of RES. 1.4

± 1.7    0.18    0.42    25

| STN         | PHASE | H  | M  | S  | DIR | RES  | WT  | DIST  | AZ  | W-A | W   | P   | W    | S   |
|-------------|-------|----|----|----|-----|------|-----|-------|-----|-----|-----|-----|------|-----|
| ECZ         | eP    | 11 | 05 | 02 |     | 1.4  | 100 | 5.99  | 193 |     |     |     |      | 4.8 |
|             | eS    |    | 06 | 20 |     | 2.3  | 99  |       |     |     |     |     |      |     |
| WTZ         | eP    | 11 | 05 | 06 |     | -1.2 | 100 | 6.67  | 202 |     | 4.7 |     | 4.7  |     |
|             | eS    |    | 06 | 29 |     | -0.6 | 100 |       |     |     |     |     |      |     |
| GNZ         | eP    | 11 | 05 | 10 |     | -0.6 | 100 | 7.01  | 194 |     | 4.5 |     | 4.7  |     |
|             | eS    |    | 06 | 34 |     | -1.9 | 99  |       |     |     |     |     |      |     |
| KRP         | eP    | 11 | 05 | 13 |     | 0.7  | 100 | 7.17  | 211 |     |     |     |      |     |
| TUA         | eP    | 11 | 05 | 14 |     | -0.3 | 100 | 7.38  | 199 |     |     |     | 4.8  |     |
|             | eS    |    | 06 | 42 |     | -0.6 | 100 |       |     |     |     |     |      |     |
| TRZ         | eS    | 11 | 06 | 57 |     | -0.4 | 100 | 8.17  | 199 |     |     |     | 4.7  |     |
| WEL         | eS    | 11 | 07 | 41 |     | 1.2  | 100 | 10.39 | 203 |     |     |     |      |     |
| COB         | eS    | 11 | 07 | 52 |     | 0.1  | 100 | 11.01 | 211 |     |     |     | 3.2* |     |
| AMPLITUDES: | ECZ   |    |    |    | 0.4 | WTZ  |     | 0.6   | 0.7 | GNZ |     | 0.4 | 1.0  |     |
|             | TUA   |    |    |    | 0.3 | TRZ  |     |       | 0.4 | COB |     |     | 0.3  |     |

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FEB 05    13<sup>h</sup>15<sup>m</sup>07<sup>s</sup>.5    38°.71s    177°.98E    12 km    M = 3.9

S.E. of RES. 1.6

± 0.6    0.03    0.04    R

| STN         | PHASE | H  | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| GNZ         | iPg!  | 13 | 15  | 11.0  |     | 0.8  | 100 | 0.07 | 30  |     |     |     |     |   |
| TUA         | iP*   | 13 | 15  | 20.7  | U   | 0.8  | 100 | 0.66 | 261 |     | 4.0 |     | 4.3 |   |
|             | Sg    |    |     | 31.7  |     | 1.8  | 100 |      |     |     |     |     |     |   |
| WTZ         | iP*   | 13 | 15  | 25.0  | U   | -1.8 | 100 | 1.06 | 313 |     | 4.2 |     | 4.1 |   |
|             | S*    |    |     | 39.3  |     | -1.7 | 100 |      |     |     |     |     |     |   |
| ECZ         | P*    | 13 | 15  | 26    |     | -1.6 | 100 | 1.11 | 24  |     | 3.7 |     | 3.7 |   |
|             | e     |    |     | 37    |     |      |     |      |     |     |     |     |     |   |
|             | eSg   |    |     | 46.5  |     | 1.5  | 100 |      |     |     |     |     |     |   |
| TRZ         | eP*   | 13 | 15  | 29    |     | -0.7 | 100 | 1.23 | 226 |     | 3.6 |     | 3.5 |   |
|             | ePg   |    |     | 34    |     | 1.4  | 100 |      |     |     |     |     |     |   |
|             | e     |    |     | 59    |     |      |     |      |     |     |     |     |     |   |
| WNZ         | ePg   | 13 | 15  | 36    |     | -1.3 | 100 | 1.47 | 272 |     | 4.0 |     | 3.8 |   |
|             | e     |    |     | 16 03 |     |      |     |      |     |     |     |     |     |   |
| KRP         | P*    | 13 | 15  | 46.1  |     | 2.0  | 99  | 2.07 | 291 |     | 3.9 |     |     |   |
| WEL         | eSn   | 13 | 16  | 41    |     | -1.6 | 100 | 3.56 | 223 |     |     |     |     |   |
| CIZ         | eSn   | 13 | 17  | 57    |     | 0.0  | 100 | 6.66 | 144 |     |     |     |     |   |
| AMPLITUDES: | TUA   |    | 8.1 | 16    | WTZ |      | 15  | 11   | ECZ |     | 0.9 | 1.0 |     |   |
|             | TRZ   |    | 1.0 | 1.2   | WNZ |      | 0.3 | 0.3  | KRP |     |     | 1.2 |     |   |
|             | CIZ   |    |     | 0.3   |     |      |     |      |     |     |     |     |     |   |

FELT: Ormond (44) and Gisborne (45) MM IV



|             |       |                                                    |     |         |     |          |     |       |     |                  |         | 77/ 069 |
|-------------|-------|----------------------------------------------------|-----|---------|-----|----------|-----|-------|-----|------------------|---------|---------|
| FEB 05      |       | 13 <sup>h</sup> 39 <sup>m</sup> 38 <sup>s</sup> .4 |     | 41°.88S |     | 174°.54E |     | 12 km |     | M = 3.8          |         |         |
|             |       | ± 0.7                                              |     | 0.04    |     | 0.07     |     | R     |     | S.E. of RES. 1.7 |         |         |
| STN         | PHASE | H                                                  | M   | S       | DIR | RES      | WT  | DIST  | AZ  | W-A              | W P W S |         |
| WEL         | P*    | 13                                                 | 39  | 50.8    |     | 0.6      | 100 | 0.62  | 16  | 3.7              |         |         |
|             | eS*   |                                                    |     | 59      |     | 0.2      | 100 |       |     |                  |         |         |
| KKY         | eP*   | 13                                                 | 39  | 54.5    |     | 0.9      | 100 | 0.83  | 229 |                  |         |         |
|             | eS*   |                                                    |     | 40 07   |     | 2.2      | 99  |       |     |                  |         |         |
| COB         | Pn    | 13                                                 | 40  | 04.2    |     | -1.1     | 100 | 1.57  | 300 |                  | 4.3     | 3.4     |
|             | eP*   |                                                    |     | 06.5    |     | 0.1      | 100 |       |     |                  |         |         |
|             | eSn   |                                                    |     | 24      |     | -1.5     | 100 |       |     |                  |         |         |
| GPZ         | eSn   | 13                                                 | 40  | 40      |     | -2.7     | 99  | 2.29  | 217 | 3.4              |         |         |
| KAI         | e     | 13                                                 | 40  | 38      |     |          |     | 2.41  | 254 | 3.6              |         |         |
|             | e     |                                                    |     | 41 05   |     |          |     |       |     |                  |         |         |
| TNZ         | eSn   | 13                                                 | 40  | 54      |     | 1.4      | 100 | 2.70  | 357 |                  |         | 3.7     |
|             | eSg   |                                                    |     | 41 08.5 |     | -0.8     | 100 |       |     |                  |         |         |
| TRZ         | ePg   | 13                                                 | 40  | 36      |     | -1.2     | 100 | 2.91  | 37  |                  |         |         |
|             | eSn   |                                                    |     | 58      |     | 0.4      | 100 |       |     |                  |         |         |
| KRP         | eP*   | 13                                                 | 40  | 52      |     | 3.6      | 97  | 4.03  | 11  |                  | 4.1     | 4.2     |
|             | eS*   |                                                    |     | 41 40.5 |     | -0.4     | 100 |       |     |                  |         |         |
| GNZ         | eSn   | 13                                                 | 41  | 27      |     | -1.6     | 100 | 4.19  | 41  |                  |         |         |
| AMPLITUDES: |       | WEL                                                | 5.4 |         | COB | 4.7      | 2.2 | GPZ   | 0.3 |                  |         |         |
|             |       | KAI                                                | 0.3 |         | TNZ |          | 0.3 | KRP   |     | 0.4              | 0.4     |         |

|             |       |                                                    |     |         |     |          |     |       |     |                  |         | 77/ 070 |
|-------------|-------|----------------------------------------------------|-----|---------|-----|----------|-----|-------|-----|------------------|---------|---------|
| FEB 06      |       | 05 <sup>h</sup> 28 <sup>m</sup> 58 <sup>s</sup> .5 |     | 44°.67S |     | 167°.67E |     | 12 km |     | M = 3.8          |         |         |
|             |       | ± 1.0                                              |     | 0.04    |     | 0.08     |     | R     |     | S.E. of RES. 1.4 |         |         |
| STN         | PHASE | H                                                  | M   | S       | DIR | RES      | WT  | DIST  | AZ  | W-A              | W P W S |         |
| MSZ         | iP*   | 05                                                 | 29  | 01.2    | D   | -1.4     | 100 | 0.17  | 92  |                  |         |         |
| MNW         | iP*   | 05                                                 | 29  | 17.9    | U   | -0.8     | 100 | 1.12  | 182 | 3.8              | 3.9     | 3.8     |
|             | eS*   |                                                    |     | 35      |     | 1.3      | 100 |       |     |                  |         |         |
| ROX         | iPn   | 05                                                 | 29  | 24.0    | U   | 0.6      | 100 | 1.42  | 125 |                  | 4.1     | 4.0     |
|             | eSn   |                                                    |     | 44      |     | 1.9      | 99  |       |     |                  |         |         |
| GSP         | iP*   | 05                                                 | 29  | 30.8    | U   | 1.0      | 100 | 1.76  | 73  |                  |         |         |
|             | eS*   |                                                    |     | 53      |     | -0.0     | 100 |       |     |                  |         |         |
| MJZ         | Pn    | 05                                                 | 29  | 33.0    |     | 0.1      | 100 | 2.12  | 72  |                  | 3.8     | 3.8     |
|             | P*    |                                                    |     | 36.0    |     | 0.2      | 100 |       |     |                  |         |         |
|             | eS*   |                                                    |     | 30 02   |     | -1.6     | 100 |       |     |                  |         |         |
| OBZ         | Pn    | 05                                                 | 29  | 35.7    |     | 0.8      | 100 | 2.26  | 172 |                  |         |         |
|             | eS*   |                                                    |     | 30 06   |     | -2.0     | 99  |       |     |                  |         |         |
| OMZ         | Pn    | 05                                                 | 29  | 36.0    |     | 0.0      | 100 | 2.34  | 101 |                  | 3.8     | 3.6     |
|             | eS*   |                                                    |     | 30 11   |     | 0.6      | 100 |       |     |                  |         |         |
| KAI         | eS*   | 05                                                 | 30  | 45.5    |     | 1.7      | 100 | 3.46  | 53  | 4.1              |         |         |
| GPZ         | Pg    | 05                                                 | 30  | 11.2    |     | -2.3     | 99  | 3.71  | 77  | 3.8              |         |         |
|             | e     |                                                    |     | 55      |     |          |     |       |     |                  |         |         |
| AMPLITUDES: |       | MNW                                                | 2.5 | 6.0     | 9.5 | ROX      | 3.5 | 7.5   | MJZ | 2.3              | 4.7     |         |
|             |       | OMZ                                                | 0.6 | 0.8     | KAI | 0.4      |     |       | GPZ | 0.3              |         |         |

|        |       |                                                    |    |         |     |          |     |        |     |                  |         | 77/ 071 |
|--------|-------|----------------------------------------------------|----|---------|-----|----------|-----|--------|-----|------------------|---------|---------|
| FEB 06 |       | 15 <sup>h</sup> 16 <sup>m</sup> 39 <sup>s</sup> .2 |    | 40°.41S |     | 173°.51E |     | 138 km |     | M = 4.4          |         |         |
|        |       | ± 0.7                                              |    | 0.04    |     | 0.07     |     | 9      |     | S.E. of RES. 1.4 |         |         |
| STN    | PHASE | H                                                  | M  | S       | DIR | RES      | WT  | DIST   | AZ  | W-A              | W P W S |         |
| WEL    | iP    | 15                                                 | 17 | 07.9    | UNW | 2.0      | 99  | 1.30   | 133 | 4.9              |         |         |
|        | e     |                                                    |    | 18      |     |          |     |        |     |                  |         |         |
|        | eS    |                                                    |    | 26      |     | -0.3     | 100 |        |     |                  |         |         |

|             |     |              |      |         |      |     |           |
|-------------|-----|--------------|------|---------|------|-----|-----------|
| TNZ         | e   | 15 17 09.3   |      |         | 1.39 | 29  |           |
|             | eS  | 28.5         | 0.2  | 100     |      |     |           |
| MNG         | iP? | 15 17 10.1   | 1.7  | 100     | 1.52 | 98  |           |
| KKY         | P   | 15 17 15.4   | 1.3  | 100     | 2.01 | 176 |           |
|             | e   | 33.5         |      |         |      |     |           |
|             | S   | 39.4         | -1.2 | 100     |      |     |           |
| KAI         | eP  | 15 17 24     | 1.9  | 99      | 2.64 | 216 | 3.8*      |
|             | S   | 52.8         | -2.0 | 99      |      |     |           |
| TRZ         | P   | 15 17 22.9   | 0.1  | 100     | 2.68 | 72  | 4.3 4.4   |
|             | eS  | 57           | 1.1  | 100     |      |     |           |
| KRP         | P   | 15 17 26.7   | 0.6  | 100     | 2.94 | 33  | 3.4* 3.5* |
|             | eS  | 18 01        | -0.8 | 100     |      |     |           |
|             | e   | 15           |      |         |      |     |           |
| TUA         | P   | 15 17 30.1   | 0.1  | 100     | 3.24 | 61  | 4.3 4.5   |
|             | e   | 32           |      |         |      |     |           |
|             | e   | 39.5         |      |         |      |     |           |
|             | eS  | 18 09        | 0.3  | 100     |      |     |           |
| GPZ         | eP  | 15 17 30     | -1.4 | 100     | 3.35 | 191 | 4.4*      |
|             | e   | 18 05.9      |      |         |      |     |           |
| WTZ         | P   | 15 17 35.7   | 0.5  | 100     | 3.64 | 49  | 3.9 4.2   |
|             | eS  | 18 17.5      | -0.6 | 100     |      |     |           |
| GNZ         | P   | 15 17 37.9 U | -1.0 | 100     | 3.91 | 65  | 4.4 4.9   |
|             | eS  | 18 22        | -2.7 | 98      |      |     |           |
| AMPLITUDES: | WEL | 13           | KAI  | 1.1     | TRZ  | 0.8 | 2.1       |
|             | KRP | 1.2 1.7      | TUA  | 0.6 1.0 | GPZ  | 5.5 |           |
|             | WTZ | 0.4 1.0      | GNZ  | 1.3 6.0 |      |     |           |

FELT: Both sides of Cook Strait

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FEB 06    18<sup>h</sup>17<sup>m</sup>01<sup>s</sup>.7    37°.95s    179°.26E    12 km    M = 3.9

± 0.6    0.03    0.04    R    S.E. of RES. 1.1

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P*    | 18 17 | 12.9    |   |     | -0.5 | 100 | 0.62 | 295 |     | 3.6 | 3.7 |
|     | e     |       | 13.3    |   |     |      |     |      |     |     |     |     |
|     | Pg    |       | 15.7    |   |     | 1.3  | 100 |      |     |     |     |     |
|     | S*    |       | 21.8    |   |     | -0.1 | 100 |      |     |     |     |     |
|     | eSg   |       | 25      |   |     | 2.1  | 98  |      |     |     |     |     |
| GNZ | iPn   | 18 17 | 23.8    |   | U   | 0.3  | 100 | 1.19 | 234 |     | 3.6 | 3.7 |
|     | e(Sg) |       | 42.5    |   |     | 0.5  | 100 |      |     |     |     |     |
|     | e     |       | 47.5    |   |     |      |     |      |     |     |     |     |
| WTZ | Pn    | 18 17 | 30.9    |   |     | -0.8 | 100 | 1.79 | 268 |     | 3.8 | 4.1 |
|     | iP*   |       | 32.0    |   |     | -1.5 | 99  |      |     |     |     |     |
|     | Pg    |       | 39.0    |   |     | 1.0  | 100 |      |     |     |     |     |
|     | e     |       | 46      |   |     |      |     |      |     |     |     |     |
|     | eSn   |       | 53      |   |     | -1.1 | 100 |      |     |     |     |     |
| TUA | ePn   | 18 17 | 33.5    |   |     | 0.9  | 100 | 1.86 | 242 |     | 3.7 | 3.8 |
|     | eSn   |       | 56      |   |     | 0.2  | 100 |      |     |     |     |     |
| TRZ | ePn   | 18 17 | 41      |   |     | -0.1 | 100 | 2.48 | 229 |     | 4.0 | 4.3 |
|     | S*    |       | 18 18.0 |   |     | 0.1  | 100 |      |     |     |     |     |
| KRP | Pn    | 18 17 | 47.0    |   |     | -0.3 | 100 | 2.94 | 269 |     | 4.3 | 4.5 |
|     | eSn   |       | 18 20   |   |     | -1.8 | 99  |      |     |     |     |     |
| MNG | Pn    | 18 17 | 59.7    |   |     | -1.5 | 99  | 3.96 | 227 |     | 3.8 | 3.9 |
|     | eSn   |       | 18 46   |   |     | -0.2 | 100 |      |     |     |     |     |
| WEL | eSn   | 18 19 | 07      |   |     | 0.4  | 100 | 4.81 | 225 | 4.2 |     |     |
| CIZ | e     | 18 18 | 43      |   |     |      |     | 6.78 | 154 |     |     |     |
|     | eSn   |       | 19 55   |   |     | 1.0  | 100 |      |     |     |     |     |

AMPLITUDES: ECZ    2.2 3.2    GNZ    2.5 4.5    WTZ    2.0 3.6

|             |                                                    |     |    |         |     |          |     |       |         |          |     |     |     |
|-------------|----------------------------------------------------|-----|----|---------|-----|----------|-----|-------|---------|----------|-----|-----|-----|
|             |                                                    | TUA |    | 0.5     | 0.7 | TRZ      |     | 0.6   | 1.7     | KRP      |     | 1.3 | 1.8 |
|             |                                                    | MNG |    | 0.7     | 1.2 | WEL      | 0.3 |       |         | CIZ      |     | 0.4 | 1.0 |
|             |                                                    |     |    |         |     |          |     |       |         |          |     | 77/ | 073 |
| FEB 06      | 19 <sup>h</sup> 13 <sup>m</sup> 32 <sup>s</sup> .6 |     |    | 40°.12s |     | 176°.62E |     | 12 km |         | M = 3.8  |     |     |     |
|             | ± 0.9                                              |     |    | 0.05    |     | 0.06     |     | R     | S.E. of | RES. 1.8 |     |     |     |
| STN         | PHASE                                              | H   | M  | S       | DIR | RES      | WT  | DIST  | AZ      | W-A      | W P | W S |     |
| TRZ         | iP*                                                | 19  | 13 | 40.7    | U   | -3.0     | 99  | 0.58  | 15      |          |     |     |     |
| MNG         | iP*!                                               | 19  | 13 | 53.7    |     | 2.9      | 99  | 1.00  | 240     |          |     |     |     |
| TUA         | ?                                                  | 19  | 13 | 51.8    |     |          |     | 1.38  | 18      |          | 3.9 | 3.9 |     |
|             | ePg                                                |     |    | 59.5    |     | -0.9     | 100 |       |         |          |     |     |     |
|             | eSg                                                |     | 14 | 21      |     | 2.0      | 100 |       |         |          |     |     |     |
| WEL         | eSn                                                | 19  | 14 | 26      |     | 0.2      | 100 | 1.83  | 230     |          |     |     |     |
| GNZ         | Pn                                                 | 19  | 14 | 03      |     | -0.1     | 100 | 1.84  | 37      |          | 4.0 | 3.8 |     |
|             | e                                                  |     |    | 12      |     |          |     |       |         |          |     |     |     |
|             | eSg                                                |     |    | 35      |     | 0.6      | 100 |       |         |          |     |     |     |
| TNZ         | Pg                                                 | 19  | 14 | 10.8    |     | -1.5     | 100 | 1.96  | 298     |          | 3.8 | 3.6 |     |
|             | eSg                                                |     |    | 39      |     | 0.2      | 100 |       |         |          |     |     |     |
| WTZ         | eP*                                                | 19  | 14 | 09      |     | -1.5     | 100 | 2.15  | 8       |          | 3.9 | 3.7 |     |
|             | Pg                                                 |     |    | 16.2    |     | 0.1      | 100 |       |         |          |     |     |     |
|             | eSg                                                |     |    | 47      |     | 1.8      | 100 |       |         |          |     |     |     |
| KRP         | P*                                                 | 19  | 14 | 13.0    |     | -0.8     | 100 | 2.35  | 339     |          | 3.8 |     |     |
|             | e                                                  |     |    | 47      |     |          |     |       |         |          |     |     |     |
| AMPLITUDES: | TUA                                                |     |    | 1.5     | 1.4 | GNZ      |     | 2.5   | 2.5     | TNZ      |     | 0.5 | 0.5 |
|             | WTZ                                                |     |    | 1.8     | 0.9 | KRP      |     | 0.6   |         |          |     |     |     |

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|-------------|-------|----------------------------------------------------|----|---------|-----|----------|---------|--------|-----|------------------|-----------|
| FEB 07      |       | 03 <sup>h</sup> 13 <sup>m</sup> 34 <sup>s</sup> .2 |    | 37°.35S |     | 177°.13E |         | 176 km |     | M = 3.8          |           |
|             |       | ± 0.8                                              |    | 0.03    |     | 0.04     |         | 5      |     | S.E. of RES. 0.9 |           |
| STN         | PHASE | H                                                  | M  | S       | DIR | RES      | WT      | DIST   | AZ  | W-A              | W P W S   |
| WITZ        | iP    | 03                                                 | 13 | 58.8    | D   | -0.5     | 100     | 0.65   | 190 |                  | 3.9 3.5   |
|             | eS    |                                                    |    | 14 18   |     | -0.7     | 100     |        |     |                  |           |
| ECZ         | P     | 03                                                 | 14 | 03.2    |     | 0.1      | 100     | 1.18   | 107 |                  | 4.0 3.6   |
|             | e     |                                                    |    | 06.1    |     |          |         |        |     |                  |           |
|             | S     |                                                    |    | 25.8    |     | 0.4      | 100     |        |     |                  |           |
| KRP         | P     | 03                                                 | 14 | 06.3    |     | 1.3      | 99      | 1.39   | 245 |                  | 2.9* 2.5* |
|             | eS    |                                                    |    | 29      |     | 0.2      | 100     |        |     |                  |           |
| TUA         | eS    | 03                                                 | 14 | 31      |     | 1.1      | 99      | 1.46   | 179 |                  | 3.9       |
| GNZ         | P     | 03                                                 | 14 | 06.5    |     | 0.7      | 100     | 1.48   | 152 |                  | 3.9 4.0   |
|             | S     |                                                    |    | 28.9    |     | -1.3     | 99      |        |     |                  |           |
| GBZ         | iP    | 03                                                 | 14 | 07.6    | U   | -0.9     | 100     | 1.75   | 310 |                  |           |
| MNG         | P     | 03                                                 | 14 | 29.7    |     | 0.1      | 100     | 3.51   | 201 |                  | 3.8 3.6   |
|             | eS    |                                                    |    | 15 13   |     | 0.6      | 100     |        |     |                  |           |
| WEL         | eS    | 03                                                 | 15 | 30      |     | -1.3     | 99      | 4.34   | 204 | 4.2              |           |
| COB         | eS    | 03                                                 | 15 | 48      |     | -0.1     | 100     | 5.06   | 221 |                  | 2.8*      |
| AMPLITUDES: |       | WTZ                                                |    | 2.5 1.2 | ECZ |          | 1.1 0.4 | KRP    |     | 0.7 0.3          |           |
|             |       | TUA                                                |    | 0.7     | GNZ |          | 1.6 3.6 | GBZ    |     | 3.7              |           |
|             |       | MNG                                                |    | 0.9 0.8 | WEL | 0.3      |         | COB    |     |                  | 0.3       |

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 FEB 07 11<sup>h</sup>14<sup>m</sup>58<sup>s</sup>.6 32°.37s 179°.25w 660 km M = 5.0  
 ± 3.2 0.48 1.12 63 S.E. of RES. 2.3  
 STN PHASE H M S DIR RES WT DIST AZ W-A W P W S  
 ECZ eP 11 16 41 1.0 100 5.62 198 4.9 5.1  
 e 17 14  
 e 38



|             |    |             |             |             |         |
|-------------|----|-------------|-------------|-------------|---------|
| WTZ         | eP | 11 16 44    | -2.3 100    | 6.40 208    | 5.6 5.0 |
|             | e  | 45.3        |             |             |         |
|             | e  | 17 30       |             |             |         |
| GNZ         | P  | 11 16 49.3  | 0.9 100     | 6.65 199    | 5.2 4.5 |
|             | e  | 17 44       |             |             |         |
|             | eS | 18 13       | -2.9 99     |             |         |
| KRP         | P  | 11 16 51.9  | 0.5 100     | 7.00 216    | 3.7*    |
| TUA         | eP | 11 16 52    | -0.0 100    | 7.06 204    | 4.9 4.9 |
|             | e  | 17 41       |             |             |         |
|             | eS | 18 24       | 1.8 100     |             |         |
| TRZ         | e  | 11 17 09    |             | 7.85 203    | 5.2 4.9 |
|             | eS | 18 37.5     | 3.0 99      |             |         |
| MNG         | P  | 11 17 11.7  | 0.2 100     | 9.26 206    | 5.0 4.6 |
|             | e  | 13.3        |             |             |         |
|             | eS | 18 56       | -1.9 100    |             |         |
| AMPLITUDES: |    | ECZ 0.4 0.6 | WTZ 4.0 1.0 | GNZ 1.7 0.6 |         |
|             |    | KRP 0.9     | TUA 0.3 0.3 | TRZ 0.5 0.5 |         |
|             |    | MNG 1.6 0.8 |             |             |         |

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FEB 08 16<sup>h</sup>21<sup>m</sup>53<sup>s</sup>.7 33°.63s 179°.38w 350 km M = 4.8

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M = 3.3

± 1.6 0.18 0.37 27 S.E. of RES. 1.5

| STN         | PHASE | H M S       | DIR         | RES         | WT | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|-------------|-------------|-------------|----|------|-----|-----|------|-----|
| ECZ         | P     | 16 23 08.1  |             | 0.8 100     |    | 4.40 | 202 |     | 4.6  | 4.7 |
|             | e     | 24 10       |             |             |    |      |     |     |      |     |
| WTZ         | ?     | 16 23 12.1  |             |             |    | 5.26 | 213 |     | 5.1  | 4.9 |
|             | P     | 15.2        |             | -1.5 100    |    |      |     |     |      |     |
|             | e     | 24 11.8     |             |             |    |      |     |     |      |     |
|             | S     | 21.3        |             | -0.6 100    |    |      |     |     |      |     |
| GNZ         | P     | 16 23 19.3  |             | 0.6 100     |    | 5.44 | 202 |     | 4.7  | 4.8 |
|             | eS    | 24 23       |             | -2.4 99     |    |      |     |     |      |     |
| TUA         | P     | 16 23 25.8  |             | 2.0 99      |    | 5.89 | 207 |     | 4.7  | 4.9 |
|             | eS    | 24 37       |             | 2.4 99      |    |      |     |     |      |     |
| KRP         | P     | 16 23 24.5  |             | -0.1 100    |    | 5.96 | 222 |     | 3.1* |     |
| TRZ         | eP    | 16 23 32    |             | -0.8 100    |    | 6.66 | 206 |     |      | 4.8 |
|             | eS    | 24 51       |             | 0.3 100     |    |      |     |     |      |     |
| MNG         | P     | 16 23 48.7  |             | -1.1 100    |    | 8.10 | 209 |     | 4.3  | 4.8 |
|             | eS    | 25 22       |             | 0.7 100     |    |      |     |     |      |     |
| WEL         | eS    | 16 25 39    |             | -0.6 100    |    | 8.95 | 210 | 4.8 |      |     |
| AMPLITUDES: |       | ECZ 0.5 0.6 | WTZ 2.5 1.8 | GNZ 1.2 2.0 |    |      |     |     |      |     |
|             |       | TUA 0.4 0.6 | KRP 0.3     | TRZ 0.8     |    |      |     |     |      |     |
|             |       | MNG 0.6 2.2 | WEL 0.3     |             |    |      |     |     |      |     |

FEB 09 10<sup>h</sup>01<sup>m</sup>57<sup>s</sup>.7 44°.64s 167°.79E 12 km M = 3.3

± 0.8 0.03 0.07 R S.E. of RES. 1.1

| STN | PHASE | H M S      | DIR | RES      | WT | DIST | AZ  | W-A | W P | W S |
|-----|-------|------------|-----|----------|----|------|-----|-----|-----|-----|
| MSZ | iPg   | 10 01 58.8 | D   | -1.8 99  |    | 0.09 | 106 |     |     |     |
|     | eSg   | 02 01      |     | -1.5 99  |    |      |     |     |     |     |
| MNW | P*    | 10 02 19.0 |     | 0.6 100  |    | 1.14 | 186 |     | 3.4 | 3.3 |
|     | eS*   | 35         |     | 1.3 100  |    |      |     |     |     |     |
| ROX | ePn   | 10 02 21.5 |     | -0.4 100 |    | 1.37 | 128 |     | 3.2 | 3.4 |
|     | eSn   | 41         |     | 1.0 100  |    |      |     |     |     |     |
| GSP | Pn    | 10 02 25.8 |     | -0.3 100 |    | 1.67 | 73  |     |     |     |
|     | eSn   | 47.5       |     | 0.1 100  |    |      |     |     |     |     |
| MJZ | ePn   | 10 02 30   |     | -1.0 100 |    | 2.03 | 72  |     | 3.5 | 3.1 |
|     | eP*   | 33         |     | -0.6 100 |    |      |     |     |     |     |

|             |     |            |      |     |      |     |     |     |
|-------------|-----|------------|------|-----|------|-----|-----|-----|
| OMZ         | eSn | 58         | 2.1  | 99  |      |     |     |     |
|             | Pn  | 10 02 33.3 | -0.8 | 100 | 2.27 | 102 | 3.5 | 3.2 |
|             | P*  | 38.0       | 0.4  | 100 |      |     |     |     |
| KAI         | eSn | 03 01      | -0.5 | 100 |      |     |     |     |
|             | eS* | 10 03 42   | 1.3  | 100 | 3.37 | 52  |     |     |
|             | ePn | 10 03 12   | -0.6 | 100 | 5.08 | 47  |     |     |
| COB         | eSn | 04 10      | 0.7  | 100 |      |     |     |     |
| AMPLITUDES: |     | MSZ        | 16   | 48  | MNW  | 1.7 | 3.0 | ROX |
|             |     | MJZ        | 1.4  | 1.0 | OMZ  | 0.4 | 0.4 |     |

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FEB 09 16<sup>h</sup>19<sup>m</sup>03<sup>s</sup>.5 36°.68S 178°.87E 176 km M = 5.7  
 ± 0.9 0.05 0.08 12 S.E. of RES. 1.5

| STN         | PHASE | H   | M    | S     | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|------|-------|-----|------|-----|-------|-----|------|------|------|
| ECZ         | iP    | 16  | 19   | 30.0  | U   | -1.3 | 100 | 1.04  | 194 |      |      |      |
| WTZ         | iP!   | 16  | 19   | 39.9  |     | -0.5 | 100 | 1.99  | 228 |      |      |      |
| GNZ         | iP    | 16  | 19   | 41.9  | SE  | 0.6  | 100 | 2.07  | 199 |      |      |      |
| TUA         | iP    | 16  | 19   | 46.8  | D   | 0.1  | 100 | 2.52  | 212 |      |      |      |
|             | e     |     |      | 48.6  |     |      |     |       |     |      |      |      |
|             | e     |     |      | 56    |     |      |     |       |     |      |      |      |
|             | eS    | 20  | 21.3 |       |     | 1.4  | 100 |       |     |      |      |      |
|             | e     |     |      | 33    |     |      |     |       |     |      |      |      |
| GBZ         | iP    | 16  | 19   | 48.6  | U   | -1.1 | 100 | 2.77  | 279 |      |      |      |
|             | eS    | 20  | 24.5 |       |     | -0.8 | 100 |       |     |      |      |      |
| KRP         | iP    | 16  | 19   | 52.6  | DNE | 0.9  | 100 | 2.93  | 244 |      | 4.9* | 4.6* |
|             | eS    | 20  | 28   |       |     | -0.8 | 100 |       |     |      |      |      |
| AUC         | P     | 16  | 19   | 58.4  |     | 2.3  | 99  | 3.29  | 266 |      |      |      |
| TRZ         | P     | 16  | 19   | 56.2  |     | -0.0 | 100 | 3.29  | 209 |      | 5.5  | 5.6  |
|             | eS    | 20  | 39   |       |     | 2.3  | 99  |       |     |      |      |      |
| CNZ         | iP    | 16  | 20   | 01.0  | D   | 0.5  | 100 | 3.64  | 225 |      | 5.7  |      |
| ONE         | P     | 16  | 20   | 03.0  |     | 1.0  | 100 | 3.75  | 283 | 4.2* |      |      |
|             | S     |     |      | 45.0  |     | -2.2 | 99  |       |     |      |      |      |
| TNZ         | eP    | 16  | 20   | 11.5  |     | 1.8  | 100 | 4.35  | 233 |      | 4.8* |      |
| MNG         | P     | 16  | 20   | 13.0  |     | -1.8 | 99  | 4.74  | 213 |      |      |      |
|             | e     |     |      | 15.0  |     |      |     |       |     |      |      |      |
| CRZ         | P     | 16  | 20   | 26.2  |     | 1.2  | 100 | 5.53  | 292 |      | 3.8* |      |
|             | e     |     |      | 21 07 |     |      |     |       |     |      |      |      |
| WEL         | eP    | 16  | 20   | 26    |     | -0.0 | 100 | 5.60  | 214 | 6.0  |      |      |
|             | e     |     |      | 48    |     |      |     |       |     |      |      |      |
|             | eS    |     |      | 21 28 |     | -2.0 | 99  |       |     |      |      |      |
| CIZ         | e     | 16  | 21   | 02.0  |     |      |     | 8.06  | 156 |      |      |      |
|             | eS    |     |      | 22 27 |     | -1.3 | 100 |       |     |      |      |      |
| GSP         | eP    | 16  | 21   | 24    |     | -0.4 |     | 10.04 | 219 |      |      |      |
|             | eS    |     |      | 23 12 |     | -3.0 |     |       |     |      |      |      |
| MNW         | eP    | 16  | 21   | 57    |     | 1.9  |     | 12.42 | 219 | 3.9* | 4.5* | 4.2* |
|             | eS    |     |      | 24 08 |     | -2.2 |     |       |     |      |      |      |
| AMPLITUDES: |       | GBZ | 13   | 12    | KRP | 41   | 20  | TRZ   | 7.7 | 19   |      |      |
|             |       | CNZ | 65   |       | ONE | 2.3  |     | TNZ   | 4.7 |      |      |      |
|             |       | CRZ | 0.6  |       | WEL | 11   |     | MNW   | 0.4 | 2.3  | 2.8  |      |

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FEB 10 08<sup>h</sup>32<sup>m</sup>35<sup>s</sup>.4 40°.06S 173°.86E 221 km M = 3.9  
 ± 1.5 0.06 0.08 9 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|-----|
| TNZ | e?    | 08 | 33 | 28   |     |      |     | 0.96 | 25  |     | 3.3* |     |
|     | S     |    |    | 33.7 |     | 1.8  | 99  |      |     |     |      |     |
| COB | iP!   | 08 | 33 | 09.4 |     | -0.5 | 100 | 1.34 | 220 |     | 3.2* |     |

## INSTRUMENTAL DATA

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|             |     |       |       |     |      |     |      |     |     |      |     |  |  |
|-------------|-----|-------|-------|-----|------|-----|------|-----|-----|------|-----|--|--|
|             | eS  |       | 35.5  |     | -1.1 | 100 |      |     |     |      |     |  |  |
| MNG         | iP  | 08 33 | 11.2  | U   | 1.2  | 100 | 1.36 | 115 |     | 3.8  | 4.0 |  |  |
|             | e   |       | 13    |     |      |     |      |     |     |      |     |  |  |
|             | e   |       | 32    |     |      |     |      |     |     |      |     |  |  |
|             | eS  |       | 37    |     | 0.1  | 100 |      |     |     |      |     |  |  |
| WEL         | eS  | 08 33 | 37    |     | -0.5 | 100 | 1.40 | 151 | 4.1 |      |     |  |  |
| CNZ         | P   | 08 33 | 12.5  |     | 0.8  | 100 | 1.57 | 57  |     | 3.7  | 4.4 |  |  |
|             | eS  |       | 39    |     | -0.8 | 100 |      |     |     |      |     |  |  |
| TRZ         | eS  | 08 33 | 55    |     | 1.9  | 99  | 2.34 | 78  |     |      | 3.9 |  |  |
| KRP         | eS  | 08 33 | 56    |     | -0.3 | 100 | 2.50 | 32  |     | 2.8* |     |  |  |
| WTZ         | eS  | 08 34 | 09    |     | -1.4 | 100 | 3.20 | 51  |     | 3.9  |     |  |  |
| GNZ         | eP  | 08 33 | 34    |     | 1.3  | 100 | 3.53 | 68  |     | 3.7  | 3.9 |  |  |
|             | eS  |       | 34 15 |     | -2.2 | 99  |      |     |     |      |     |  |  |
| AMPLITUDES: | TNZ |       | 0.4   | COB |      |     | 1.5  | MNG |     | 2.5  | 5.0 |  |  |
|             | WEL | 0.9   |       | CNZ |      |     | 1.6  | 10  | TRZ |      | 0.6 |  |  |
|             | KRP | 0.3   |       | WTZ |      | 0.4 |      | GNZ |     | 0.3  | 0.6 |  |  |

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FEB 11 08<sup>h</sup>32<sup>m</sup>04<sup>s</sup>.1 39°.88s 174°.01E 246 km M = 5.0  
 ± 1.0 0.06 0.09 . 11 S.E. of RES. 1.7

| STN         | PHASE | H     | M       | S   | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |  |
|-------------|-------|-------|---------|-----|-----|------|-----|------|-----|------|------|------|--|
| MNG         | iP!   | 08 32 | 43.5    |     |     | 2.4  | 99  | 1.35 | 124 |      |      |      |  |
| CNZ         | iP    | 08 32 | 42.4    |     | D   | 1.2  | 100 | 1.37 | 61  |      |      |      |  |
| WEL         | P     | 08 32 | 40      |     |     | -2.4 | 99  | 1.52 | 158 | 4.8  |      |      |  |
|             | eS    |       | 33 13   |     |     | 1.0  | 100 |      |     |      |      |      |  |
| COB         | iP!   | 08 32 | 44.2    |     |     | 1.6  | 100 | 1.55 | 219 |      | 4.8* | 4.1* |  |
|             | eS    |       | 33 12   |     |     | -0.5 | 100 |      |     |      |      |      |  |
| TRZ         | iP    | 08 32 | 50.4    |     | D   | 2.1  | 100 | 2.20 | 82  |      | 5.1  | 4.8  |  |
|             | eS    |       | 33 24   |     |     | 1.4  | 100 |      |     |      |      |      |  |
| KRP         | iP    | 08 32 | 49.0    |     | DSE | -0.2 | 100 | 2.29 | 32  |      | 4.2* |      |  |
| TUA         | iP    | 08 32 | 54.1    |     | D   | 1.1  | 100 | 2.66 | 67  |      | 5.2  | 4.9  |  |
|             | eS    |       | 33 32   |     |     | 0.9  | 100 |      |     |      |      |      |  |
| WTZ         | iP    | 08 32 | 56.0    |     | D   | -0.7 | 100 | 3.00 | 52  |      | 5.0  | 4.8  |  |
|             | eS    |       | 33 36   |     |     | -1.6 | 100 |      |     |      |      |      |  |
| AUC         | iP    | 08 32 | 57.9    |     | U   | 0.3  | 100 | 3.08 | 12  |      |      |      |  |
|             | e     |       | 33 03   |     |     |      |     |      |     |      |      |      |  |
| KAI         | eP    | 08 33 | 01      |     |     | 1.1  | 100 | 3.29 | 216 | 4.2* |      |      |  |
|             | eS    |       | 41      |     |     | -2.4 | 99  |      |     |      |      |      |  |
| GNZ         | iP    | 08 33 | 01.8    |     | D   | 1.2  | 100 | 3.35 | 70  |      |      | 5.1  |  |
|             | eS    |       | 43      |     |     | -1.5 | 100 |      |     |      |      |      |  |
| GBZ         | P     | 08 33 | 05.9    |     |     | -0.4 | 100 | 3.84 | 18  |      |      |      |  |
| GPZ         | eP    | 08 33 | 08.5    |     |     | 0.9  | 100 | 3.95 | 195 | 4.4* |      |      |  |
|             | eS    |       | 55      |     |     | -2.0 | 100 |      |     |      |      |      |  |
| ECZ         | P     | 08 33 | 10.3    |     |     | 0.1  | 100 | 4.17 | 60  |      | 5.4  | 5.2  |  |
|             | eS    |       | 58      |     |     | -3.6 | 97  |      |     |      |      |      |  |
| MSZ         | eP    | 08 33 | 39.7    |     |     | -0.5 |     | 6.59 | 221 |      | 4.3* | 3.9* |  |
|             | eS    |       | 34 54   |     |     | -1.3 |     |      |     |      |      |      |  |
| CIZ         | e     | 08 34 | 17      |     |     |      |     | 8.13 | 123 |      |      |      |  |
|             | eS    |       | 35 41   |     |     | 10.7 |     |      |     |      |      |      |  |
| AMPLITUDES: | WEL   | 4.4   |         | COB |     |      | 16  | 10   | TRZ |      | 4.5  | 5.0  |  |
|             | KRP   |       | 8.0     | TUA |     |      | 4.7 | 2.3  | WTZ |      | 5.7  | 4.0  |  |
|             | KAI   | 2.0   |         | GNZ |     |      |     | 11   | GPZ | 4.0  |      |      |  |
|             | ECZ   |       | 3.8 2.3 | MSZ |     |      | 4.6 | 3.7  | CIZ |      | 0.3  | 0.4  |  |

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FEB 12 02<sup>h</sup>00<sup>m</sup>41<sup>s</sup>.2 35°.36s 179°.65W 240 km M = 4.4  
 ± 2.0 0.13 0.24 35 S.E. of RES. 1.8



| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W   | S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|------|-----|-----|---|
| ECZ         | P     | 02  | 01 | 31.0  |     | 0.3  | 100 | 2.74 | 211 |     | 4.4  |     |     |   |
| WTZ         | iP    | 02  | 01 | 41.8  | U   | -0.4 | 100 | 3.76 | 225 |     | 4.7  | 4.3 |     |   |
|             | eS    |     |    | 02 27 |     | -2.7 | 99  |      |     |     |      |     |     |   |
| GNZ         | P     | 02  | 01 | 42.8  |     | 0.5  | 100 | 3.77 | 209 |     | 4.7  | 4.0 |     |   |
|             | eS    |     |    | 02 30 |     | 0.2  | 100 |      |     |     |      |     |     |   |
| GBZ         | P     | 02  | 01 | 43.8  |     | -1.9 | 100 | 4.05 | 256 |     |      |     |     |   |
| TUA         | P     | 02  | 01 | 50.9  |     | 2.3  | 99  | 4.29 | 216 |     | 4.7  | 4.4 |     |   |
|             | eS    |     |    | 02 43 |     | 2.1  | 99  |      |     |     |      |     |     |   |
| KRP         | eP    | 02  | 01 | 54    |     | 1.1  | 100 | 4.64 | 235 |     | 3.4* |     |     |   |
| MNG         | P     | 02  | 02 | 16.3  |     | 0.1  | 100 | 6.51 | 215 |     | 4.2  |     |     |   |
|             | e     |     |    | 34    |     |      |     |      |     |     |      |     |     |   |
|             | e     |     |    | 03 12 |     |      |     |      |     |     |      |     |     |   |
| CIZ         | eS    | 02  | 04 | 24    |     | -1.2 | 100 | 8.91 | 165 |     |      |     |     |   |
| AMPLITUDES: |       | ECZ |    | 0.7   |     | WTZ  |     | 2.1  | 1.0 | GNZ |      | 2.2 | 0.8 |   |
|             |       | TUA |    | 0.7   | 0.4 | KRP  |     | 0.8  |     | MNG |      | 0.7 |     |   |
|             |       | CIZ |    | 0.5   |     |      |     |      |     |     |      |     |     |   |

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FEB 12 03<sup>h</sup>27<sup>m</sup>55<sup>s</sup>.0 35°.91s 178°.08E 237 km M = 4.4  
 ± 1.4 0.07 0.10 10 S.E. of RES. 1.7

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W   | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|------|-----|-----|---|
| ECZ         | P     | 03  | 28 | 35.2    |     | 0.2  | 100 | 1.82 | 168 |     | 4.0  | 4.4 |     |   |
|             | e     |     |    | 38.0    |     |      |     |      |     |     |      |     |     |   |
|             | eS    |     |    | 29 05   |     | -0.9 | 100 |      |     |     |      |     |     |   |
| GBZ         | iP    | 03  | 28 | 38.0    | D   | -0.0 | 100 | 2.12 | 261 |     |      |     |     |   |
| WTZ         | P     | 03  | 28 | 39.0    |     | -0.0 | 100 | 2.25 | 203 |     | 4.1  | 4.2 |     |   |
|             | eS    |     |    | 29 13   |     | -0.2 | 100 |      |     |     |      |     |     |   |
| GNZ         | P     | 03  | 28 | 43.0    |     | -1.1 | 100 | 2.73 | 181 |     | 4.4  | 4.6 |     |   |
|             | S     |     |    | 29 20.2 |     | -2.0 | 99  |      |     |     |      |     |     |   |
| KRP         | eP    | 03  | 28 | 48      |     | 2.5  | 99  | 2.86 | 225 |     | 3.1* |     |     |   |
|             | e     |     |    | 51      |     |      |     |      |     |     |      |     |     |   |
| TUA         | eP    | 03  | 28 | 47      |     | 0.1  | 100 | 2.99 | 194 |     |      | 4.4 |     |   |
|             | eS    |     |    | 29 30   |     | -2.7 | 99  |      |     |     |      |     |     |   |
| TRZ         | eP    | 03  | 28 | 55.5    |     | -0.5 | 100 | 3.77 | 195 |     | 4.3  | 4.7 |     |   |
|             | S     |     |    | 29 45.8 |     | 2.5  | 99  |      |     |     |      |     |     |   |
| MNG         | eP    | 03  | 29 | 11      |     | -1.5 | 100 | 5.13 | 203 |     | 4.2  | 4.5 |     |   |
|             | eS    |     |    | 30 12   |     | -0.9 | 100 |      |     |     |      |     |     |   |
| WEL         | eS    | 03  | 30 | 30      |     | -1.7 | 100 | 5.96 | 205 | 4.5 |      |     |     |   |
| CIZ         | eS    | 03  | 31 | 43      |     | 1.2  | 100 | 9.03 | 155 |     |      |     |     |   |
| AMPLITUDES: |       | ECZ |    | 0.5     | 1.3 | WTZ  |     | 1.1  | 1.4 | GNZ |      | 1.8 | 4.8 |   |
|             |       | KRP |    | 0.6     |     | TUA  |     |      | 0.7 | TRZ |      | 0.3 | 1.9 |   |
|             |       | MNG |    | 1.2     | 2.9 | WEL  | 0.3 |      |     | CIZ |      |     | 0.4 |   |

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FEB 13 15<sup>h</sup>04<sup>m</sup>13<sup>s</sup>.0 37°.90s 179°.16E 12 km M = 3.9  
 ± 0.9 0.05 0.05 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| ECZ | P*?   | 15 | 04 | 24.0 |     | 0.9  | 100 | 0.52 | 293 |     | 3.7 |     |   |   |
|     | e     |    |    | 24.7 |     |      |     |      |     |     |     |     |   |   |
| GNZ | iP*   | 15 | 04 | 34.8 | U   | 0.8  | 100 | 1.16 | 230 |     | 3.6 | 3.5 |   |   |
|     | eSg   |    |    | 54   |     | 1.7  | 100 |      |     |     |     |     |   |   |
|     | e     |    |    | 57   |     |      |     |      |     |     |     |     |   |   |
| WTZ | Pn    | 15 | 04 | 40.3 |     | -1.6 | 100 | 1.72 | 267 |     | 4.0 |     |   |   |
| TUA | ePn   | 15 | 04 | 43   |     | -0.3 | 100 | 1.82 | 240 |     | 3.6 | 3.7 |   |   |
|     | P*    |    |    | 43.9 |     | -1.3 | 100 |      |     |     |     |     |   |   |

|             |     |            |      |         |      |     |         |
|-------------|-----|------------|------|---------|------|-----|---------|
|             | eS* | 05 09      | -0.2 | 100     |      |     |         |
| TRZ         | Pn  | 15 04 52.3 | 0.2  | 100     | 2.47 | 227 | 4.2 3.9 |
|             | eS* | 05 26      | -2.5 | 99      |      |     |         |
| KRP         | Pn  | 15 04 57.1 | -0.5 | 100     | 2.86 | 268 | 4.1     |
|             | eSn | 05 32      | 0.8  | 100     |      |     |         |
| CNZ         | iPn | 15 05 01.0 | 0.0  | 100     | 3.11 | 244 |         |
| GBZ         | e?  | 15 05 00   |      |         | 3.38 | 299 |         |
| MNG         | Pn  | 15 05 09.8 | -2.4 | 99      | 3.94 | 225 | 3.9 3.9 |
|             | Sn  | 59.8       | 2.8  | 99      |      |     |         |
| TNZ         | ePn | 15 05 13   | 0.4  | 100     | 3.96 | 250 |         |
| WEL         | eSn | 15 06 17   | -0.4 | 100     | 4.79 | 224 | 4.2     |
| CIZ         | ePn | 15 05 55   | 2.8  | 99      | 6.87 | 153 |         |
|             | eSn | 07 06      | -1.3 | 100     |      |     |         |
| AMPLITUDES: | ECZ | 3.8        | GNZ  | 2.7 2.8 | WTZ  | 3.2 |         |
|             | TUA | 0.4 0.6    | TRZ  | 1.0 0.8 | KRP  | 0.8 |         |
|             | MNG | 0.9 1.2    | WEL  | 0.3     | CIZ  |     | 0.6     |

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FEB 14 02<sup>h</sup>29<sup>m</sup>33<sup>s</sup>.6 44°.95S 168°.00E 33 km M = 4.1  
 $\pm 0.4$  0.02 0.04 R S.E. of RES. 1.2

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|---------|
| MSZ | iP*   | 02 29 | 41.4    |   | U   | 0.2  | 100 | 0.29 | 348 |     |         |
|     | eS*   |       | 47      |   |     | 0.4  | 100 |      |     |     |         |
| MNW | iPn   | 02 29 | 50.0    |   | U   | 1.0  | 100 | 0.87 | 198 | 3.9 |         |
|     | Sn    |       | 30 00.2 |   |     | -0.2 | 100 |      |     |     |         |
| ROX | P*    | 02 29 | 54.9    |   |     | 1.5  | 99  | 1.07 | 120 |     |         |
|     | eSn   |       | 30 06   |   |     | 0.7  | 100 |      |     |     |         |
| GSP | Pn    | 02 30 | 00.1    |   |     | 0.2  | 100 | 1.66 | 61  |     |         |
|     | eS*   |       | 23.5    |   |     | -1.9 | 99  |      |     |     |         |
| OBZ | Pn    | 02 30 | 01.9    |   |     | -1.9 | 99  | 1.95 | 178 |     |         |
|     | eSn   |       | 26      |   |     | -0.5 | 100 |      |     |     |         |
| MJZ | iPn   | 02 30 | 03.1    |   | U   | -1.6 | 99  | 2.02 | 62  | 3.7 | 4.1     |
|     | eSn   |       | 28      |   |     | 0.0  | 100 |      |     |     |         |
| OMZ | iPn   | 02 30 | 05.1    |   | U   | -0.3 | 100 | 2.07 | 94  | 4.6 | 4.0     |
|     | eSn   |       | 31      |   |     | 1.6  | 99  |      |     |     |         |
| KAI | eSn   | 02 31 | 04      |   |     | 1.1  | 100 | 3.46 | 47  | 4.1 |         |
| GPZ | eSn   | 02 31 | 04      |   |     | -1.2 | 100 | 3.56 | 71  | 4.0 |         |
| COB | ePn   | 02 30 | 49      |   |     | 0.9  | 100 | 5.20 | 44  | 4.1 | 4.0     |
|     | e     |       | 31 42   |   |     |      |     |      |     |     |         |
|     | eSn   |       | 44      |   |     | -0.4 | 100 |      |     |     |         |
|     | e     |       | 32 01   |   |     |      |     |      |     |     |         |

|             |     |         |     |     |     |     |    |
|-------------|-----|---------|-----|-----|-----|-----|----|
| AMPLITUDES: | MSZ | 40      | MNW | 6.0 | MJZ | 2.4 | 11 |
|             | OMZ | 5.0 2.7 | KAI | 0.4 | GPZ | 0.5 |    |
|             | COB | 0.3 0.8 |     |     |     |     |    |

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FEB 14 10<sup>h</sup>33<sup>m</sup>13<sup>s</sup>.9 36°.47S 177°.88E 270 km M = 4.6  
 $\pm 0.9$  0.05 0.08 8 S.E. of RES. 1.1

| STN | PHASE | H     | M     | S | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S |
|-----|-------|-------|-------|---|-----|------|-----|------|-----|------|---------|
| ECZ | P     | 10 33 | 53.0  |   |     | -0.2 | 100 | 1.32 | 157 | 4.5  | 4.2     |
|     | e     |       | 34 17 |   |     |      |     |      |     |      |         |
| GBZ | P     | 10 33 | 55.8  |   |     | -2.1 | 98  | 1.96 | 277 |      |         |
| GNZ | P     | 10 34 | 00.2  |   | US  | 0.4  | 100 | 2.17 | 177 | 4.6  | 4.8     |
|     | e     |       | 10    |   |     |      |     |      |     |      |         |
|     | e     |       | 30    |   |     |      |     |      |     |      |         |
|     | eS    |       | 35    |   |     | -0.4 | 100 |      |     |      |         |
| KRP | iP    | 10 34 | 02.0  |   | D   | 0.3  | 100 | 2.37 | 232 | 3.3* | 2.7*    |





|             |                                                    |         |          |       |                  |      |     |      |     |     |     |     |  |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|-----|-----|--|
| e           |                                                    | 54 06   |          |       |                  |      |     |      |     |     |     |     |  |
| AMPLITUDES: |                                                    | ECZ     | 0.5      | 1.2   | WTZ              | 1.0  | 1.1 | TUA  | 0.4 | 0.5 |     |     |  |
|             |                                                    | KRP     | 0.8      |       | ONE              | 0.3  |     | CNZ  | 2.5 |     |     |     |  |
|             |                                                    | CRZ     | 0.5      |       | MNG              | 0.5  | 1.3 |      |     |     |     |     |  |
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| FEB 16      | 12 <sup>h</sup> 33 <sup>m</sup> 04 <sup>s</sup> .7 | 38°.82s | 176°.87E | 12 km | M = 3.9          |      |     |      |     |     |     |     |  |
|             | ± 0.4                                              | 0.02    | 0.03     | R     | S.E. of RES. 1.6 |      |     |      |     |     |     |     |  |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P | W S |  |
| TUA         | iP*                                                | 12      | 33       | 10.5  | U                | 0.8  | 100 | 0.22 | 88  |     |     |     |  |
|             | eSg                                                |         |          | 15    |                  | 1.9  | 100 |      |     |     |     |     |  |
| TRZ         | P*                                                 | 12      | 33       | 18.0  |                  | -0.5 | 100 | 0.74 | 183 |     |     |     |  |
|             | eS*                                                |         |          | 29.5  |                  | 1.0  | 100 |      |     |     |     |     |  |
| WTZ         | iP*                                                | 12      | 33       | 19.2  | D                | -1.0 | 100 | 0.84 | 7   |     | 3.6 | 3.9 |  |
|             | ePg                                                |         |          | 23    |                  | 1.2  | 100 |      |     |     |     |     |  |
|             | eS*                                                |         |          | 31    |                  | -0.4 | 100 |      |     |     |     |     |  |
| GNZ         |                                                    |         |          |       |                  |      |     | 0.92 | 80  |     |     | 4.0 |  |
| CNZ         | iP*                                                | 12      | 33       | 24.8  | D                | 0.2  | 100 | 1.10 | 249 |     | 4.0 | 4.1 |  |
|             | eS*                                                |         |          | 40    |                  | 0.8  | 100 |      |     |     |     |     |  |
| KRP         | Pn                                                 | 12      | 33       | 29    |                  | 0.1  | 100 | 1.38 | 310 |     | 3.4 |     |  |
|             | ePg                                                |         |          | 35    |                  | 2.5  | 99  |      |     |     |     |     |  |
| ECZ         | Pn                                                 | 12      | 33       | 32    |                  | -1.9 | 100 | 1.74 | 50  |     | 4.1 | 3.8 |  |
|             | Pg                                                 |         |          | 37.8  |                  | -2.0 | 99  |      |     |     |     |     |  |
|             | eSg                                                |         |          | 34 04 |                  | 0.7  | 100 |      |     |     |     |     |  |
| TNZ         | Pn                                                 | 12      | 33       | 37.2  |                  | 0.1  | 100 | 1.97 | 258 |     | 4.1 | 4.3 |  |
|             | eS*                                                |         |          | 34 05 |                  | -0.5 | 100 |      |     |     |     |     |  |
| MNG         | Pn                                                 | 12      | 33       | 35.2  |                  | -3.6 | 96  | 2.10 | 210 |     | 4.1 | 3.9 |  |
|             | ePg                                                |         |          | 45    |                  | -2.1 | 99  |      |     |     |     |     |  |
|             | eSg                                                |         |          | 34 17 |                  | 1.7  | 100 |      |     |     |     |     |  |
| WEL         | eP*                                                | 12      | 33       | 57    |                  | 0.8  | 100 | 2.94 | 212 |     |     |     |  |
|             | e                                                  |         |          | 34 20 |                  |      |     |      |     |     |     |     |  |
|             | e                                                  |         |          | 39    |                  |      |     |      |     |     |     |     |  |
| AMPLITUDES: |                                                    | TUA     | 15       | 26    | WTZ              | 6.5  | 11  | GNZ  | 14  |     |     |     |  |
|             |                                                    | CNZ     | 26       | 49    | KRP              | 0.8  |     | ECZ  | 0.8 | 0.6 |     |     |  |
|             |                                                    | TNZ     | 0.4      | 0.8   | MNG              | 4.8  | 4.0 |      |     |     |     |     |  |

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|---------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|-----|------|------|--|
| FEB 16  | 13 <sup>h</sup> 24 <sup>m</sup> 51 <sup>s</sup> .8 | 36°.99s | 177°.99E | 186 km | M = 3.9          |      |     |      |     |     |      |      |  |
|         | ± 1.0                                              | 0.05    | 0.08     | 7      | S.E. of RES. 1.3 |      |     |      |     |     |      |      |  |
| STN     | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |  |
| ECZ     | P                                                  | 13      | 25       | 18.3   |                  | -0.8 | 100 | 0.84 | 148 |     | 3.7  | 3.9  |  |
|         | e                                                  |         |          | 35.8   |                  |      |     |      |     |     |      |      |  |
|         | eS                                                 |         |          | 40     |                  | -0.2 | 100 |      |     |     |      |      |  |
| WTZ     | P                                                  | 13      | 25       | 21.7   |                  | -0.7 | 100 | 1.28 | 218 |     |      |      |  |
|         | e                                                  |         |          | 25.7   |                  |      |     |      |     |     |      |      |  |
|         | eS                                                 |         |          | 45     |                  | -1.1 | 100 |      |     |     |      |      |  |
| TUA     | P                                                  | 13      | 25       | 29.1   |                  | 0.2  | 100 | 1.93 | 200 |     | 3.5  | 3.9  |  |
|         | eS                                                 |         |          | 26 00  |                  | 2.5  | 97  |      |     |     |      |      |  |
| KRP     | P                                                  | 13      | 25       | 31.0   |                  | -0.4 | 100 | 2.17 | 244 |     | 3.0* | 2.6* |  |
|         | eS                                                 |         |          | 26 01  |                  | -0.9 | 100 |      |     |     |      |      |  |
|         | e                                                  |         |          | 18     |                  |      |     |      |     |     |      |      |  |
| TRZ     | P                                                  | 13      | 25       | 38.0   |                  | 0.1  | 100 | 2.73 | 199 |     | 4.0  | 4.2  |  |
|         | eS                                                 |         |          | 26 15  |                  | 1.5  | 99  |      |     |     |      |      |  |
| CNZ     | P                                                  | 13      | 25       | 41     |                  | 0.5  | 100 | 2.93 | 220 |     | 4.0  |      |  |
| ONE     | eP                                                 | 13      | 25       | 45     |                  | 1.7  | 99  | 3.17 | 291 |     |      |      |  |
| MNG     | P                                                  | 13      | 25       | 54.1   |                  | -1.3 | 100 | 4.12 | 208 |     | 3.7  | 4.0  |  |
|         | eS                                                 |         |          | 26 44  |                  | -0.4 | 100 |      |     |     |      |      |  |

|             |    |          |      |     |      |     |     |     |     |     |  |  |  |
|-------------|----|----------|------|-----|------|-----|-----|-----|-----|-----|--|--|--|
| WEL         | eS | 13 27 03 | -0.9 | 100 | 4.98 | 209 | 4.3 |     |     |     |  |  |  |
| AMPLITUDES: |    | ECZ      | 0.7  | 1.1 | TUA  | 0.2 | 0.5 | KRP | 0.7 | 0.3 |  |  |  |
|             |    | TRZ      | 0.3  | 1.1 | CNZ  | 1.6 |     | MNG | 0.6 | 1.3 |  |  |  |
|             |    | WEL      | 0.3  |     |      |     |     |     |     |     |  |  |  |

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FEB 17 19<sup>h</sup>21<sup>m</sup>51<sup>s</sup>.8 41°.63S 174°.11E 12 km M = 4.1  
 ± 0.4 0.03 0.03 R S.E. of RES. 1.4

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|
| WEL         | iP*   | 19  | 22  | 02.0  |     | -1.3 | 100 | 0.60 | 55  | 4.1 |     |     |
|             | S*    |     |     | 10.7  |     | -0.8 | 100 |      |     |     |     |     |
| KKY         | P*    | 19  | 22  | 08.5  |     | 1.0  | 100 | 0.85 | 201 |     |     |     |
|             | eSg   |     |     | 21    |     | 0.3  | 100 |      |     |     |     |     |
| COB         | iP*   | 19  | 22  | 12.6  | D   | -0.4 | 100 | 1.17 | 297 |     | 4.3 | 3.6 |
|             | eS*   |     |     | 29    |     | 0.4  | 100 |      |     |     |     |     |
| MNG         | iPn   | 19  | 22  | 16.0  |     | -1.1 | 100 | 1.45 | 46  |     |     |     |
| CAZ         | ePg   | 19  | 22  | 25.3  |     | -2.0 | 99  | 1.75 | 66  |     |     |     |
|             | eSg   |     |     | 52    |     | 1.1  | 100 |      |     |     |     |     |
| KAI         | ePg   | 19  | 22  | 34    |     | -2.4 | 99  | 2.20 | 245 | 3.9 |     |     |
|             | eS*   |     |     | 23 00 |     | 0.4  | 100 |      |     |     |     |     |
| GPZ         | P*    | 19  | 22  | 34    |     | 1.2  | 100 | 2.33 | 207 | 3.6 |     |     |
| TNZ         |       |     |     |       |     | 2.45 |     | 5    |     |     | 4.1 | 4.3 |
| CNZ         | ePn   | 19  | 22  | 34    |     | 0.3  | 100 | 2.66 | 25  |     |     |     |
| TRZ         | ePg   | 19  | 22  | 52.5  |     | 1.5  | 100 | 2.92 | 46  |     |     |     |
|             | e     |     |     | 23 49 |     |      |     |      |     |     |     |     |
| KRP         | ePn   | 19  | 22  | 50.5  |     | 0.5  | 100 | 3.86 | 17  |     | 4.7 | 4.6 |
|             | eP*   |     |     | 58    |     | -0.9 | 100 |      |     |     |     |     |
|             | ePg   |     |     | 23 08 |     | -1.9 | 99  |      |     |     |     |     |
|             | eS*   |     |     | 51    |     | 1.8  | 100 |      |     |     |     |     |
| GNZ         | e     | 19  | 23  | 14    |     |      |     | 4.23 | 46  |     | 4.2 |     |
|             | e     |     |     | 24 22 |     |      |     |      |     |     |     |     |
|             | e     |     |     | 36    |     |      |     |      |     |     |     |     |
| WTZ         | eP*   | 19  | 23  | 08    |     | 2.2  | 99  | 4.27 | 32  |     | 4.0 |     |
| AMPLITUDES: |       | WEL | 12  |       |     | COB  | 9.0 | 6.5  | KAI | 0.7 |     |     |
|             |       | GPZ | 0.5 |       |     | TNZ  | 0.7 | 1.6  | KRP |     | 1.5 | 1.1 |
|             |       | GNZ | 0.7 |       |     | WTZ  | 0.4 |      |     |     |     |     |

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FEB 17 20<sup>h</sup>45<sup>m</sup>24<sup>s</sup>.2 40°.28S 176°.75E 12 km M = 3.4  
 ± 0.9 0.05 0.08 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ | P*    | 20 | 45 | 38.1 |     | 0.3  | 100 | 0.73 | 4   |     | 3.0 | 2.7 |
|     | eS*   |    |    | 49   |     | 1.3  | 100 |      |     |     |     |     |
| CAZ | P*    | 20 | 45 | 40.2 |     | 2.2  | 99  | 0.74 | 212 |     |     |     |
|     | e     |    |    | 52.8 |     |      |     |      |     |     |     |     |
| MNG | iP*   | 20 | 45 | 41.8 | U   | -1.1 | 100 | 1.03 | 250 |     | 3.2 |     |
|     | ePg   |    |    | 45   |     | -0.0 | 100 |      |     |     |     |     |
|     | eS*   |    |    | 57   |     | 0.4  | 100 |      |     |     |     |     |
| CNZ | P*    | 20 | 45 | 50.0 |     | 0.3  | 100 | 1.42 | 319 |     |     |     |
| TUA | eSn   | 20 | 46 | 08   |     | -1.7 | 99  | 1.50 | 12  |     | 3.7 | 3.6 |
|     | e     |    |    | 28   |     |      |     |      |     |     |     |     |
| WEL | Sn    | 20 | 46 | 14.7 |     | -2.4 | 98  | 1.81 | 236 | 3.5 |     |     |
| GNZ | e     | 20 | 46 | 10   |     |      |     | 1.91 | 31  |     | 3.6 | 3.4 |
|     | e     |    |    | 38   |     |      |     |      |     |     |     |     |
| TNZ |       |    |    |      |     |      |     | 2.13 | 300 |     | 3.6 | 3.7 |
| WTZ | ePg   | 20 | 46 | 10   |     | -0.7 | 100 | 2.30 | 5   |     | 3.4 | 3.5 |
|     | e     |    |    | 53   |     |      |     |      |     |     |     |     |

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|             |     |            |     |          |          |         |
|-------------|-----|------------|-----|----------|----------|---------|
| KRP         | eP* | 20 46 09   |     | 0.4 100  | 2.54 338 | 3.7     |
|             | e   | 12         |     |          |          |         |
| COB         | e   | 20 46 22.5 |     |          | 3.16 254 | 3.8 3.5 |
|             | ePg | 28         |     | -0.1 100 |          |         |
|             | eS* | 47 01      |     | 0.4 100  |          |         |
| AMPLITUDES: | TRZ | 0.7 0.5    | MNG | 3.0      | TUA      | 0.8 0.6 |
|             | WEL | 0.3        | GNZ | 0.8 0.8  | TNZ      | 0.3 0.5 |
|             | WTZ | 0.5 0.5    | KRP | 0.4      | COB      | 0.4 0.6 |

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FEB 17    22<sup>h</sup>01<sup>m</sup>48<sup>s</sup>.8    37°.52s    176°.86E    221 km    M = 3.9

S.E. of RES. 2.1

± 3.8    0.19    0.13    17

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST    | AZ  | W-A | W P | W S  |
|-------------|-------|----|----|------|-----|------|-----|---------|-----|-----|-----|------|
| WTZ         | S     | 22 | 02 | 38.7 |     | -2.4 | 99  | 0.48    | 168 |     |     | 3.2  |
| KRP         | eS    | 22 | 02 | 49   |     | 1.8  | 100 | 1.13    | 249 |     |     |      |
| GNZ         | iP    | 22 | 02 | 25.0 | USW | 0.8  | 100 | 1.45    | 141 |     | 4.4 | 3.9  |
|             | eS    |    |    | 52   |     | 0.4  | 100 |         |     |     |     |      |
| MNG         | iP    | 22 | 02 | 42.7 | D   | -0.5 | 100 | 3.28    | 199 |     | 4.2 | 3.6  |
|             | eS    |    | 03 | 26.5 |     | 1.2  | 100 |         |     |     |     |      |
| COB         | eS    | 22 | 03 | 57   |     | -1.4 | 100 | 4.79    | 221 |     |     | 2.8* |
| AMPLITUDES: | WTZ   |    |    |      | 0.4 | GNZ  |     | 4.2 2.0 | MNG |     | 2.5 | 0.8  |
|             | COB   |    |    |      | 0.3 |      |     |         |     |     |     |      |

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FEB 18    05<sup>h</sup>20<sup>m</sup>40<sup>s</sup>.2    39°.18s    174°.49E    12 km    M = 2.9

S.E. of RES. 1.9

± 0.7    0.03    0.04    R

| STN         | PHASE | H  | M  | S    | DIR     | RES  | WT  | DIST    | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|---------|------|-----|---------|-----|-----|-----|-----|
| TNZ         | iPg   | 05 | 20 | 44.6 |         | 1.6  | 100 | 0.09    | 263 |     |     |     |
|             | Sg    |    |    | 47   |         | 2.2  | 100 |         |     |     |     |     |
| CNZ         | e(Pg) | 05 | 20 | 58.5 |         | 1.6  | 100 | 0.82    | 92  |     | 2.3 | 2.5 |
|             | eSg   |    | 21 | 09   |         | 0.9  | 100 |         |     |     |     |     |
| KRP         | Pg    | 05 | 21 | 09   |         | -1.5 | 100 | 1.49    | 34  |     |     |     |
|             | Sg    |    |    | 28   |         | -2.7 | 99  |         |     |     |     |     |
| MNG         | Pg    | 05 | 21 | 13   |         | -0.2 | 100 | 1.63    | 152 |     | 2.9 | 3.0 |
|             | Sg    |    |    | 36   |         | 0.8  | 100 |         |     |     |     |     |
| TRZ         | ePg   | 05 | 21 | 18   |         | 0.4  | 100 | 1.84    | 103 |     | 3.5 | 3.9 |
|             | Sg    |    |    | 44   |         | 1.5  | 100 |         |     |     |     |     |
| WEL         | eSg   | 05 | 21 | 48   |         | -3.6 | 98  | 2.12    | 174 |     |     |     |
| COB         | eP*   | 05 | 21 | 20   |         | -1.2 | 100 | 2.34    | 215 |     |     | 2.4 |
|             | S*    |    |    | 52   |         | 0.1  | 100 |         |     |     |     |     |
| AMPLITUDES: | CNZ   |    |    |      | 1.0 2.5 | MNG  |     | 0.6 0.9 | TRZ |     | 0.2 | 0.5 |
|             | COB   |    |    |      | 0.1     |      |     |         |     |     |     |     |

FELT: Purangi (48)

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FEB 19    11<sup>h</sup>51<sup>m</sup>32<sup>s</sup>.4    34°.50s    178°.80E    341 km    M = 4.8

S.E. of RES. 0.9

± 1.1    0.11    0.15    16

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P     | 11 | 52 | 33.5 |     | 0.2  | 100 | 3.20 | 184 |     | 4.7 | 4.7 |
|     | S     |    | 53 | 21.5 |     | 0.4  | 100 |      |     |     |     |     |
| GBZ | P     | 11 | 52 | 33.5 |     | -0.0 | 100 | 3.21 | 237 |     |     |     |
| WTZ | P     | 11 | 52 | 38   |     | -1.1 | 99  | 3.78 | 202 |     | 5.0 | 4.7 |
|     | S     |    | 53 | 30.5 |     | -0.8 | 100 |      |     |     |     |     |
| KRP | P     | 11 | 52 | 45.5 |     | 0.8  | 100 | 4.32 | 217 |     |     |     |
| TUA | P     | 11 | 52 | 46   |     | -0.8 | 100 | 4.51 | 197 |     | 4.6 | 4.8 |



|             |     |            |         |           |           |         |  |
|-------------|-----|------------|---------|-----------|-----------|---------|--|
|             | S   | 53 45.5    | 0.5 100 |           |           |         |  |
| WNZ         | P   | 11 52 49   | 0.5 100 | 4.66 207  | 4.9       |         |  |
| TRZ         | P   | 11 52 55   | -0.4    | 5.29 197  | 5.1 4.9   |         |  |
|             | eS  | 54 03      | 2.3     |           |           |         |  |
| CNZ         | P   | 11 52 57.5 | 1.1     | 5.37 208  | 5.0       |         |  |
| TNZ         | P   | 11 53 05   | 2.9     | 5.88 216  | 3.7*      |         |  |
| MNG         | P   | 11 53 09   | -2.3    | 6.66 202  | 5.1 4.4   |         |  |
|             | S   | 54 30.5    | 1.5     |           |           |         |  |
| CAZ         | P   | 11 53 12   | -0.0    | 6.72 197  |           |         |  |
|             | S   | 54 36      | 5.8     |           |           |         |  |
| WEL         | S   | 11 54 47   | 0.3     | 7.50 204  | 4.4       |         |  |
| COB         | eP  | 11 53 28.5 | -0.5    | 8.14 214  | 3.4* 3.2* |         |  |
|             | S   | 55 05      | 4.2     |           |           |         |  |
| CIZ         | S   | 11 55 56   | 12.5    | 10.12 161 |           |         |  |
| GPZ         | S   | 11 55 50   | 1.2     | 10.36 206 | 3.2*      |         |  |
| AMPLITUDES: |     |            |         |           |           |         |  |
|             | ECZ | 0.9 1.0    | WTZ     | 3.3 1.9   | TUA       | 0.5 0.7 |  |
|             | WNZ | 0.1        | TRZ     | 1.0 1.6   | CNZ       | 5.0     |  |
|             | TNZ | 0.3        | MNG     | 5.2 1.2   | WEL       | 0.1     |  |
|             | COB | 0.2 0.4    | CIZ     | 0.1       | GPZ       | 0.1     |  |

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FEB 19 20<sup>h</sup>33<sup>m</sup>47<sup>s</sup>.3 36°.14s 177°.74E 247 km M = 4.2  
 ± 0.3 0.03 0.02 4 S.E. of RES. 0.2

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W         | P   | W   | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|------|-----------|-----|-----|---|
| ECZ         | eP    | 20  | 34  | 27   |     | -0.0 | 100 | 1.68 | 158 |      |           |     |     |   |
|             | eS    |     |     | 58   |     | 0.2  | 100 |      |     |      |           |     |     |   |
| GBZ         | iP    | 20  | 34  | 28.2 | D   | 0.0  | 100 | 1.83 | 267 |      |           |     |     |   |
| WITZ        | eP    | 20  | 34  | 29   |     | -0.2 | 100 | 1.93 | 198 |      | 4.2       | 4.0 |     |   |
|             | eS    |     | 35  | 01.5 |     | -0.1 | 100 |      |     |      |           |     |     |   |
| KRP         | P     | 20  | 34  | 35   |     | 0.3  | 99  | 2.50 | 224 |      |           |     |     |   |
|             | S     |     | 35  | 11.5 |     | -0.0 | 100 |      |     |      |           |     |     |   |
|             | e     |     |     | 18   |     |      |     |      |     |      |           |     |     |   |
| TUA         | e     | 20  | 35  | 14   |     |      |     | 2.71 | 190 |      |           | 4.2 |     |   |
|             | S     |     |     | 21   |     | 5.7  |     |      |     |      |           |     |     |   |
| TRZ         | P     | 20  | 34  | 44   |     | -1.4 |     | 3.48 | 192 |      | 4.2       | 4.5 |     |   |
|             | e     |     | 35  | 26.5 |     |      |     |      |     |      |           |     |     |   |
|             | S     |     |     | 31   |     | 0.4  |     |      |     |      |           |     |     |   |
| TNZ         | P     | 20  | 34  | 55   |     | 3.0  |     | 4.04 | 220 |      | 3.1*      |     |     |   |
| MNG         | P     | 20  | 34  | 58   |     | -3.3 |     | 4.81 | 201 |      | 4.4       | 4.5 |     |   |
|             | eS    |     | 35  | 55   |     | -3.9 |     |      |     |      |           |     |     |   |
|             | e     |     | 36  | 01.5 |     |      |     |      |     |      |           |     |     |   |
| WEL         | S     | 20  | 36  | 14   |     | -3.2 |     | 5.64 | 203 | 4.2  |           |     |     |   |
|             | e     |     |     | 17   |     |      |     |      |     |      |           |     |     |   |
| COB         | eP    | 20  | 35  | 18   |     | -1.8 |     | 6.31 | 217 |      | 3.0* 2.9* |     |     |   |
|             | eS    |     | 36  | 31   |     | -1.3 |     |      |     |      |           |     |     |   |
| GPZ         | S     | 20  | 37  | 17   |     | -5.1 |     | 8.50 | 206 | 3.4* |           |     |     |   |
| AMPLITUDES: |       |     |     |      |     |      |     |      |     |      |           |     |     |   |
|             | ECZ   |     | 0.3 | 0.4  | WTZ | 1.6  | 1.1 | TUA  |     |      |           |     | 0.5 |   |
|             | TRZ   |     | 0.3 | 1.2  | TNZ | 0.1  |     | MNG  |     |      | 2.1       | 2.8 |     |   |
|             | WEL   | 0.2 |     |      | COB | 0.1  | 0.3 | GPZ  | 0.2 |      |           |     |     |   |

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FEB 21 06<sup>h</sup>25<sup>m</sup>49<sup>s</sup>.5 39°.12s 174°.57E 12 km M = 2.4  
 ± 0.3 0.01 0.01 R S.E. of RES. 0.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| TNZ | Pg    | 06 | 25 | 53.5 |     | 0.0  | 100 | 0.16 | 244 |     |     |     |   |   |
|     | eSg   |    |    | 56   |     | -0.1 | 100 |      |     |     |     |     |   |   |
| MNG | Pg    | 06 | 26 | 23   |     | -0.1 | 100 | 1.66 | 155 |     | 2.5 | 2.4 |   |   |

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FEB 21 18<sup>h</sup>20<sup>m</sup>46<sup>s</sup>.1 44°.50s 169°.55E 12 km M = 3.6  
 ± 0.2 0.02 0.02 R S.E. of RES. 0.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| GSP | P*    | 18 | 20 | 55.9 |     | 0.1  | 100 | 0.50 | 43  |     |     |     |   |   |
|     | Pg    |    |    | 57.5 |     | 1.0  | 99  |      |     |     |     |     |   |   |
|     | eSg   |    | 21 | 03.5 |     | 0.1  | 100 |      |     |     |     |     |   |   |
| MJZ | iPg   | 18 | 21 | 03   | DS  | -0.2 | 100 | 0.84 | 52  |     | 3.4 | 3.4 |   |   |
|     | Sg    |    |    | 14   |     | -0.6 | 100 |      |     |     |     |     |   |   |
| ROX | Pg    | 18 | 21 | 06.7 |     | 0.6  | 100 | 0.99 | 189 |     | 3.7 | 3.5 |   |   |
| OMZ | iPg   | 18 | 21 | 08.5 |     | -0.5 | 100 | 1.13 | 121 |     |     |     |   |   |
| MSZ | P*    | 18 | 21 | 07.7 |     | 0.3  | 100 | 1.18 | 261 |     | 4.4 | 4.2 |   |   |
|     | Pg    |    |    | 09   |     | -1.0 | 99  |      |     |     |     |     |   |   |
|     | Sg    |    |    | 26   |     | 0.1  | 100 |      |     |     |     |     |   |   |
| MNW | P*    | 18 | 21 | 19   |     | -0.2 |     | 1.87 | 226 | 3.7 | 4.1 | 3.9 |   |   |
|     | Pg    |    |    | 23   |     | -0.9 |     |      |     |     |     |     |   |   |
|     | S*    |    |    | 46   |     | 2.2  |     |      |     |     |     |     |   |   |
| GPZ | Pg    | 18 | 21 | 35   |     | 0.9  |     | 2.38 | 71  | 3.2 |     |     |   |   |
|     | eSn   |    |    | 52   |     | -0.5 |     |      |     |     |     |     |   |   |
| KAI | Sg    | 18 | 22 | 07   |     | 0.1  |     | 2.39 | 35  | 3.1 |     |     |   |   |
| OBZ | ePn   | 18 | 21 | 29   |     | 1.8  |     | 2.60 | 202 |     |     |     |   |   |
|     | eP*   |    |    | 34   |     | 2.3  |     |      |     |     |     |     |   |   |
| COB | eP*   | 18 | 21 | 54   |     | -4.0 |     | 4.15 | 36  |     | 3.5 | 3.2 |   |   |
|     | Sn    |    | 22 | 38   |     | 2.9  |     |      |     |     |     |     |   |   |

AMPLITUDES: MJZ 6.5 12 ROX 3.0 5.0 MSZ 24 28  
 MNW 0.8 3.0 4.5 GPZ 0.2 KAI 0.1  
 COB 0.1 0.2

77/ 098

FEB 22 06<sup>h</sup>06<sup>m</sup>00<sup>s</sup>.4 39°.11s 174°.57E 12 km M = 2.7  
 ± 0.0 0.00 0.00 R S.E. of RES. 0.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| TNZ | e(Sg) | 06 | 06 | 07   |     | 0.0  | 100 | 0.16 | 243 |     |     |     |   |   |
| KRP | Sg    | 06 | 06 | 48   |     | 0.0  | 100 | 1.41 | 33  |     |     |     |   |   |
| MNG | Pg    | 06 | 06 | 34   |     | -0.0 | 100 | 1.66 | 155 |     | 2.8 | 2.6 |   |   |
|     | Sg    |    |    | 56.5 |     | 0.0  | 100 |      |     |     |     |     |   |   |

AMPLITUDES: TNZ 2.5 MNG 0.4 0.3

77/ 099

FEB 22 07<sup>h</sup>42<sup>m</sup>14<sup>s</sup>.4 39°.11s 174°.50E 12 km M = 3.3  
 ± 0.7 0.03 0.06 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| TNZ | ePg   | 07 | 42 | 20    |     | 2.3  | 99  | 0.13 | 229 |     |     |     |   |   |
| KRP | Pg    | 07 | 42 | 43    |     | -0.4 | 100 | 1.43 | 35  |     |     |     |   |   |
|     | Sg    |    |    | 43 03 |     | 0.2  | 100 |      |     |     |     |     |   |   |
| MNG | Pg    | 07 | 42 | 47.5  |     | -1.1 | 100 | 1.69 | 154 |     | 3.6 | 3.4 |   |   |
|     | Sg    |    |    | 43 11 |     | -0.4 | 100 |      |     |     |     |     |   |   |
| WEL | eS*   | 07 | 43 | 24    |     | 2.3  | 99  | 2.19 | 175 | 3.1 |     |     |   |   |
|     | Sg    |    |    | 28    |     | -0.2 | 100 |      |     |     |     |     |   |   |
| COB | P*    | 07 | 42 | 55    |     | -1.5 | 100 | 2.40 | 214 |     | 3.5 | 3.0 |   |   |
|     | Sg    |    |    | 43 34 |     | -1.2 | 100 |      |     |     |     |     |   |   |

AMPLITUDES: MNG 2.4 2.2 WEL 0.1 COB 0.3 0.4

FELT: Purangi (48)

|                    |                                                    |         |          |         |                  |      |     |      |     | 77/ 100     |
|--------------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-------------|
| FEB 22             | 07 <sup>h</sup> 51 <sup>m</sup> 10 <sup>s</sup> .3 | 39°.14S | 174°.54E | 12 km   | M = 3.0          |      |     |      |     |             |
|                    | ± 0.6                                              | 0.03    | 0.05     | R       | S.E. of RES. 1.4 |      |     |      |     |             |
| STN                | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| TNZ                | e(Pg)                                              | 07      | 51       | 16      |                  | 2.2  | 98  | 0.13 | 250 |             |
| KRP                | Pg                                                 | 07      | 51       | 39      |                  | -0.6 | 100 | 1.45 | 33  |             |
|                    | Sg                                                 |         |          | 59      |                  | -0.2 | 100 |      |     |             |
| MNG                | Pg                                                 | 07      | 51       | 43.5    |                  | -0.1 | 100 | 1.65 | 154 | 3.2 2.9     |
|                    | Sg                                                 |         |          | 52 06.5 |                  | 0.7  | 100 |      |     |             |
| COB                | eP*                                                | 07      | 51       | 51.5    |                  | -0.7 | 100 | 2.38 | 215 | 3.0 2.7     |
|                    | eSg                                                |         |          | 52 29.5 |                  | -1.3 | 100 |      |     |             |
| AMPLITUDES:        |                                                    | TNZ     | 2.5      | 4.0     | MNG              | 1.1  | 0.7 | COB  | 0.1 | 0.2         |
| FELT: Purangi (48) |                                                    |         |          |         |                  |      |     |      |     |             |

|                    |                                                    |         |          |       |                  |      |     |      |     | 77/ 101     |
|--------------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-------------|
| FEB 22             | 08 <sup>h</sup> 42 <sup>m</sup> 25 <sup>s</sup> .5 | 39°.12S | 174°.53E | 12 km | M = 3.1          |      |     |      |     |             |
|                    | ± 0.4                                              | 0.02    | 0.03     | R     | S.E. of RES. 1.0 |      |     |      |     |             |
| STN                | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| TNZ                | e(Sg)                                              | 08      | 42       | 32    |                  | 0.7  | 100 | 0.13 | 240 |             |
| KRP                | Pg                                                 | 08      | 42       | 54    |                  | -0.5 | 100 | 1.43 | 34  |             |
|                    | Sg                                                 |         |          | 43 14 |                  | 0.2  | 100 |      |     |             |
| MNG                | Pg                                                 | 08      | 42       | 58.5  |                  | -0.7 | 100 | 1.66 | 154 | 3.3 3.2     |
|                    | Sg                                                 |         |          | 43 22 |                  | 0.2  | 100 |      |     |             |
| WEL                | Sg                                                 | 08      | 43       | 39.5  |                  | 0.7  | 100 | 2.17 | 175 | 3.1         |
| COB                | P*                                                 | 08      | 43       | 08.5  |                  | 0.8  | 100 | 2.40 | 214 | 3.0 2.9     |
|                    | Sg                                                 |         |          | 45    |                  | -1.5 | 99  |      |     |             |
| AMPLITUDES:        |                                                    | MNG     | 1.3      | 1.4   | WEL              | 0.1  |     | COB  | 0.1 | 0.3         |
| FELT: Purangi (48) |                                                    |         |          |       |                  |      |     |      |     |             |

|             |                                                    |         |          |         |                  |      |     |      |     | 77/ 102     |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-------------|
| FEB 22      | 09 <sup>h</sup> 03 <sup>m</sup> 08 <sup>s</sup> .0 | 39°.12S | 174°.45E | 12 km   | M = 2.6          |      |     |      |     |             |
|             | ± 1.2                                              | 0.05    | 0.10     | R       | S.E. of RES. 2.3 |      |     |      |     |             |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| TNZ         | e(Pg)                                              | 09      | 03       | 14      |                  | 3.3  | 99  | 0.08 | 221 |             |
| KRP         | ePg                                                | 09      | 03       | 37      |                  | -0.7 | 100 | 1.47 | 36  |             |
|             | Sg                                                 |         |          | 57      |                  | -0.5 | 100 |      |     |             |
| MNG         | Pg                                                 | 09      | 03       | 42      |                  | -0.2 | 100 | 1.69 | 152 | 2.8 2.6     |
|             | Sg                                                 |         |          | 04 05.5 |                  | 0.4  | 100 |      |     |             |
| COB         | Sg                                                 | 09      | 04       | 25.5    |                  | -2.2 | 100 | 2.37 | 213 | 2.4         |
| AMPLITUDES: |                                                    | TNZ     | 1.5      | 4.5     | MNG              | 0.4  | 0.3 | COB  | 0.1 |             |

|        |                                                    |         |          |       |                  |      |     |      |     | 77/ 103     |
|--------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-------------|
| FEB 22 | 15 <sup>h</sup> 57 <sup>m</sup> 41 <sup>s</sup> .9 | 39°.08S | 174°.46E | 12 km | M = 3.2          |      |     |      |     |             |
|        | ± 0.5                                              | 0.02    | 0.04     | R     | S.E. of RES. 1.1 |      |     |      |     |             |
| STN    | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| KRP    | Pg                                                 | 15      | 58       | 10.5  |                  | -0.5 | 100 | 1.44 | 37  |             |
|        | Sg                                                 |         |          | 31    |                  | 0.6  | 100 |      |     |             |
| MNG    | Pg                                                 | 15      | 58       | 16    |                  | -0.8 | 100 | 1.73 | 153 | 3.4 3.3     |
|        | Sg                                                 |         |          | 39.5  |                  | -0.6 | 100 |      |     |             |
| WEL    | S*                                                 | 15      | 58       | 52    |                  | 2.1  | 97  | 2.21 | 174 | 3.1         |
|        | eSg                                                |         |          | 56    |                  | -0.5 | 100 |      |     |             |
| COB    | P*                                                 | 15      | 58       | 24    |                  | -0.0 | 100 | 2.40 | 213 | 3.3 2.9     |



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|                    |                                                    |         |    |          |     |          |     |                  |     |         |      |         |  |
|--------------------|----------------------------------------------------|---------|----|----------|-----|----------|-----|------------------|-----|---------|------|---------|--|
|                    |                                                    | eS*     |    | 56       |     | 0.5 100  |     |                  |     |         |      |         |  |
|                    |                                                    | Sg      |    | 59 02    |     | -0.8 100 |     |                  |     |         |      |         |  |
| AMPLITUDES:        |                                                    | MNG     |    | 1.6 1.5  |     | WEL 0.1  |     | COB              |     | 0.2 0.3 |      |         |  |
| FELT: Purangi (48) |                                                    |         |    |          |     |          |     |                  |     |         |      |         |  |
|                    |                                                    |         |    |          |     |          |     |                  |     |         |      | 77/ 104 |  |
| FEB 23             | 03 <sup>h</sup> 34 <sup>m</sup> 03 <sup>s</sup> .5 | 39°.13s |    | 174°.57E |     | 12 km    |     | M = 2.7          |     |         |      |         |  |
|                    | ± 0.1                                              | 0.00    |    | 0.01     |     | R        |     | S.E. of RES. 0.2 |     |         |      |         |  |
| STN                | PHASE                                              | H       | M  | S        | DIR | RES      | WT  | DIST             | AZ  | W-A     | W P  | W S     |  |
| TNZ                | Pg                                                 | 03      | 34 | 07.4     |     | -0.0     | 100 | 0.16             | 250 |         |      |         |  |
| KRP                | Pg                                                 | 03      | 34 | 32.5     |     | 0.1      | 100 | 1.42             | 32  |         |      |         |  |
|                    | Sg                                                 |         |    | 51.5     |     | -0.1     | 100 |                  |     |         |      |         |  |
| MNG                | Pg                                                 | 03      | 34 | 36.5     |     | -0.2     | 100 | 1.64             | 155 |         | 2.6  | 2.7     |  |
|                    | Sg                                                 |         |    | 59       |     | 0.1      | 100 |                  |     |         |      |         |  |
| COB                | eSg                                                | 03      | 35 | 35       |     | 10.2     |     | 2.41             | 215 |         |      |         |  |
| AMPLITUDES:        |                                                    | TNZ     |    | 0.5 1.7  |     | MNG      |     | 0.3 0.4          |     |         |      |         |  |
|                    |                                                    |         |    |          |     |          |     |                  |     |         |      | 77/ 105 |  |
| FEB 23             | 03 <sup>h</sup> 50 <sup>m</sup> 17 <sup>s</sup> .9 | 39°.12s |    | 174°.58E |     | 12 km    |     | M = 2.7          |     |         |      |         |  |
|                    | ± 0.2                                              | 0.01    |    | 0.01     |     | R        |     | S.E. of RES. 0.3 |     |         |      |         |  |
| STN                | PHASE                                              | H       | M  | S        | DIR | RES      | WT  | DIST             | AZ  | W-A     | W P  | W S     |  |
| TNZ                | Pg                                                 | 03      | 50 | 22       |     | 0.1      | 100 | 0.17             | 245 |         |      |         |  |
|                    | eSg                                                |         |    | 24.5     |     | -0.1     | 100 |                  |     |         |      |         |  |
| KRP                | Sg                                                 | 03      | 51 | 05.5     |     | 0.0      | 100 | 1.41             | 33  |         |      |         |  |
| MNG                | Pg                                                 | 03      | 50 | 51       |     | -0.4     | 99  | 1.66             | 155 |         | 2.8  | 2.7     |  |
|                    | Sg                                                 |         |    | 51 14    |     | 0.2      | 100 |                  |     |         |      |         |  |
| COB                | eSg                                                | 03      | 51 | 42       |     | 2.4      |     | 2.42             | 215 |         |      |         |  |
| AMPLITUDES:        |                                                    | TNZ     |    | 0.7 2.7  |     | MNG      |     | 0.4 0.4          |     |         |      |         |  |
|                    |                                                    |         |    |          |     |          |     |                  |     |         |      | 77/ 106 |  |
| FEB 24             | 14 <sup>h</sup> 17 <sup>m</sup> 44 <sup>s</sup> .7 | 45°.16s |    | 167°.43E |     | 93 km    |     | M = 3.7          |     |         |      |         |  |
|                    | ± 0.5                                              | 0.02    |    | 0.03     |     | 3        |     | S.E. of RES. 0.5 |     |         |      |         |  |
| STN                | PHASE                                              | H       | M  | S        | DIR | RES      | WT  | DIST             | AZ  | W-A     | W P  | W S     |  |
| MSZ                | iP                                                 | 14      | 18 | 01.0     | U   | 0.2      | 100 | 0.59             | 35  |         | 3.9* | 4.0*    |  |
|                    | S                                                  |         |    | 13       |     | 0.0      | 100 |                  |     |         |      |         |  |
| MNW                | iPn                                                | 14      | 18 | 01.1     |     | 0.0      | 100 | 0.63             | 168 | 4.0*    |      |         |  |
|                    | S                                                  |         |    | 13       |     | -0.5     | 100 |                  |     |         |      |         |  |
| ROX                | iP                                                 | 14      | 18 | 09.9     | U   | 0.6      | 99  | 1.37             | 104 |         |      |         |  |
|                    | eS                                                 |         |    | 28       |     | -0.1     | 100 |                  |     |         |      |         |  |
| OBZ                | P                                                  | 14      | 18 | 14.9     |     | -0.1     | 100 | 1.81             | 165 |         |      |         |  |
|                    | S                                                  |         |    | 38       |     | 0.4      | 100 |                  |     |         |      |         |  |
| GSP                | iP                                                 | 14      | 18 | 18.4     | D   | -0.6     | 99  | 2.12             | 62  |         |      |         |  |
|                    | S                                                  |         |    | 45       |     | 0.6      | 99  |                  |     |         |      |         |  |
| OMZ                | iP                                                 | 14      | 18 | 23.4     | D   | -0.6     | 99  | 2.47             | 89  |         | 3.9  | 3.8     |  |
|                    | eS                                                 |         |    | 53       |     | -0.2     | 100 |                  |     |         |      |         |  |
| MJZ                | P                                                  | 14      | 18 | 22       |     | -1.9     |     | 2.47             | 63  |         | 3.5  | 3.8     |  |
|                    | S                                                  |         |    | 51       |     | -2.2     |     |                  |     |         |      |         |  |
| KAI                | eS                                                 | 14      | 19 | 26       |     | -2.7     |     | 3.91             | 49  | 3.7     |      |         |  |
| GPZ                | S                                                  | 14      | 19 | 27       |     | -4.4     |     | 4.01             | 70  | 3.5     |      |         |  |
| COB                | S                                                  | 14      | 20 | 06       |     | -5.2     |     | 5.62             | 45  |         | 3.8  | 3.9     |  |
| AMPLITUDES:        |                                                    | MSZ     |    | 18 40    |     | MNW 7.5  |     | OMZ              |     | 0.9 1.0 |      |         |  |
|                    |                                                    | MJZ     |    | 1.1 3.4  |     | KAI 0.1  |     | GPZ              |     | 0.1     |      |         |  |
|                    |                                                    | COB     |    | 0.1 0.3  |     |          |     |                  |     |         |      |         |  |

FEB 24 14<sup>h</sup>23<sup>m</sup>35<sup>s</sup>.8 38°.57s 176°.16E 110 km 77/ 107  
 ± 0.2 0.01 0.01 1 S.E. of RES. 0.2 M = 4.2

| STN | PHASE | H  | M  | S    | DIR | RES   | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|-------|-----|------|-----|------|------|------|
| WNZ | P     | 14 | 23 | 51   |     | -0.1  | 100 | 0.08 | 214 |      |      |      |
| KRP | iP    | 14 | 23 | 55.5 |     | 0.3   | 99  | 0.81 | 322 |      |      |      |
|     | S     |    | 24 | 10   |     | -0.1  | 100 |      |     |      |      |      |
| TUA | P     | 14 | 23 | 55.1 | U   | -0.2  | 100 | 0.81 | 108 |      | 3.5  | 3.9  |
|     | S     |    | 24 | 10.5 |     | 0.3   | 99  |      |     |      |      |      |
| GSZ | P     | 14 | 23 | 55.4 |     | -0.1  | 100 | 0.84 | 212 |      |      |      |
|     | S     |    | 24 | 10.5 |     | 0.0   | 100 |      |     |      |      |      |
| WTZ | iP    | 14 | 23 | 55.6 | D   | -0.3  | 99  | 0.87 | 49  |      | 4.1  | 4.2  |
|     | S     |    | 24 | 11   |     | -0.2  | 100 |      |     |      |      |      |
| TRZ | P     | 14 | 23 | 58.3 | D   | -0.1  | 100 | 1.12 | 153 |      | 4.0  | 4.2  |
|     | S     |    | 24 | 15.5 |     | -0.1  | 100 |      |     |      |      |      |
| GNZ | iP    | 14 | 24 | 02.6 | USE | 0.1   | 100 | 1.47 | 94  |      | 4.6  | 4.6  |
|     | S     |    | 23 |      |     | 0.1   | 100 |      |     |      |      |      |
| TNZ | P     | 14 | 24 | 03.4 | D   | 0.1   | 100 | 1.52 | 245 |      | 3.4* | 3.5* |
|     | S     |    | 26 |      |     | 1.9   | 0   |      |     |      |      |      |
| ECZ | iP    | 14 | 24 | 10.5 | U   | 0.3   |     | 2.08 | 66  |      | 4.4  | 4.3  |
|     | S     |    | 39 |      |     | 3.1   |     |      |     |      |      |      |
| MNG | iP    | 14 | 24 | 08.6 |     | -2.2  |     | 2.12 | 194 |      |      |      |
| CAZ | iP    | 14 | 24 | 12.1 | D   | -1.6  |     | 2.34 | 179 |      |      |      |
|     | S     |    | 41 |      |     | -1.1  |     |      |     |      |      |      |
| WEL | P     | 14 | 24 | 18   |     | -3.7  |     | 2.92 | 201 | 4.4  |      |      |
|     | S     |    | 51 |      |     | -5.3  |     |      |     |      |      |      |
| COB | P     | 14 | 24 | 27.3 | D   | -4.2  |     | 3.64 | 225 |      | 3.8* | 3.6* |
|     | S     |    | 25 | 09   |     | -4.9  |     |      |     |      |      |      |
| KAI | S     | 14 | 25 | 47   |     | -8.8  |     | 5.36 | 221 | 3.7* |      |      |
| GPZ | S     | 14 | 25 | 54   |     | -11.9 |     | 5.78 | 206 | 3.7* |      |      |
| MJZ | P     | 14 | 25 | 11   |     | -5.0  |     | 6.91 | 217 |      | 3.4* | 3.4* |
|     | S     |    | 26 | 22   |     | -11.6 |     |      |     |      |      |      |
| CIZ | P     | 14 | 25 | 23.5 |     | -3.0  |     | 7.69 | 137 |      |      |      |
|     | S     |    | 26 | 44.5 |     | -8.1  |     |      |     |      |      |      |
| MSZ | S     | 14 | 27 | 03.5 |     | -13.2 |     | 8.68 | 223 |      | 3.1* |      |
| MNW | S     | 14 | 27 | 27   |     | -11.9 |     | 9.60 | 219 |      | 3.4* |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WNZ | 0.2 | 0.3 | TUA | 1.0 | 2.1 | WTZ | 8.0 | 10  |
|             | TRZ | 1.7 | 6.6 | GNZ | 12  | 20  | TNZ | 0.6 | 1.0 |
|             | ECZ | 1.9 | 1.3 | WEL | 1.0 |     | COB | 1.1 | 2.2 |
|             | KAI | 0.4 |     | GPZ | 0.6 |     | MJZ | 0.8 | 1.2 |
|             | CIZ | 0.2 | 0.4 | MSZ |     | 0.4 | MNW |     | 0.6 |

FEB 26 02<sup>h</sup>41<sup>m</sup>50<sup>s</sup>.4 47°.75s 165°.84E 12 km 77/ 108  
 ± 1.1 0.05 0.11 R S.E. of RES. 0.9 M = 3.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|-----|-----|
| OBZ | Pn    | 02 | 42 | 20   |     | 0.1  | 100 | 1.76 | 62 |     |     |     |
|     | Sn    |    |    | 42   |     | -0.1 | 100 |      |    |     |     |     |
| MNW | Pn    | 02 | 42 | 26   |     | -1.5 | 98  | 2.32 | 32 | 3.6 | 4.1 | 3.8 |
|     | eSn   |    |    | 55   |     | -0.4 | 100 |      |    |     |     |     |
| ROX | Pn    | 02 | 42 | 41.5 |     | 0.5  | 100 | 3.30 | 48 |     | 3.9 | 3.7 |
| MSZ | ePn   | 02 | 42 | 43   |     | 0.7  | 100 | 3.40 | 26 |     | 3.9 | 3.8 |
|     | S*    |    | 43 | 34   |     | 0.1  | 100 |      |    |     |     |     |

|             |     |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | MNW | 0.4 | 2.2 | 2.5 | ROX | 0.4 | 0.6 | MSZ | 1.0 | 1.3 |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

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FEB 27    13<sup>h</sup>19<sup>m</sup>47<sup>s</sup>.2    35°.57s    179°.34w    12 km    M = 4.1  
                                  ± 1.8            0.08            0.14            R    S.E. of RES. 2.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|-------|-----|-----|-----|-----|---|---|
| ECZ | eP*   | 13 | 20 | 33   |     | -1.7 | 100 | 2.72  | 218 |     | 4.0 | 4.1 |   |   |
|     | S*    |    | 21 | 07   |     | -3.3 | 99  |       |     |     |     |     |   |   |
| GNZ | Pn    | 13 | 20 | 44.5 |     | 1.0  | 100 | 3.73  | 214 |     | 4.3 | 4.0 |   |   |
|     | Sn    |    | 21 | 30   |     | 3.9  | 98  |       |     |     |     |     |   |   |
| WTZ | Pn    | 13 | 20 | 43.5 |     | -1.2 | 100 | 3.82  | 230 |     | 4.1 | 4.0 |   |   |
|     | Sn    |    | 21 | 29   |     | 0.9  | 100 |       |     |     |     |     |   |   |
| TUA | Pn    | 13 | 20 | 51   |     | -0.1 | 100 | 4.28  | 220 |     | 4.2 | 4.0 |   |   |
|     | Sn    |    | 21 | 41   |     | 1.6  | 100 |       |     |     |     |     |   |   |
| KRP | Pn    | 13 | 20 | 57.5 |     | 0.1  | 100 | 4.74  | 239 |     |     |     |   |   |
|     | P*    |    | 21 | 06   |     | -3.3 | 99  |       |     |     |     |     |   |   |
|     | Sn    |    |    | 51   |     | 0.5  | 100 |       |     |     |     |     |   |   |
|     | S*    |    | 22 | 10   |     | -1.0 | 100 |       |     |     |     |     |   |   |
| ONE | P*    | 13 | 21 | 17   |     | 1.0  | 100 | 5.14  | 266 |     |     |     |   |   |
| MNG | Pn    | 13 | 21 | 19   |     | -2.2 | 100 | 6.49  | 217 |     | 4.0 | 3.9 |   |   |
|     | Sn    |    | 22 | 34   |     | 1.5  | 100 |       |     |     |     |     |   |   |
| CRZ | Pn    | 13 | 21 | 25   |     | 1.5  | 100 | 6.66  | 278 |     |     |     |   |   |
| WEL | Sn    | 13 | 22 | 51   |     | -2.1 |     | 7.35  | 217 | 4.1 |     |     |   |   |
| CIZ | Pn    | 13 | 21 | 53   |     | 2.3  |     | 8.65  | 167 |     |     |     |   |   |
|     | Sn    |    | 23 | 23   |     | -1.3 |     |       |     |     |     |     |   |   |
| GPZ | Sn    | 13 | 23 | 57   |     | -4.7 |     | 10.21 | 215 |     |     |     |   |   |

AMPLITUDES: ECZ            0.3 0.4    GNZ            1.1 0.9    WTZ            0.9 0.7  
                  TUA            0.3 0.2    MNG            0.4 0.4    WEL            0.1

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FEB 27    14<sup>h</sup>43<sup>m</sup>33<sup>s</sup>.8    32°.79s    178°.48w    12 km    M = 4.5  
                                  ± 2.7            0.10            0.28            R    S.E. of RES. 2.8

| STN | PHASE | H  | M  | S    | DIR | RES   | WT  | DIST  | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|-------|-----|-------|-----|-----|-----|-----|---|---|
| ECZ | Pn    | 14 | 44 | 56   |     | 2.1   | 100 | 5.46  | 206 |     | 4.6 | 4.8 |   |   |
|     | Sn    |    | 45 | 58   |     | 3.4   | 99  |       |     |     |     |     |   |   |
|     | eS*   |    | 46 | 21   |     | 1.7   | 100 |       |     |     |     |     |   |   |
| WTZ | Pn    | 14 | 45 | 04   |     | -2.3  | 100 | 6.37  | 214 |     | 4.6 | 4.5 |   |   |
|     | Sn    |    | 46 | 12   |     | -4.3  | 99  |       |     |     |     |     |   |   |
|     | S*    |    |    | 45   |     | -1.4  | 100 |       |     |     |     |     |   |   |
| GNZ | Pn    | 14 | 45 | 07   |     | -1.0  | 100 | 6.50  | 205 |     | 4.7 | 4.5 |   |   |
|     | Sn    |    | 46 | 17   |     | -2.4  | 100 |       |     |     |     |     |   |   |
|     | S*    |    |    | 56   |     | 5.7   | 98  |       |     |     |     |     |   |   |
| ONE | ePn   | 14 | 45 | 11   |     | 1.1   | 100 | 6.63  | 241 |     |     |     |   |   |
|     | eP*   |    |    | 29   |     | 0.8   | 100 |       |     |     |     |     |   |   |
| TUA | Pn    | 14 | 45 | 14   |     | -0.6  | 100 | 6.97  | 209 |     | 4.8 | 4.4 |   |   |
|     | Sn    |    | 46 | 27   |     | -3.9  | 99  |       |     |     |     |     |   |   |
| KRP | Pn    | 14 | 45 | 16   |     | 0.0   | 100 | 7.08  | 222 |     |     |     |   |   |
|     | P*    |    |    | 37   |     | 1.2   | 100 |       |     |     |     |     |   |   |
| CRZ | Pn    | 14 | 45 | 23.5 |     | 1.0   | 100 | 7.56  | 255 |     |     |     |   |   |
| MNG | Pn    | 14 | 45 | 40.5 |     | -4.3  |     | 9.20  | 210 |     | 4.1 | 4.3 |   |   |
|     | eSn   |    | 47 | 13   |     | -11.2 |     |       |     |     |     |     |   |   |
|     | eS*   |    |    | 57   |     | -14.2 |     |       |     |     |     |     |   |   |
| WEL | Sn    | 14 | 47 | 36   |     | -8.7  |     | 10.05 | 211 | 4.4 |     |     |   |   |
| CIZ | Sn    | 14 | 48 | 16   |     | 2.3   |     | 11.26 | 173 |     |     |     |   |   |
| GPZ | Sn    | 14 | 48 | 41.5 |     | -12.4 |     | 12.93 | 210 | 4.4 |     |     |   |   |

AMPLITUDES: ECZ            0.3 0.5    WTZ            1.0 0.7    GNZ            0.9 0.9  
                  TUA            0.4 0.2    MNG            0.3 0.6    WEL            0.1  
                  GPZ            0.1



FEB 28 02<sup>h</sup>18<sup>m</sup>10<sup>s</sup>.7 35°.46S 179°.25W 12 km 77/ 111  
 ± 2.3 0.08 0.20 R S.E. of RES. 1.8 M = 4.6

| STN         | PHASE | H   | M   | S     | DIR | RES   | WT  | DIST  | AZ  | W-A | W   | P | W   | S   |
|-------------|-------|-----|-----|-------|-----|-------|-----|-------|-----|-----|-----|---|-----|-----|
| ECZ         | Pn    | 02  | 18  | 56    |     | 0.9   | 100 | 2.85  | 218 |     | 4.6 |   | 4.8 |     |
|             | Sn    |     | 19  | 31    |     | 2.5   | 99  |       |     |     |     |   |     |     |
| GNZ         | Pn    | 02  | 19  | 08.5  |     | -0.3  | 100 | 3.86  | 214 |     | 4.5 |   | 4.5 |     |
|             | Sn    |     |     | 53.5  |     | 0.8   | 100 |       |     |     |     |   |     |     |
| WTZ         | Sn    | 02  | 19  | 54    |     | -0.6  | 100 | 3.93  | 229 |     |     |   | 4.6 |     |
| TUA         | Pn    | 02  | 19  | 16.5  |     | 0.1   | 100 | 4.41  | 220 |     | 4.8 |   | 4.6 |     |
|             | P*    |     |     | 24    |     | -3.1  | 99  |       |     |     |     |   |     |     |
|             | Sn    |     |     | 20 06 |     | -0.0  | 100 |       |     |     |     |   |     |     |
| KRP         | P*    | 02  | 19  | 22    |     | -12.8 | 0   | 4.86  | 238 |     |     |   |     |     |
|             | P*    |     |     | 33    |     | -1.8  | 100 |       |     |     |     |   |     |     |
| ONE         | eP*   | 02  | 19  | 40    |     | -0.8  | 100 | 5.21  | 265 |     |     |   |     |     |
| TNZ         | ePn   | 02  | 19  | 45    |     | 2.9   |     | 6.29  | 232 |     | 5.2 |   |     |     |
|             | eP*   |     |     | 20 04 |     | 4.7   |     |       |     |     |     |   |     |     |
| MNG         | Pn    | 02  | 19  | 44    |     | -2.5  |     | 6.62  | 217 |     | 4.4 |   | 4.5 |     |
|             | P*    |     |     | 20 00 |     | -4.8  |     |       |     |     |     |   |     |     |
|             | Sn    |     |     | 57.5  |     | -1.6  |     |       |     |     |     |   |     |     |
|             | S*    |     |     | 21 23 |     | -7.8  |     |       |     |     |     |   |     |     |
| CRZ         | Pn    | 02  | 19  | 50    |     | 2.3   | 99  | 6.70  | 276 |     |     |   |     |     |
| WEL         | Sn    | 02  | 21  | 15    |     | -4.8  |     | 7.48  | 217 | 4.6 |     |   |     |     |
| COB         | Sn    | 02  | 21  | 37.5  |     | -5.5  |     | 8.44  | 226 |     | 4.4 |   | 4.1 |     |
| CIZ         | ePn   | 02  | 20  | 15    |     | -0.5  |     | 8.74  | 167 |     |     |   |     |     |
|             | Sn    |     |     | 21 46 |     | -4.1  |     |       |     |     |     |   |     |     |
| KAI         | eSn   | 02  | 22  | 20    |     | -3.5  |     | 10.13 | 223 | 4.4 |     |   |     |     |
| GPZ         | Sn    | 02  | 22  | 21    |     | -7.4  |     | 10.33 | 215 | 4.5 |     |   |     |     |
| AMPLITUDES: |       | ECZ |     | 0.9   | 2.2 | GNZ   |     | 1.7   | 3.0 | WTZ |     |   | 2.5 |     |
|             |       | TUA |     | 1.0   | 0.8 | TNZ   |     | 0.3   |     | MNG |     |   | 1.0 | 1.5 |
|             |       | WEL | 0.3 |       |     | COB   |     | 0.2   | 0.4 | CIZ |     |   | 0.5 | 0.6 |
|             |       | KAI | 0.1 |       |     | GPZ   | 0.2 |       |     |     |     |   |     |     |

MAR 01 07<sup>h</sup>46<sup>m</sup>49<sup>s</sup>.4 39°.96S 176°.61E 12 km 77/ 112  
 ± 0.4 0.02 0.03 R S.E. of RES. 1.4 M = 4.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|---|-----|---|
| TRZ | iPg   | 07 | 47 | 00.2 | U   | 1.7  | 100 | 0.43 | 22  |     |     |   |     |   |
|     | Sg    |    |    | 08   |     | 3.5  | 95  |      |     |     |     |   |     |   |
| CAZ | Pg    | 07 | 47 | 09.5 |     | -0.1 | 100 | 0.99 | 197 |     |     |   |     |   |
|     | i     |    |    | 15.5 |     |      |     |      |     |     |     |   |     |   |
|     | Sg    |    |    | 25   |     | 1.9  | 99  |      |     |     |     |   |     |   |
| GSZ | iPg   | 07 | 47 | 10.0 |     | -0.6 | 100 | 1.04 | 310 |     |     |   |     |   |
|     | Sg    |    |    | 25   |     | 0.2  | 100 |      |     |     |     |   |     |   |
| MNG | iP*   | 07 | 47 | 09.8 |     | 0.6  | 100 | 1.09 | 232 |     |     |   |     |   |
| TUA | P*    | 07 | 47 | 10   |     | -1.4 | 100 | 1.22 | 20  |     | 4.0 |   | 4.3 |   |
|     | i     |    |    | 18   |     |      |     |      |     |     |     |   |     |   |
|     | S*    |    |    | 26.5 |     | -1.2 | 100 |      |     |     |     |   |     |   |
|     | Sg    |    |    | 29   |     | -1.7 | 100 |      |     |     |     |   |     |   |
| WNZ | eP*   | 07 | 47 | 14.5 |     | 0.3  | 100 | 1.38 | 343 |     | 4.7 |   | 4.6 |   |
|     | Pg    |    |    | 17   |     | -0.4 | 100 |      |     |     |     |   |     |   |
|     | Sg    |    |    | 36   |     | -0.1 | 100 |      |     |     |     |   |     |   |
| GNZ | P*    | 07 | 47 | 18.5 |     | -1.2 |     | 1.71 | 40  |     | 3.9 |   | 4.1 |   |
|     | i     |    |    | 28   |     |      |     |      |     |     |     |   |     |   |
|     | S*    |    |    | 41   |     | -1.3 |     |      |     |     |     |   |     |   |
| TNZ | P*    | 07 | 47 | 22.5 |     | -0.3 | 100 | 1.89 | 293 |     | 4.3 |   | 4.2 |   |

|             |     |       |       |      |     |      |     |     |     |
|-------------|-----|-------|-------|------|-----|------|-----|-----|-----|
|             | Pg  |       | 26    | -1.7 | 100 |      |     |     |     |
|             | S*  |       | 48.5  | 0.7  | 100 |      |     |     |     |
|             | Sg  |       | 53    | -0.2 | 100 |      |     |     |     |
| WEL         | Pn  | 07 47 | 20.5  | -0.8 | 100 | 1.93 | 226 | 3.9 |     |
|             | Pg  |       | 28    | -0.6 | 100 |      |     |     |     |
|             | Sn  |       | 44.5  | -0.8 | 100 |      |     |     |     |
|             | e   |       | 48 02 |      |     |      |     |     |     |
| WTZ         | Pn  | 07 47 | 21.0  | -1.1 | 100 | 1.99 | 9   | 4.0 | 4.2 |
|             | ePg |       | 31    | 1.2  | 100 |      |     |     |     |
|             | Sn  |       | 44    | -2.6 | 99  |      |     |     |     |
| KRP         | Pn  | 07 47 | 24.5  | -0.4 | 100 | 2.20 | 337 |     |     |
|             | P*  |       | 30    | 1.9  | 99  |      |     |     |     |
|             | S*  |       | 59    | 2.1  | 99  |      |     |     |     |
| ECZ         | Pn  | 07 47 | 32    | -0.1 |     | 2.72 | 34  | 4.0 | 4.1 |
|             | i   |       | 51.5  |      |     |      |     |     |     |
| COB         | P*  | 07 47 | 48    | 3.3  |     | 3.17 | 248 | 4.1 | 4.0 |
|             | S*  | 48    | 33.5  | 7.4  |     |      |     |     |     |
|             | Sg  |       | 42.5  | 6.3  |     |      |     |     |     |
| KAI         |     |       |       |      |     | 4.69 | 235 | 3.7 |     |
| GPZ         | ePg | 07 48 | 30    | 4.1  |     | 4.77 | 217 | 4.0 |     |
|             | Sn  |       | 52    | -1.5 |     |      |     |     |     |
| MJZ         | Sn  | 07 49 | 22    | -3.5 |     | 6.10 | 227 | 3.8 | 3.8 |
| AMPLITUDES: | TUA | 2.2   | 4.8   | WNZ  | 1.6 | 1.7  | GNZ | 2.0 | 5.7 |
|             | TNZ | 1.7   | 2.2   | WEL  | 0.8 |      | WTZ | 2.7 | 3.4 |
|             | ECZ | 0.3   | 0.4   | COB  | 0.8 | 1.9  | KAI | 0.1 |     |
|             | GPZ | 0.3   |       | MJZ  | 0.3 | 0.5  |     |     |     |

FELT: Southern Hawkes Bay (59,60) MM IV

MAR 03 05<sup>h</sup>29<sup>m</sup>46<sup>s</sup>.6 38°.60S 175°.22E 254 km M= 4.0  
 ± 1.2 0.05 0.09 7 S.E. of RES. 1.2

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W    | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|------|------|------|---|
| KRP         | iP    | 05  | 30  | 21.0    | D   | 0.1  | 100 | 0.72 | 20  |      |      |      |      |   |
|             | S     |     |     | 47.5    |     | -0.0 | 100 |      |     |      |      |      |      |   |
| GSZ         | S     | 05  | 30  | 48.5    |     | 0.8  | 100 | 0.74 | 157 |      |      |      |      |   |
| TUA         | P     | 05  | 30  | 25.5    |     | -0.2 | 100 | 1.52 | 98  |      | 4.1  | 3.9  |      |   |
|             | S     |     |     | 55.5    |     | -0.5 | 100 |      |     |      |      |      |      |   |
| WTZ         | P     | 05  | 30  | 24.5    |     | -1.2 | 100 | 1.52 | 67  |      | 3.6  |      |      |   |
| TRZ         | P     | 05  | 30  | 27.5    |     | 1.4  | 99  | 1.57 | 128 |      | 3.8  | 3.8  |      |   |
|             | S     |     |     | 58      |     | 1.4  | 99  |      |     |      |      |      |      |   |
| MNG         | iP    | 05  | 30  | 30.7    | U   | 0.8  | 100 | 2.02 | 174 |      | 4.1  | 4.2  |      |   |
|             | S     |     |     | 31 01.5 |     | -2.0 | 98  |      |     |      |      |      |      |   |
| GNZ         | P     | 05  | 30  | 31.5    | D   | -0.0 | 100 | 2.20 | 92  |      | 4.7  | 3.5  |      |   |
|             | S     |     |     | 31 06   |     | -0.3 | 100 |      |     |      |      |      |      |   |
| CAZ         | S     | 05  | 31  | 13      |     | 2.6  |     | 2.43 | 162 |      |      |      |      |   |
| WEL         | P     | 05  | 30  | 37      |     | 0.4  |     | 2.71 | 187 | 3.6  |      |      |      |   |
|             | S     |     |     | 31 15   |     | -0.4 |     |      |     |      |      |      |      |   |
| ECZ         | P     | 05  | 30  | 37.5    |     | 0.2  |     | 2.77 | 72  |      | 4.2  | 3.9  |      |   |
|             | eS    |     |     | 31 17.5 |     | 0.8  |     |      |     |      |      |      |      |   |
| COB         | iP    | 05  | 30  | 40.2    | U   | -1.0 |     | 3.14 | 217 |      | 3.9* | 2.2* |      |   |
|             | S     |     |     | 31 21.5 |     | -2.3 |     |      |     |      |      |      |      |   |
| KAI         | S     | 05  | 31  | 52.5    |     | -7.7 |     | 4.89 | 215 | 3.1* |      |      |      |   |
| GPZ         | S     | 05  | 32  | 08.5    |     | -4.2 |     | 5.45 | 200 | 2.9* |      |      |      |   |
| MJZ         | S     | 05  | 32  | 32.5    |     | -2.9 |     | 6.47 | 212 |      |      |      | 2.6* |   |
| AMPLITUDES: | TUA   | 0.6 | 0.4 | WTZ     | 0.5 |      | TRZ | 0.3  | 0.7 |      |      |      |      |   |
|             | MNG   | 3.2 | 5.0 | GNZ     | 5.0 | 0.5  | WEL | 0.1  |     |      |      |      |      |   |
|             | ECZ   | 0.4 | 0.2 | COB     | 1.5 | 0.1  | KAI | 0.1  |     |      |      |      |      |   |

|             |                                                    | GPZ 0.1 |     |      | MJZ      |      |     | 0.2    |     |     |                  |     |  |
|-------------|----------------------------------------------------|---------|-----|------|----------|------|-----|--------|-----|-----|------------------|-----|--|
|             |                                                    |         |     |      |          |      |     |        |     |     | 77/ 114          |     |  |
| MAR 04      | 21 <sup>h</sup> 12 <sup>m</sup> 50 <sup>s</sup> .3 | 37°.04s |     |      | 177°.30E |      |     | 145 km |     |     | M = 3.7          |     |  |
|             | ± 1.1                                              | 0.08    |     |      | 0.05     |      |     | 8      |     |     | S.E. of RES. 0.9 |     |  |
| STN         | PHASE                                              | H       | M   | S    | DIR      | RES  | WT  | DIST   | AZ  | W-A | W P              | W S |  |
| WTZ         |                                                    |         |     |      |          | 0.97 | 195 |        |     |     | 3.7              | 3.6 |  |
| ECZ         | P                                                  | 21      | 13  | 17.5 |          | 1.0  | 99  | 1.19   | 124 |     | 3.7              | 4.0 |  |
|             | e                                                  |         |     | 22.3 |          |      |     |        |     |     |                  |     |  |
|             | eS                                                 |         |     | 36   |          | -0.5 | 100 |        |     |     |                  |     |  |
| KRP         | P                                                  | 21      | 13  | 21.2 |          | -0.3 | 100 | 1.66   | 237 |     | 3.2*             |     |  |
|             | eS                                                 |         |     | 45.5 |          | 0.1  | 100 |        |     |     |                  |     |  |
| GNZ         |                                                    |         |     |      |          |      |     | 1.70   | 161 |     | 3.9              | 3.7 |  |
| TUA         | e                                                  | 21      | 13  | 29   |          |      |     | 1.77   | 184 |     | 3.7              | 3.8 |  |
|             | eS                                                 |         |     | 48   |          | 0.4  | 100 |        |     |     |                  |     |  |
| MNG         | eP                                                 | 21      | 13  | 49   |          | -0.3 | 100 | 3.85   | 201 |     | 3.4              |     |  |
|             | e                                                  |         |     | 56   |          |      |     |        |     |     |                  |     |  |
| AMPLITUDES: |                                                    | WTZ     | 1.8 | 1.7  | ECZ      | 0.7  | 1.2 | KRP    | 1.2 |     |                  |     |  |
|             |                                                    | GNZ     | 1.5 | 1.8  | TUA      | 0.4  | 0.5 | MNG    | 0.3 |     |                  |     |  |

|             |                                                    |     |         |      |          |      |        |      |                  |      |         |  |
|-------------|----------------------------------------------------|-----|---------|------|----------|------|--------|------|------------------|------|---------|--|
|             |                                                    |     |         |      |          |      |        |      |                  |      | 77/ 115 |  |
| MAR 04      | 21 <sup>h</sup> 29 <sup>m</sup> 45 <sup>s</sup> .0 |     | 36°.75s |      | 177°.44E |      | 132 km |      | M = 4.0          |      |         |  |
|             | ± 1.8                                              |     | 0.11    |      | 0.09     |      | 13     |      | S.E. of RES. 1.7 |      |         |  |
| STN         | PHASE                                              | H   | M       | S    | DIR      | RES  | WT     | DIST | AZ               | W-A  | W P W S |  |
| WTZ         |                                                    |     |         |      |          |      |        | 1.29 | 196              |      | 4.2     |  |
| ECZ         | eP                                                 | 21  | 30      | 09.0 |          | -2.3 | 99     | 1.30 | 137              |      | 4.1 4.1 |  |
|             | i                                                  |     |         | 14.5 |          |      |        |      |                  |      |         |  |
|             | iS                                                 |     |         | 33.0 |          | 1.6  | 100    |      |                  |      |         |  |
| KRP         | P                                                  | 21  | 30      | 17.2 |          | -1.3 | 100    | 1.93 | 232              |      | 3.5*    |  |
|             | eS                                                 |     |         | 44   |          | 0.1  | 100    |      |                  |      |         |  |
|             | e                                                  |     |         | 51   |          |      |        |      |                  |      |         |  |
| GNZ         |                                                    |     |         |      |          |      |        | 1.95 | 167              |      | 4.1     |  |
| TUA         | P                                                  | 21  | 30      | 20.5 |          | 0.1  | 100    | 2.07 | 186              |      | 3.9 4.0 |  |
|             | e                                                  |     |         | 30.8 |          |      |        |      |                  |      |         |  |
|             | eS                                                 |     |         | 46   |          | -1.1 | 100    |      |                  |      |         |  |
| GSZ         | eP                                                 | 21  | 30      | 34   |          | 2.5  | 99     | 2.92 | 210              |      |         |  |
| TNZ         | eP                                                 | 21  | 30      | 39   |          | 0.7  | 100    | 3.44 | 224              |      | 3.5*    |  |
| MNG         | eP                                                 | 21  | 30      | 47.7 |          | -0.2 | 100    | 4.16 | 201              |      | 3.6     |  |
|             | e                                                  |     |         | 55.5 |          |      |        |      |                  |      |         |  |
| COB         |                                                    |     |         |      |          |      |        | 5.69 | 219              |      | 3.3*    |  |
| GPZ         | eS                                                 | 21  | 33      | 05   |          | -0.4 | 100    | 7.86 | 206              | 3.3* |         |  |
| AMPLITUDES: |                                                    | WTZ | 4.5     |      | ECZ      | 1.6  | 1.8    | KRP  | 2.3              |      |         |  |
|             |                                                    | GNZ | 2.0     |      | TUA      | 0.5  | 0.6    | TNZ  | 0.3              |      |         |  |
|             |                                                    | MNG | 0.5     |      | COB      | 0.2  |        | GPZ  | 0.2              |      |         |  |

|             |                                                    |     |         |      |          |      |       |      |                  |     |         |  |
|-------------|----------------------------------------------------|-----|---------|------|----------|------|-------|------|------------------|-----|---------|--|
|             |                                                    |     |         |      |          |      |       |      |                  |     | 77/ 116 |  |
| MAR 05      | 02 <sup>h</sup> 52 <sup>m</sup> 56 <sup>s</sup> .5 |     | 38°.60s |      | 176°.10E |      | 12 km |      | M = 2.7          |     |         |  |
|             | ± R                                                |     | R       |      | R        |      | R     |      | S.E. of RES. 1.5 |     |         |  |
| STN         | PHASE                                              | H   | M       | S    | DIR      | RES  | WT    | DIST | AZ               | W-A | W P W S |  |
| WNZ         | Pg                                                 | 02  | 52      | 57.0 |          | -1.7 | 99    | 0.03 | 176              |     |         |  |
| KRP         | ePg                                                | 02  | 53      | 14.0 |          | 1.1  | 100   | 0.81 | 327              |     | 2.5     |  |
|             | e                                                  |     |         | 28.8 |          |      |       |      |                  |     |         |  |
| WTZ         |                                                    |     |         |      |          |      |       | 0.93 | 49               |     | 2.6     |  |
| MNG         | ePg                                                | 02  | 53      | 39   |          | 0.6  | 100   | 2.07 | 193              |     | 2.9     |  |
| AMPLITUDES: |                                                    | KRP | 0.4     |      |          | WTZ  | 0.3   |      | MNG              | 0.2 |         |  |



FELT: Wairakei (41)

MAR 05 07<sup>h</sup>12<sup>m</sup>03<sup>s</sup>.8 40°.30s 173°.18E 20 km 77/ 117  
 ± 6.4 0.14 0.18 46 S.E. of RES. 4.5 M = 3.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| COB |       |    |    |      |     |      |     | 0.85 | 203 |     | 3.5 3.0 |
| TNZ | eP    | 07 | 12 | 29.5 |     | 1.2  | 100 | 1.45 | 40  |     | 3.1 3.4 |
|     | S     |    |    | 52.5 |     | 5.9  | 99  |      |     |     |         |
| WEL | S     | 07 | 12 | 54.1 |     | 4.8  | 100 | 1.56 | 130 | 3.8 |         |
| MNG | P     | 07 | 12 | 33.0 |     | 0.1  | 100 | 1.78 | 101 |     | 3.0 3.7 |
|     | S     |    |    | 55.8 |     | 1.0  | 100 |      |     |     |         |
| TRZ | S     | 07 | 13 | 18.2 |     | -3.3 | 100 | 2.90 | 76  |     | 3.9     |
| TUA | eS    | 07 | 13 | 26.5 |     | -7.4 | 98  | 3.41 | 65  |     | 4.3     |
| GPZ | S     | 07 | 13 | 32.1 |     | -1.9 | 100 | 3.42 | 187 | 4.4 |         |
| MJZ |       |    |    |      |     |      |     | 4.20 | 208 |     | 3.8 3.6 |
| GSP | P     | 07 | 13 | 08.5 |     | -1.4 | 100 | 4.50 | 210 |     |         |
|     | S     |    | 14 | 02.5 |     | 2.6  | 100 |      |     |     |         |
| MSZ | S     | 07 | 14 | 30.5 |     | -2.0 | 100 | 5.85 | 220 |     | 4.0     |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | COB | 2.6 | 2.6 | TNZ | 0.2 | 0.5 | WEL | 0.9 |
|             | MNG | 0.6 | 3.8 | TRZ |     | 0.5 | TUA |     |
|             | GPZ | 1.4 |     | MJZ | 0.6 | 0.7 | MSZ | 0.4 |
|             |     |     |     |     |     |     |     | 0.7 |

MAR 05 09<sup>h</sup>55<sup>m</sup>42<sup>s</sup>.9 38°.52s 177°.95E 33 km 77/ 118  
 ± 1.0 0.07 0.10 R S.E. of RES. 2.0 M = 3.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| TUA | P*    | 09 | 55 | 55.2 |     | -1.2 | 100 | 0.68 | 245 |     | 3.3 3.6 |
|     | S*    |    | 56 | 09.0 |     | 2.8  | 99  |      |     |     |         |
| WTZ |       |    |    |      |     |      |     | 0.93 | 305 |     | 3.7 4.3 |
| ECZ | P*    | 09 | 55 | 59.0 |     | -1.7 | 100 | 0.95 | 30  |     |         |
|     | S*    |    | 56 | 16.0 |     | 2.2  | 100 |      |     |     |         |
| KRP | ePn   | 09 | 56 | 14.2 |     | 0.5  | 100 | 1.99 | 287 |     | 3.4     |
|     | Sn    |    |    | 34.5 |     | -2.2 | 100 |      |     |     |         |
| GSZ | eP*   | 09 | 56 | 20   |     | 1.8  | 100 | 1.99 | 247 |     |         |
| MNG | Pn    | 09 | 56 | 23.1 |     | -2.0 | 100 | 2.83 | 222 |     | 3.3 3.5 |
|     | e     |    |    | 41.8 |     |      |     |      |     |     |         |
|     | Sn    |    |    | 57.8 |     | 0.8  | 100 |      |     |     |         |
| TNZ | ePn   | 09 | 56 | 25   |     | -0.6 | 100 | 2.86 | 255 |     | 4.1     |
| WEL | eSn   | 09 | 57 | 17   |     | -0.6 | 100 | 3.69 | 221 | 3.9 |         |

|             |     |     |     |     |     |    |     |     |
|-------------|-----|-----|-----|-----|-----|----|-----|-----|
| AMPLITUDES: | TUA | 1.3 | 2.8 | WTZ | 6.7 | 23 | KRP | 0.4 |
|             | MNG | 0.5 | 0.9 | TNZ | 0.2 |    | WEL | 0.2 |

FELT: Ormond (44) MM III

MAR 05 10<sup>h</sup>25<sup>m</sup>45<sup>s</sup>.0 36°.63s 177°.96E 277 km 77/ 119  
 ± 4.5 0.17 0.48 34 S.E. of RES. 2.0 M = 4.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| ECZ | e     | 10 | 26 | 34.7 |     |      |     | 1.16 | 156 |     | 3.9     |
|     | e     |    |    | 47.8 |     |      |     |      |     |     |         |
|     | eS    |    |    | 53.8 |     | -0.5 | 100 |      |     |     |         |
| WTZ |       |    |    |      |     |      |     | 1.57 | 209 |     | 4.6 4.1 |
| KRP | P     | 10 | 26 | 32.0 |     | -0.9 | 100 | 2.33 | 235 |     | 3.0*    |
| TRZ | e     | 10 | 27 | 22   |     |      |     | 3.06 | 197 |     | 4.2     |
|     | eS    |    |    | 25.5 |     | 2.4  | 99  |      |     |     |         |

|             |     |            |          |          |             |
|-------------|-----|------------|----------|----------|-------------|
| TNZ         | eP  | 10 26 50   | 1.6 100  | 3.82 227 | 3.4*        |
| MNG         | P   | 10 26 55.3 | -0.3 100 | 4.44 205 | 4.3 4.1     |
|             | eS  | 27 49      | -1.7 100 |          |             |
| WEL         | eS  | 10 28 08   | -0.6 100 | 5.28 207 | 4.2         |
| AMPLITUDES: | ECZ | 0.4        | WTZ      | 4.0 1.3  | KRP 0.5     |
|             | TRZ | 0.7        | TNZ      | 0.2      | MNG 1.7 1.2 |
|             | WEL | 0.2        |          |          |             |

MAR 06 03<sup>h</sup>59<sup>m</sup>14<sup>s</sup>.2 35°.59s 177°.77E 155 km M = 3.9  
 ± 7.0 0.70 0.33 64 S.E. of RES. 2.5

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S    |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|---|---|---|------|
| ECZ         | P     | 03  | 59 | 52.2 |     | -0.1 | 100 | 2.20 | 164 |     |   |   |   | 3.9  |
|             | e     | 04  | 00 | 01.8 |     |      |     |      |     |     |   |   |   |      |
| KRP         | eP    | 04  | 00 | 01   |     | -0.7 | 100 | 2.94 | 217 |     |   |   |   | 2.8* |
|             | eS    |     |    | 38   |     | -0.1 | 100 |      |     |     |   |   |   |      |
|             | e     |     |    | 46   |     |      |     |      |     |     |   |   |   |      |
| GNZ         |       |     |    |      |     |      |     | 3.06 | 176 |     |   |   |   | 4.3  |
| GSZ         | eP    | 04  | 00 | 18.5 |     | 2.1  | 99  | 4.08 | 205 |     |   |   |   |      |
| MNG         | eP    | 04  | 00 | 31.8 |     | -1.3 | 100 | 5.34 | 199 |     |   |   |   | 3.6  |
| AMPLITUDES: | ECZ   | 0.4 |    |      |     | KRP  | 0.3 |      | GNZ |     |   |   |   | 1.4  |
|             | MNG   | 0.3 |    |      |     |      |     |      |     |     |   |   |   |      |

MAR 06 10<sup>h</sup>38<sup>m</sup>03<sup>s</sup>.2 37°.86s 177°.27E 145 km M = 3.7  
 ± 1.4 0.05 0.09 12 S.E. of RES. 1.7

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT      | DIST | AZ  | W-A | W | P | W | S         |
|-------------|-------|-----|-----|---------|-----|------|---------|------|-----|-----|---|---|---|-----------|
| TUA         | e     | 10  | 38  | 32.0    |     |      |         | 0.94 | 185 |     |   |   |   | 3.5 3.9   |
|             | S     |     |     | 44.2    |     | -1.3 | 100     |      |     |     |   |   |   |           |
| GNZ         |       |     |     |         |     |      |         | 0.98 | 143 |     |   |   |   | 3.8 4.1   |
| ECZ         | P     | 10  | 38  | 26.8    |     | -1.0 | 100     | 1.03 | 81  |     |   |   |   | 4.0       |
| KRP         | P     | 10  | 38  | 32.6    |     | 1.4  | 100     | 1.37 | 267 |     |   |   |   | 3.2* 2.9* |
|             | S     |     |     | 52.5    |     | -0.2 | 100     |      |     |     |   |   |   |           |
| TRZ         | eP    | 10  | 38  | 36      |     | 0.9  | 100     | 1.73 | 192 |     |   |   |   | 3.4 3.7   |
|             | S     |     |     | 39 02.0 |     | 2.5  | 99      |      |     |     |   |   |   |           |
| GBZ         | eP    | 10  | 38  | 40      |     | -0.5 | 100     | 2.18 | 318 |     |   |   |   |           |
| MNG         | eP    | 10  | 38  | 53      |     | 0.8  | 100     | 3.09 | 206 |     |   |   |   | 3.2 3.5   |
|             | S     |     |     | 39 28   |     | -1.5 | 100     |      |     |     |   |   |   |           |
| WEL         | eS    | 10  | 39  | 48      |     | -1.4 | 100     | 3.93 | 209 | 3.9 |   |   |   |           |
| AMPLITUDES: | TUA   | 0.6 | 1.3 |         |     | GNZ  | 2.5 8.0 |      | ECZ |     |   |   |   | 1.5       |
|             | KRP   | 1.6 | 0.8 |         |     | TRZ  | 0.2 0.8 |      | MNG |     |   |   |   | 0.3 0.7   |
|             | WEL   | 0.2 |     |         |     |      |         |      |     |     |   |   |   |           |

MAR 06 16<sup>h</sup>40<sup>m</sup>09<sup>s</sup>.0 45°.23s 167°.09E 12 km M = 4.0  
 ± 1.4 0.04 0.10 R S.E. of RES. 1.5

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S       |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---|---|---|---------|
| MNW | P*    | 16 | 40 | 22.0  |     | 0.5  | 100 | 0.67 | 146 |     |   |   |   |         |
|     | S*    |    |    | 29.5  |     | -1.0 | 100 |      |     |     |   |   |   |         |
| MSZ | P*    | 16 | 40 | 24.2  |     | 0.2  | 100 | 0.81 | 47  |     |   |   |   | 3.9 4.0 |
|     | S*    |    |    | 33.5  |     | -1.4 | 100 |      |     |     |   |   |   |         |
| ROX | P*    | 16 | 40 | 37.3  |     | 0.0  | 100 | 1.59 | 100 |     |   |   |   | 4.3 4.3 |
|     | S*    |    |    | 56.5  |     | -1.8 | 99  |      |     |     |   |   |   |         |
| GSP | eP*   | 16 | 40 | 50.5  |     | 0.1  | 100 | 2.36 | 63  |     |   |   |   |         |
|     | S*    |    |    | 41 21 |     | -0.3 | 100 |      |     |     |   |   |   |         |
| OMZ | ePn   | 16 | 40 | 52    |     | 0.5  | 100 | 2.71 | 88  |     |   |   |   | 3.9 3.8 |

|             |                                                    |     |         |         |     |          |     |      |        |         |      |     |                    |
|-------------|----------------------------------------------------|-----|---------|---------|-----|----------|-----|------|--------|---------|------|-----|--------------------|
|             | S*                                                 | 41  | 35      |         |     | 3.1      | 96  |      |        |         |      |     |                    |
| GPZ         |                                                    |     |         |         |     |          |     |      |        | 4.27    | 71   | 3.9 |                    |
| AMPLITUDES: | MSZ                                                |     | 17      | 44      | ROX |          |     |      | 4.2    | 12      | OMZ  |     | 0.6 1.0            |
|             | GPZ                                                | 0.3 |         |         |     |          |     |      |        |         |      |     |                    |
| MAR 06      | 16 <sup>h</sup> 46 <sup>m</sup> 22 <sup>s</sup> .7 |     | 45°.23s |         |     | 167°.16E |     |      | 12 km  |         |      |     | 77/ 123<br>M = 3.8 |
|             | ± 1.7                                              |     | 0.04    |         |     | 0.12     |     | R    |        | S.E. of | RES. | 1.8 |                    |
| STN         | PHASE                                              | H   | M       | S       | DIR | RES      | WT  | DIST | AZ     | W-A     | W P  | W S |                    |
| MNW         | P*                                                 | 16  | 46      | 35.0    |     | 0.2      | 100 | 0.64 | 150    |         |      |     |                    |
|             | S*                                                 |     |         | 42.5    |     | -1.1     | 100 |      |        |         |      |     |                    |
| MSZ         | P*                                                 | 16  | 46      | 37.0    |     | -0.1     | 100 | 0.77 | 44     |         | 3.4  | 3.9 |                    |
|             | S*                                                 |     |         | 47.0    |     | -0.6     | 100 |      |        |         |      |     |                    |
| ROX         | P*                                                 | 16  | 46      | 50.2    |     | -0.1     | 100 | 1.55 | 100    |         | 3.8  | 4.0 |                    |
|             | S*                                                 |     |         | 47 09.0 |     | -1.7     | 100 |      |        |         |      |     |                    |
| GSP         | P*                                                 | 16  | 47      | 03.7    |     | 0.3      | 100 | 2.32 | 63     |         |      |     |                    |
|             | S*                                                 |     |         | 32      |     | -1.8     | 100 |      |        |         |      |     |                    |
| OMZ         | ePn                                                | 16  | 47      | 06      |     | 1.4      | 100 | 2.66 | 88     |         | 3.6  | 3.6 |                    |
|             | eS*                                                |     |         | 48      |     | 3.7      | 96  |      |        |         |      |     |                    |
| GPZ         |                                                    |     |         |         |     |          |     |      | 4.22   | 71      | 3.9  |     |                    |
| AMPLITUDES: | MSZ                                                |     | 6.7     | 35      | ROX |          |     | 1.6  | 5.9    | OMZ     |      |     | 0.3 0.7            |
|             | GPZ                                                | 0.3 |         |         |     |          |     |      |        |         |      |     |                    |
| MAR 06      | 16 <sup>h</sup> 47 <sup>m</sup> 09 <sup>s</sup> .4 |     | 45°.24s |         |     | 167°.12E |     |      | 12 km  |         |      |     | 77/ 124<br>M = 3.7 |
|             | ± 2.0                                              |     | 0.05    |         |     | 0.13     |     | R    |        | S.E. of | RES. | 1.8 |                    |
| STN         | PHASE                                              | H   | M       | S       | DIR | RES      | WT  | DIST | AZ     | W-A     | W P  | W S |                    |
| MNW         | P*                                                 | 16  | 47      | 22.0    |     | 0.4      | 100 | 0.65 | 147    |         |      |     |                    |
|             | S*                                                 |     |         | 29.4    |     | -1.0     | 100 |      |        |         |      |     |                    |
| MSZ         | P*                                                 | 16  | 47      | 25.0    |     | 0.7      | 100 | 0.80 | 45     |         | 3.7  | 3.9 |                    |
|             | S*                                                 |     |         | 34.2    |     | -0.9     | 100 |      |        |         |      |     |                    |
| ROX         | P*                                                 | 16  | 47      | 37.6    |     | 0.3      | 100 | 1.57 | 99     |         | 3.8  | 3.8 |                    |
|             | S*                                                 |     |         | 56.6    |     | -1.5     | 100 |      |        |         |      |     |                    |
| GSP         | eS*                                                | 16  | 48      | 20      |     | -1.3     | 100 | 2.34 | 63     |         |      |     |                    |
| OMZ         | eS*                                                | 16  | 48      | 35      |     | 3.3      | 97  | 2.69 | 88     |         |      | 3.4 |                    |
| GPZ         |                                                    |     |         |         |     |          |     | 4.25 | 71     | 3.7     |      |     |                    |
| AMPLITUDES: | MSZ                                                |     | 11      | 30      | ROX |          |     | 1.4  | 4.0    | OMZ     |      |     | 0.4                |
|             | GPZ                                                | 0.2 |         |         |     |          |     |      |        |         |      |     |                    |
| MAR 06      | 17 <sup>h</sup> 39 <sup>m</sup> 47 <sup>s</sup> .9 |     | 48°.62s |         |     | 165°.85E |     |      | 33 km  |         |      |     | 77/ 125<br>M = 4.2 |
|             | ± 2.8                                              |     | 0.16    |         |     | 0.33     |     | R    |        | S.E. of | RES. | 1.6 |                    |
| STN         | PHASE                                              | H   | M       | S       | DIR | RES      | WT  | DIST | AZ     | W-A     | W P  | W S |                    |
| MNW         | P                                                  | 17  | 40      | 35.0    |     | 1.3      | 100 | 3.09 | 24     |         | 4.5  | 4.4 |                    |
|             | S                                                  |     |         | 41 06.5 |     | -1.7     | 99  |      |        |         |      |     |                    |
| ROX         | eP                                                 | 17  | 40      | 44      |     | -1.3     | 100 | 3.94 | 38     |         | 4.0  | 4.1 |                    |
|             | S                                                  |     |         | 41 29   |     | 0.3      | 100 |      |        |         |      |     |                    |
| MSZ         | S                                                  | 17  | 41      | 35.5    |     | 0.6      | 100 | 4.20 | 21     |         |      | 4.2 |                    |
| GSP         | e                                                  | 17  | 41      | 15      |     |          |     | 5.34 | 34     |         |      |     |                    |
|             | eS                                                 |     |         | 42 03   |     | 0.8      | 100 |      |        |         |      |     |                    |
| AMPLITUDES: | MNW                                                |     | 3.0     | 5.3     | ROX |          |     | 0.4  | 1.1    | MSZ     |      |     | 2.2                |
| MAR 07      | 01 <sup>h</sup> 09 <sup>m</sup> 26 <sup>s</sup> .2 |     | 37°.29s |         |     | 178°.47E |     |      | 132 km |         |      |     | 77/ 126<br>M = 4.4 |
|             | ± 1.7                                              |     | 0.06    |         |     | 0.12     |     | 15   |        | S.E. of | RES. | 1.9 |                    |



| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|------|------|------|
| ECZ         | P     | 01  | 09 | 43.5    |     | -1.7 | 100 | 0.41 | 171 |      |      |      |
| WTZ         | P     | 01  | 09 | 53.2    |     | -0.1 | 100 | 1.37 | 239 |      |      |      |
| TUA         | P     | 01  | 10 | 00.4    |     | 1.6  | 100 | 1.84 | 214 |      | 4.5  | 4.5  |
|             | eS    |     |    | 26      |     | 2.5  | 99  |      |     |      |      |      |
| KRP         | P     | 01  | 10 | 07.0    |     | 0.9  | 100 | 2.41 | 254 |      | 3.8* | 3.4* |
|             | S     |     |    | 34.0    |     | -2.2 | 99  |      |     |      |      |      |
| GBZ         | iP    | 01  | 10 | 08.9    |     | 0.1  | 100 | 2.63 | 293 |      |      |      |
|             | e     |     |    | 38.0    |     |      |     |      |     |      |      |      |
| CNZ         | eP    | 01  | 10 | 16.5    |     | 2.8  | 99  | 2.99 | 229 |      |      |      |
| GSZ         | P     | 01  | 10 | 17.0    |     | 3.0  |     | 3.01 | 228 |      |      |      |
| CAZ         | P     | 01  | 10 | 24.9    |     | -2.3 | 99  | 4.01 | 205 |      |      |      |
|             | S     |     |    | 11 12.8 |     | -1.1 | 100 |      |     |      |      |      |
| MNG         | P     | 01  | 10 | 28.3    |     | 0.4  | 100 | 4.06 | 214 |      | 4.3  |      |
| WEL         | e     | 01  | 11 | 32      |     |      |     | 4.92 | 215 | 4.4  |      |      |
|             | S     |     |    | 35      |     | -0.6 | 100 |      |     |      |      |      |
| CRZ         | S     | 01  | 11 | 49.7    |     | 0.1  | 100 | 5.50 | 299 |      |      | 3.7* |
| COB         |       |     |    |         |     |      |     | 5.86 | 228 |      | 3.7* |      |
| GPZ         | S     | 01  | 12 | 41.0    |     | -4.2 |     | 7.79 | 213 | 3.9* |      |      |
| GSP         | P     | 01  | 11 | 40.2    |     | 0.9  |     | 9.38 | 221 |      |      |      |
|             | S     |     |    | 13 21.0 |     | -2.2 |     |      |     |      |      |      |
| AMPLITUDES: |       | TUA |    | 2.5     | 2.4 | KRP  |     | 4.3  | 1.8 | GBZ  | 8.7  |      |
|             |       | MNG |    | 2.3     |     | WEL  | 0.4 |      |     | CRZ  |      | 0.5  |
|             |       | COB |    | 0.5     |     | GPZ  | 0.7 |      |     |      |      |      |

MAR 07 01<sup>h</sup>59<sup>m</sup>38<sup>s</sup>.5 36°.85S 178°.24E 33 km M = 3.7  
 ± 1.4 0.06 0.09 R S.E. of RES. 1.4

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | P*    | 01  | 59 | 55.0 |     | 0.0  | 100 | 0.87 | 164 |     | 3.5 | 3.7 |
|             | eS*   | 02  | 00 | 08   |     | 0.9  | 100 |      |     |     |     |     |
| TUA         | e     | 02  | 00 | 31   |     |      |     | 2.13 | 203 |     | 4.0 | 3.9 |
|             | eS*   |     |    | 44.5 |     | 0.2  | 100 |      |     |     |     |     |
| GBZ         | P*    | 02  | 00 | 19.9 |     | 0.7  | 100 | 2.31 | 285 |     |     |     |
|             | S*    |     |    | 49.8 |     | 0.3  | 100 |      |     |     |     |     |
| MNG         | ePn   | 02  | 00 | 39   |     | -2.2 | 98  | 4.34 | 209 |     | 3.3 |     |
| AMPLITUDES: |       | ECZ |    | 0.8  | 1.6 | TUA  |     | 0.8  | 0.7 | MNG | 0.2 |     |

MAR 07 02<sup>h</sup>00<sup>m</sup>38<sup>s</sup>.8 39°.45S 175°.85E 12 km M = 3.5  
 ± 0.7 0.02 0.07 R S.E. of RES. 1.1

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| GSZ         | P*    | 02  | 00 | 44.3    |     | -0.2 | 100 | 0.27 | 310 |     |     |     |
|             | S*    |     |    | 48.0    |     | -0.4 | 100 |      |     |     |     |     |
| CNZ         | P*    | 02  | 00 | 45.8    |     | 0.0  | 100 | 0.34 | 317 |     |     |     |
|             | S*    |     |    | 50.8    |     | 0.1  | 100 |      |     |     |     |     |
| MNG         | P*    | 02  | 00 | 58.8    |     | -1.7 | 99  | 1.21 | 193 |     | 3.6 | 3.2 |
|             | S*    |     |    | 01 16.3 |     | -0.2 | 100 |      |     |     |     |     |
| KRP         | P*    | 02  | 01 | 07.9    |     | 1.6  | 99  | 1.54 | 351 |     | 3.9 | 3.5 |
|             | eS*   |     |    | 26      |     | -0.7 | 100 |      |     |     |     |     |
| WEL         | e     | 02  | 01 | 37      |     |      |     | 2.02 | 204 | 3.3 |     |     |
|             | eS*   |     |    | 42      |     | 1.2  | 100 |      |     |     |     |     |
| AMPLITUDES: |       | MNG |    | 5.0     | 2.8 | KRP  |     | 1.6  | 0.5 | WEL | 0.2 |     |

| MAR 07 02 <sup>h</sup> 23 <sup>m</sup> 08 <sup>s</sup> .9 34°.95s 176°.30w 33 km 77/ 129 M = 4.6 |       |    |    |      |     |      |     |       |     |             |
|--------------------------------------------------------------------------------------------------|-------|----|----|------|-----|------|-----|-------|-----|-------------|
| ±12.2 0.81 1.65 R S.E. of RES. 4.6                                                               |       |    |    |      |     |      |     |       |     |             |
| STN                                                                                              | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A W P W S |
| GNZ                                                                                              |       |    |    |      |     |      |     | 5.87  | 229 | 4.7 4.5     |
| KRP                                                                                              | eP    | 02 | 24 | 49.5 |     | -1.6 | 100 | 7.23  | 243 | 4.6         |
| MNG                                                                                              | eP    | 02 | 25 | 12.0 |     | 1.7  | 100 | 8.63  | 227 | 4.5 4.4     |
|                                                                                                  | S     |    | 26 | 45   |     | 2.7  | 100 |       |     |             |
| GPZ                                                                                              | eS    | 02 | 28 | 06   |     | -2.8 | 100 | 12.23 | 221 | 4.8         |
| AMPLITUDES: GNZ 1.2 1.1 KRP 0.3 MNG 0.8 0.8                                                      |       |    |    |      |     |      |     |       |     |             |
| GPZ 0.3                                                                                          |       |    |    |      |     |      |     |       |     |             |

| MAR 07 13 <sup>h</sup> 08 <sup>m</sup> 28 <sup>s</sup> .8 37°.44s 178°.38E 134 km 77/ 130 M = 3.9 |       |    |    |      |     |      |     |      |     |             |
|---------------------------------------------------------------------------------------------------|-------|----|----|------|-----|------|-----|------|-----|-------------|
| ± 2.7 0.14 0.18 19 S.E. of RES. 2.6                                                               |       |    |    |      |     |      |     |      |     |             |
| STN                                                                                               | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A W P W S |
| ECZ                                                                                               | P     | 13 | 08 | 44.8 |     | -2.7 | 100 | 0.28 | 153 |             |
|                                                                                                   | e     |    |    | 57.5 |     |      |     |      |     |             |
| WTZ                                                                                               | P     | 13 | 08 | 54.9 |     | 0.4  | 100 | 1.23 | 244 |             |
|                                                                                                   | S     |    | 09 | 13.8 |     | -0.4 | 100 |      |     |             |
| GNZ                                                                                               |       |    |    |      |     |      |     | 1.23 | 193 | 3.7 3.8     |
| WTZ                                                                                               |       |    |    |      |     |      |     | 1.23 | 244 | 4.2 4.1     |
| TUA                                                                                               | e     | 13 | 09 | 02.8 |     |      |     | 1.67 | 215 | 3.8 3.8     |
|                                                                                                   | eS    |    |    | 26.0 |     | 3.1  | 99  |      |     |             |
| KRP                                                                                               | P     | 13 | 09 | 08.0 |     | 0.7  | 100 | 2.31 | 257 | 3.2*        |
|                                                                                                   | S     |    |    | 34.7 |     | -1.7 | 100 |      |     |             |
| GSZ                                                                                               | P     | 13 | 09 | 18.0 |     | 3.4  | 99  | 2.86 | 229 |             |
| MNG                                                                                               | P     | 13 | 09 | 29.0 |     | 0.7  | 100 | 3.90 | 215 | 3.6 3.7     |
|                                                                                                   | eS    |    | 10 | 11.2 |     | -2.5 | 100 |      |     |             |
| WEL                                                                                               | eS    | 13 | 10 | 36   |     | 1.7  | 100 | 4.75 | 215 | 4.1         |
| GPZ                                                                                               | eS    | 13 | 11 | 41   |     | -2.7 | 100 | 7.62 | 213 | 3.3*        |
| AMPLITUDES: ECZ 3.0 GNZ 1.6 3.7 WTZ 4.8 4.2                                                       |       |    |    |      |     |      |     |      |     |             |
| TUA 0.6 0.6 KRP 1.1 MNG 0.5 0.8                                                                   |       |    |    |      |     |      |     |      |     |             |
| WEL 0.2 GPZ 0.2                                                                                   |       |    |    |      |     |      |     |      |     |             |

| MAR 07 18 <sup>h</sup> 20 <sup>m</sup> 53 <sup>s</sup> .2 38°.33s 175°.69E 242 km 77/ 131 M = 4.1 |       |    |    |      |     |      |     |      |     |             |
|---------------------------------------------------------------------------------------------------|-------|----|----|------|-----|------|-----|------|-----|-------------|
| ± 1.2 0.05 0.10 10 S.E. of RES. 1.7                                                               |       |    |    |      |     |      |     |      |     |             |
| STN                                                                                               | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A W P W S |
| KRP                                                                                               | P     | 18 | 21 | 26.0 |     | 0.9  | 100 | 0.42 | 344 | 3.5*        |
|                                                                                                   | S     |    |    | 50.3 |     | 0.4  | 100 |      |     |             |
| GSZ                                                                                               | eP    | 18 | 21 | 28.7 |     | 1.4  | 100 | 0.94 | 185 |             |
| WTZ                                                                                               | P     | 18 | 21 | 26.9 |     | -1.1 | 100 | 1.08 | 72  | 4.1 3.7     |
|                                                                                                   | S     |    |    | 51.5 |     | -3.7 | 96  |      |     |             |
| TUA                                                                                               | eP    | 18 | 21 | 29.5 |     | 0.5  | 100 | 1.24 | 113 | 4.1 4.3     |
|                                                                                                   | e     |    |    | 51   |     |      |     |      |     |             |
| TNZ                                                                                               | eP    | 18 | 21 | 31   |     | 1.3  | 100 | 1.33 | 230 | 3.1*        |
| TRZ                                                                                               | eP    | 18 | 21 | 32   |     | 1.0  | 100 | 1.50 | 144 | 3.8 4.2     |
|                                                                                                   | eS    |    | 22 | 02   |     | 1.6  | 100 |      |     |             |
| GNZ                                                                                               |       |    |    |      |     |      |     | 1.85 | 100 | 4.5 4.2     |
| GBZ                                                                                               | eP    | 18 | 21 | 35.3 |     | -1.2 | 100 | 2.12 | 355 |             |
| MNG                                                                                               | P     | 18 | 21 | 39.1 |     | 1.0  | 100 | 2.29 | 184 | 4.1 4.1     |
|                                                                                                   | S     |    | 22 | 12.2 |     | -0.7 | 100 |      |     |             |
| ECZ                                                                                               | P     | 18 | 21 | 38.5 |     | -0.2 | 100 | 2.35 | 75  | 3.9 4.0     |
|                                                                                                   | S     |    | 22 | 14.2 |     | 0.3  | 100 |      |     |             |

|             |     |          |      |     |      |     |      |      |      |
|-------------|-----|----------|------|-----|------|-----|------|------|------|
| WEL         | eP  | 18 21 47 | 1.0  | 100 | 3.03 | 193 | 4.2  |      |      |
|             | eS  | 22 27    | 0.0  | 100 |      |     |      |      |      |
| COB         |     |          |      |     | 3.57 | 219 |      | 3.4* | 2.9* |
| GPZ         | eS  | 18 23 24 | -3.3 | 98  | 5.83 | 202 | 3.4* |      |      |
| AMPLITUDES: | KRP | 2.6      | WTZ  | 2.1 | 0.9  | TUA | 0.8  | 1.2  |      |
|             | TNZ | 0.2      | TRZ  | 0.3 | 1.8  | GNZ | 3.6  | 2.7  |      |
|             | MNG | 2.8 3.5  | ECZ  | 0.3 | 0.4  | WEL | 0.5  |      |      |
|             | COB | 0.4 0.4  | GPZ  | 0.3 |      |     |      |      |      |

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MAR 09 02<sup>h</sup>33<sup>m</sup>51<sup>s</sup>.9 42°.85S 171°.56E 12 km M = 3.2  
 ± 0.4 0.02 0.04 R S.E. of RES. 1.2

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|---------|
| KAI         | P*    | 02  | 33  | 58.5 |     | -0.4 | 100 | 0.34 | 341 | 2.9 |         |
|             | S*    |     | 34  | 03.2 |     | -0.7 | 100 |      |     |     |         |
| GPZ         | eP*   | 02  | 34  | 12   |     | -0.8 | 100 | 1.16 | 137 | 2.8 |         |
|             | eS*   |     |     | 26.8 |     | -1.5 | 99  |      |     |     |         |
| KKY         | eP*   | 02  | 34  | 21.5 |     | 0.6  | 100 | 1.63 | 75  |     |         |
|             | e     |     |     | 23.7 |     |      |     |      |     |     |         |
|             | eS*   |     |     | 43.5 |     | 1.1  | 100 |      |     |     |         |
| GSP         | e     | 02  | 34  | 41.7 |     |      |     | 1.71 | 221 |     |         |
|             | iSn   |     |     | 42.8 |     | 0.5  | 100 |      |     |     |         |
|             | e     |     | 35  | 05.3 |     |      |     |      |     |     |         |
| COB         |       |     |     |      |     |      |     | 1.97 | 27  | 3.6 | 3.1     |
| OMZ         | P*    | 02  | 34  | 33.0 |     | 1.2  | 100 | 2.27 | 192 | 3.6 |         |
| MNG         | eP*   | 02  | 34  | 54   |     | -2.0 |     | 3.69 | 54  | 3.2 |         |
| AMPLITUDES: | KAI   | 3.0 |     |      |     | GPZ  | 0.3 |      |     | COB | 0.6 0.6 |
|             | OMZ   |     | 0.4 |      |     | MNG  | 0.2 |      |     |     |         |

FELT: Otira (93) MM IV

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MAR 09 16<sup>h</sup>50<sup>m</sup>34<sup>s</sup>.5 45°.28S 167°.27E 12 km M = 4.1  
 ± 1.1 0.03 0.10 R S.E. of RES. 1.1

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|---------|
| MNW         | P*    | 16  | 50  | 45.8    |     | 0.6  | 100 | 0.56 | 154 |     |         |
|             | S*    |     |     | 53      |     | 0.2  | 100 |      |     |     |         |
| MSZ         | P*    | 16  | 50  | 47.3    |     | -1.5 | 99  | 0.76 | 37  |     |         |
|             | e     |     |     | 51 07.0 |     |      |     |      |     |     |         |
| ROX         | P*    | 16  | 51  | 00.5    |     | -0.1 | 100 | 1.46 | 98  |     |         |
| OBZ         | P*    | 16  | 51  | 04.8    |     | -0.4 | 100 | 1.73 | 160 |     |         |
|             | S*    |     |     | 27.2    |     | -0.7 | 100 |      |     |     |         |
| GSP         | ePn   | 16  | 51  | 13.2    |     | 2.1  | 97  | 2.28 | 61  |     |         |
|             | iP*   |     |     | 14.0    |     | -0.5 | 100 |      |     |     |         |
|             | i     |     |     | 19.5    |     |      |     |      |     |     |         |
|             | S*    |     |     | 44.2    |     | -0.1 | 100 |      |     |     |         |
| OMZ         | Pn    | 16  | 51  | 15.7    |     | 0.3  | 100 | 2.59 | 87  | 4.2 | 4.0     |
|             | e     |     |     | 26      |     |      |     |      |     |     |         |
|             | e     |     |     | 54      |     |      |     |      |     |     |         |
| KAI         |       |     |     |         |     |      |     | 4.07 | 49  | 4.1 |         |
| GPZ         |       |     |     |         |     |      |     | 4.17 | 69  | 4.2 |         |
| COB         |       |     |     |         |     |      |     | 5.80 | 46  |     | 4.2     |
| MNG         | ePn   | 16  | 52  | 31      |     | 6.9  |     | 7.62 | 55  |     | 4.0     |
| AMPLITUDES: | OMZ   | 1.4 | 1.6 |         | KAI | 0.3  |     |      |     | GPZ | 0.6     |
|             | COB   | 0.3 |     |         | MNG | 0.3  |     |      |     |     |         |



MAR 10 02<sup>h</sup>38<sup>m</sup>20<sup>s</sup>.9 49°.95S 165°.05E 33 km 77/ 134  
 ± 3.3 0.24 0.61 R S.E. of RES. 2.1 M = 4.4

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| OBZ         | P     | 02 | 39 | 15.2  |     | 0.6  | 100 | 3.67 | 35  |     |     |     |     |   |
|             | S     |    |    | 54.7  |     | -0.4 | 100 |      |     |     |     |     |     |   |
| MNW         | P     | 02 | 39 | 24.2  |     | -2.0 | 100 | 4.52 | 23  |     | 4.8 | 4.3 |     |   |
|             | eS    |    |    | 40 13 |     | -2.5 | 99  |      |     |     |     |     |     |   |
| MSZ         | P     | 02 | 39 | 42.0  |     | 0.6  | 100 | 5.63 | 21  |     | 4.5 | 4.1 |     |   |
|             | eS    |    |    | 40 44 |     | 1.7  | 100 |      |     |     |     |     |     |   |
| MJZ         |       |    |    |       |     |      |     | 7.03 | 34  |     | 4.3 |     |     |   |
| GPZ         |       |    |    |       |     |      |     | 8.14 | 43  | 4.3 |     |     |     |   |
| AMPLITUDES: | OBZ   |    |    | 1.9   | 3.7 | MNW  |     | 2.7  | 2.0 | MSZ |     | 1.6 | 1.1 |   |
|             | MJZ   |    |    | 0.7   |     | GPZ  | 0.2 |      |     |     |     |     |     |   |

MAR 10 05<sup>h</sup>40<sup>m</sup>05<sup>s</sup>.4 45°.27S 167°.26E 12 km 77/ 135  
 ± 1.6 0.03 0.15 R S.E. of RES. 1.5 M = 4.0

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MNW         | P*    | 05  | 40 | 16.2  |     | -0.1 | 100 | 0.57 | 153 |     |     |     |   |   |
|             | S*    |     |    | 24.0  |     | -0.1 | 100 |      |     |     |     |     |   |   |
| MSZ         | P*    | 05  | 40 | 18.9  |     | -0.7 | 100 | 0.76 | 38  |     | 4.1 |     |   |   |
|             | S*    |     |    | 27.6  |     | -2.4 | 99  |      |     |     |     |     |   |   |
| OBZ         | P*    | 05  | 40 | 35.6  |     | -0.6 | 100 | 1.74 | 160 |     |     |     |   |   |
|             | S*    |     |    | 58.0  |     | -1.2 | 100 |      |     |     |     |     |   |   |
| GSP         | ePn   | 05  | 40 | 44.4  |     | 2.4  | 99  | 2.28 | 61  |     |     |     |   |   |
|             | iP*   |     |    | 46.2  |     | 0.7  | 100 |      |     |     |     |     |   |   |
|             | i     |     |    | 49.8  |     |      |     |      |     |     |     |     |   |   |
|             | eS*   |     |    | 41 15 |     | -0.3 | 100 |      |     |     |     |     |   |   |
| OMZ         | Pn    | 05  | 40 | 46.5  |     | 0.1  | 100 | 2.60 | 87  |     | 4.0 |     |   |   |
|             | eP*   |     |    | 53    |     | 2.1  | 99  |      |     |     |     |     |   |   |
|             | e     |     |    | 41 57 |     |      |     |      |     |     |     |     |   |   |
| MJZ         |       |     |    |       |     |      |     | 2.63 | 62  |     | 4.0 | 3.9 |   |   |
| KAI         |       |     |    |       |     |      |     | 4.07 | 49  | 4.1 |     |     |   |   |
| GPZ         |       |     |    |       |     |      |     | 4.17 | 70  | 3.9 |     |     |   |   |
| COB         |       |     |    |       |     |      |     | 5.80 | 46  |     | 4.2 | 3.7 |   |   |
| AMPLITUDES: | MSZ   |     |    | 31    |     | OMZ  | 0.9 |      |     | MJZ | 2.8 | 4.0 |   |   |
|             | KAI   | 0.3 |    |       |     | GPZ  | 0.3 |      |     | COB | 0.3 | 0.3 |   |   |

MAR 10 11<sup>h</sup>21<sup>m</sup>42<sup>s</sup>.1 38°.02S 176°.01E 277 km 77/ 136  
 ± 1.0 0.04 0.09 6 S.E. of RES. 0.9 M = 4.0

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|-----|---|---|
| KRP | eP    | 11 | 22 | 18.4    |     | 0.5  | 100 | 0.39 | 284 |     | 2.7* |     |   |   |
|     | eS    |    |    | 46      |     | 0.1  | 100 |      |     |     |      |     |   |   |
| WTZ | P     | 11 | 22 | 17.8    |     | -1.4 | 99  | 0.77 | 88  |     | 3.5  |     |   |   |
| TUA | eS    | 11 | 22 | 51.5    |     | -0.3 | 100 | 1.20 | 132 |     |      | 4.1 |   |   |
| TRZ | P     | 11 | 22 | 25.7    |     | 1.3  | 99  | 1.66 | 158 |     | 3.9  | 4.3 |   |   |
|     | S     |    |    | 58.0    |     | 0.7  | 100 |      |     |     |      |     |   |   |
| GNZ |       |    |    |         |     |      |     | 1.70 | 112 |     | 4.1  | 3.6 |   |   |
| TNZ | eP    | 11 | 22 | 25      |     | 0.1  | 100 | 1.73 | 227 |     | 3.2* |     |   |   |
| MNG | P     | 11 | 22 | 33.1    |     | 0.1  | 100 | 2.63 | 189 |     | 4.2  |     |   |   |
|     | S     |    |    | 23 11.6 |     | -0.9 | 100 |      |     |     |      |     |   |   |
| WEL | P     | 11 | 22 | 40.4    |     | -0.5 | 100 | 3.40 | 196 | 4.3 |      |     |   |   |
|     | S     |    |    | 23 27   |     | 0.1  | 100 |      |     |     |      |     |   |   |

|             |     |          |     |      |         |     |           |
|-------------|-----|----------|-----|------|---------|-----|-----------|
| COB         |     |          |     |      | 3.98    | 219 | 3.8* 3.1* |
| GPZ         | eS  | 11 24 22 |     | -4.3 | 6.23    | 203 | 3.4*      |
| AMPLITUDES: |     |          |     |      |         |     |           |
| KRP         |     | 0.4      | WTZ |      | 0.4     | TUA | 0.6       |
| TRZ         |     | 0.3 1.6  | GNZ |      | 1.3 0.6 | TNZ | 0.2       |
| MNG         |     | 3.0      | WEL | 0.4  |         | COB | 0.9 0.7   |
| GPZ         | 0.3 |          |     |      |         |     |           |

MAR 11 11<sup>h</sup>27<sup>m</sup>57<sup>s</sup>.1 40°.65s 174°.22E 12 km M = 3.5  
 ± 3.0 0.04 0.13 16 S.E. of RES. 2.1 77/ 137

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WEL         | P     | 11  | 28  | 13.0    |     | 1.7  | 100 | 0.76 | 147 | 3.6 |     |     |
|             | S     |     |     | 23.6    |     | 2.0  | 100 |      |     |     |     |     |
| MNG         | P     | 11  | 28  | 11.5    |     | -3.2 | 99  | 0.96 | 89  |     | 3.6 | 3.3 |
| COB         |       |     |     |         |     |      |     | 1.21 | 248 |     |     |     |
| TNZ         | P     | 11  | 28  | 23.3    |     | 0.7  | 100 | 1.46 | 5   |     | 3.7 | 3.8 |
|             | S     |     |     | 43.5    |     | 1.9  | 100 |      |     |     |     |     |
| GSZ         | eP    | 11  | 28  | 25.5    |     | -0.6 | 100 | 1.73 | 38  |     |     |     |
| KRP         | eP    | 11  | 28  | 42.2    |     | -0.0 | 100 | 2.91 | 21  |     | 3.2 | 3.3 |
|             | S     |     |     | 29 16.0 |     | -0.2 | 100 |      |     |     |     |     |
| GPZ         | eS    | 11  | 29  | 23      |     | -2.0 | 100 | 3.27 | 200 | 3.5 |     |     |
| WTZ         | eS    | 11  | 29  | 28      |     | -0.6 | 100 | 3.42 | 40  |     |     |     |
| AMPLITUDES: |       |     |     |         |     |      |     |      |     |     |     |     |
|             | WEL   | 2.7 |     |         |     | COB  | 1.4 | 2.7  | TNZ | 0.7 | 1.5 |     |
|             | KRP   | 0.3 | 0.4 |         |     | GPZ  | 0.2 |      |     |     |     |     |

MAR 11 16<sup>h</sup>12<sup>m</sup>59<sup>s</sup>.3 37°.57s 177°.25E 112 km M = 3.2  
 ± 2.1 0.07 0.10 11 S.E. of RES. 1.1 77/ 138

| STN         | PHASE | H   | M  | S     | DIR | RES   | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|-------|-----|------|-----|-----|-----|-----|
| WTZ         | P     | 16  | 13 | 16.0  |     | -0.2  | 100 | 0.46 | 206 |     | 3.1 |     |
|             | S     |     |    | 30.0  |     | 0.7   | 100 |      |     |     |     |     |
| GNZ         | S-P   |     |    | 18    |     | -0.4  | 100 | 1.23 | 151 |     | 3.2 | 3.5 |
| TUA         | eS    | 16  | 13 | 41    |     | -0.9  | 99  | 1.24 | 183 |     |     | 3.1 |
| KRP         | eS    | 16  | 13 | 45    |     | -0.3  | 100 | 1.40 | 255 |     |     |     |
| TRZ         | S     | 16  | 13 | 58.8  |     | 0.8   | 100 | 2.01 | 189 |     |     |     |
| MNG         | P     | 16  | 13 | 33.0  |     | -17.9 |     | 3.34 | 204 |     |     |     |
|             | eS    |     |    | 14 23 |     | -7.0  |     |      |     |     |     |     |
| AMPLITUDES: |       |     |    |       |     |       |     |      |     |     |     |     |
|             | WTZ   | 1.3 |    |       |     | GNZ   | 0.6 | 2.0  | TUA | 0.2 |     |     |

MAR 13 16<sup>h</sup>36<sup>m</sup>11<sup>s</sup>.3 37°.01s 177°.40E 226 km M = 4.2  
 ± 1.1 0.06 0.09 9 S.E. of RES. 1.1 77/ 139

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|-----|
| WTZ | P     | 16 | 36 | 42.9    |     | -1.2 | 99  | 1.03 | 198 |     | 4.1  |     |
|     | i     |    |    | 49.8    |     |      |     |      |     |     |      |     |
| ECZ | eP    | 16 | 36 | 44.8    |     | 0.0  | 100 | 1.14 | 127 |     |      |     |
|     | e     |    |    | 37 13.0 |     |      |     |      |     |     |      |     |
| GNZ |       |    |    |         |     |      |     | 1.70 | 163 |     | 4.0  | 4.5 |
| KRP | P     | 16 | 36 | 49.7    |     | 0.1  | 100 | 1.74 | 238 |     | 3.5* |     |
|     | eS    |    |    | 37 19   |     | -0.2 | 100 |      |     |     |      |     |
| TUA | eP    | 16 | 36 | 50.5    |     | 0.3  | 100 | 1.80 | 186 |     | 4.1  | 4.2 |
|     | S     |    |    | 37 20.3 |     | 0.0  | 100 |      |     |     |      |     |
| TRZ | P     | 16 | 36 | 58.3    |     | 0.2  | 100 | 2.57 | 190 |     |      |     |
|     | S     |    |    | 37 35.5 |     | 1.3  | 99  |      |     |     |      |     |
| TNZ | eP    | 16 | 37 | 07      |     | 1.7  | 99  | 3.22 | 227 |     | 3.3* |     |
| MNG | P     | 16 | 37 | 12.3    |     | -1.1 | 100 | 3.90 | 202 |     |      | 4.1 |

|             |     |          |      |     |      |     |      |      |      |
|-------------|-----|----------|------|-----|------|-----|------|------|------|
|             | S   | 38 00.5  | -1.0 | 100 |      |     |      |      |      |
| WEL         | eP  | 16 37 22 | -1.7 |     | 4.73 | 205 | 4.3  |      |      |
|             | eS  | 38 18    | -1.9 |     |      |     |      |      |      |
| COB         |     |          |      |     | 5.45 | 220 |      | 3.3* | 3.0* |
| GPZ         | eS  | 16 39 21 | -4.3 |     | 7.60 | 207 | 3.3* |      |      |
| AMPLITUDES: | WTZ | 2.2      | GNZ  | 1.3 | 6.3  | KRP | 2.0  |      |      |
|             | TUA | 0.6      | 0.8  | TNZ | 0.2  | MNG | 1.8  |      |      |
|             | WEL | 0.3      |      | COB | 0.2  | 0.4 | GPZ  | 0.2  |      |

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MAR 13 19<sup>h</sup>35<sup>m</sup>01<sup>s</sup>.8 31°.59s 178°.62w 467 km M = 5.2  
 ± 2.7 0.30 0.65 32 S.E. of RES. 2.7

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A | W P  | W S |
|-------------|-------|----|----|---------|-----|------|-----|-------|-----|-----|------|-----|
| ECZ         | P     | 19 | 36 | 48.0    |     | 4.9  | 98  | 6.52  | 200 |     | 5.5  | 5.0 |
|             | eS    |    |    | 38 04   |     | 0.8  | 100 |       |     |     |      |     |
| WTZ         | eP    | 19 | 36 | 49.5    |     | -2.2 | 100 | 7.33  | 208 |     | 5.7  | 4.9 |
|             | i     |    |    | 52.8    |     |      |     |       |     |     |      |     |
|             | S     |    |    | 38 16   |     | -2.6 | 100 |       |     |     |      |     |
| GNZ         | S-P   |    |    | 1 30    |     | 1.1  | 100 | 7.56  | 200 |     | 5.7  | 5.1 |
| KRP         | P     | 19 | 36 | 57.3    |     | -0.8 | 100 | 7.95  | 216 |     | 4.0* |     |
|             | eS    |    |    | 38 33   |     | 2.6  | 100 |       |     |     |      |     |
| TUA         | eP    | 19 | 36 | 59      |     | 0.3  | 100 | 8.00  | 204 |     | 5.2  | 5.1 |
|             | eS    |    |    | 38 29   |     | -2.4 | 100 |       |     |     |      |     |
| TRZ         | eS    | 19 | 38 | 45      |     | -1.7 | 100 | 8.77  | 204 |     |      | 4.9 |
| MNG         | iP    | 19 | 37 | 21.0    |     | -1.7 | 100 | 10.21 | 206 |     | 5.2  | 4.8 |
|             | e     |    |    | 39 09.5 |     |      |     |       |     |     |      |     |
|             | eS    |    |    | 13.8    |     | -1.1 | 100 |       |     |     |      |     |
| WEL         | eS    | 19 | 39 | 35      |     | 3.3  | 99  | 11.05 | 207 | 4.8 |      |     |
| AMPLITUDES: | ECZ   |    |    | 1.8     | 0.6 | WTZ  |     | 4.8   | 1.0 | GNZ | 5.7  | 2.3 |
|             | KRP   |    |    | 2.0     |     | TUA  |     | 0.6   | 0.5 | TRZ |      | 0.6 |
|             | MNG   |    |    | 3.0     | 1.3 | WEL  | 0.2 |       |     |     |      |     |

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MAR 14 11<sup>h</sup>53<sup>m</sup>04<sup>s</sup>.8 37°.09s 177°.91E 147 km M = 3.9  
 ± 1.5 0.08 0.09 10 S.E. of RES. 1.5

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|
| ECZ         | P     | 11 | 53 | 27.1    |     | -0.5 | 100 | 0.78 | 140 |      | 3.6  | 4.2  |
|             | S     |    |    | 44      |     | -1.2 | 100 |      |     |      |      |      |
| WTZ         | P     | 11 | 53 | 30.0    |     | -0.8 | 100 | 1.15 | 219 |      | 4.1  |      |
|             | i     |    |    | 31.2    |     |      |     |      |     |      |      |      |
| GNZ         |       |    |    |         |     |      |     | 1.55 | 177 |      | 3.8  | 4.0  |
| TUA         | P     | 11 | 53 | 39.0    |     | 1.1  | 100 | 1.82 | 199 |      | 4.0  | 4.0  |
|             | S     |    |    | 54 05   |     | 1.8  | 99  |      |     |      |      |      |
| KRP         | P     | 11 | 53 | 41.8    |     | 1.0  | 100 | 2.06 | 246 |      | 3.0* | 2.9* |
|             | S     |    |    | 54 07.8 |     | -0.5 | 100 |      |     |      |      |      |
|             | i     |    |    | 11.5    |     |      |     |      |     |      |      |      |
| TRZ         | P     | 11 | 53 | 48.6    |     | 1.0  | 100 | 2.60 | 199 |      | 3.9  | 3.9  |
|             | eS    |    |    | 54 22.0 |     | 1.7  | 99  |      |     |      |      |      |
| MNG         | eP    | 11 | 54 | 06      |     | 0.2  | 100 | 4.00 | 208 |      | 3.6  | 3.7  |
|             | eS    |    |    | 51      |     | -1.7 | 99  |      |     |      |      |      |
| WEL         | eS    | 11 | 55 | 11      |     | -1.8 | 99  | 4.85 | 209 | 4.1  |      |      |
| GPZ         | eS    | 11 | 56 | 17      |     | -4.9 |     | 7.73 | 210 | 3.3* |      |      |
| AMPLITUDES: | ECZ   |    |    | 0.8     | 2.8 | WTZ  |     | 4.3  |     | GNZ  | 1.5  | 3.5  |
|             | TUA   |    |    | 0.8     | 0.8 | KRP  |     | 0.7  | 0.6 | TRZ  | 0.3  | 0.6  |
|             | MNG   |    |    | 0.5     | 0.8 | WEL  | 0.2 |      |     | GPZ  | 0.2  |      |



MAR 14 12<sup>h</sup>31<sup>m</sup>59<sup>s</sup>.8 39°.11s 174°.85E 219 km 77/ 142  
 ± 1.1 0.06 0.12 11 S.E. of RES. 1.9 M = 5.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W | P | W    | S    |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|---|---|------|------|
| CNZ | P     | 12 | 32 | 31.1    |     | 1.7  | 100 | 0.55 | 100 |      |   |   |      |      |
|     | S     |    |    | 54.0    |     | 1.7  | 100 |      |     |      |   |   |      |      |
| GSZ | P     | 12 | 32 | 31.1    |     | 1.5  |     | 0.59 | 107 |      |   |   |      |      |
|     | S     |    |    | 52.0    |     | -0.7 |     |      |     |      |   |   |      |      |
| WNZ | P     | 12 | 32 | 32.6    |     | 0.3  | 100 | 1.09 | 64  |      |   |   |      |      |
| KRP | iP    | 12 | 32 | 33.9    |     | 0.1  | 100 | 1.30 | 25  |      |   |   | 4.6* | 4.2* |
|     | S     |    |    | 58.2    |     | -2.0 | 100 |      |     |      |   |   |      |      |
| MNG | iP    | 12 | 32 | 38.3    |     | 2.1  | 100 | 1.58 | 162 |      |   |   |      |      |
| TRZ | iP    | 12 | 32 | 37.3    |     | 1.1  | 100 | 1.59 | 107 |      |   |   |      |      |
| TUA | iP    | 12 | 32 | 38.1    | D   | -0.3 | 100 | 1.82 | 81  |      |   |   | 5.7  | 5.8  |
|     | S     |    |    | 33 05.2 |     | -2.8 | 99  |      |     |      |   |   |      |      |
| WTZ | P     | 12 | 32 | 39.0    | D   | -1.3 | 100 | 2.02 | 57  |      |   |   |      |      |
|     | e     |    |    | 33 06   |     |      |     |      |     |      |   |   |      |      |
| CAZ | P     | 12 | 32 | 43.0    |     | 2.1  | 100 | 2.09 | 150 |      |   |   |      |      |
|     | e     |    |    | 59      |     |      |     |      |     |      |   |   |      |      |
| WEL | P     | 12 | 32 | 44.0    |     | 2.1  | 100 | 2.18 | 182 | 5.6  |   |   |      |      |
|     | S     |    |    | 33 13.8 |     | -0.6 | 100 |      |     |      |   |   |      |      |
| AUC | P     | 12 | 32 | 43.0    |     | 0.5  | 100 | 2.24 | 358 |      |   |   |      |      |
|     | e     |    |    | 51      |     |      |     |      |     |      |   |   |      |      |
| ECZ | P     | 12 | 32 | 52.2    |     | -1.3 | 100 | 3.23 | 65  |      |   |   |      |      |
| KAI | eP    | 12 | 33 | 08.8    |     | 2.1  | 100 | 4.30 | 216 | 5.1* |   |   |      |      |
|     | e     |    |    | 14.3    |     |      |     |      |     |      |   |   |      |      |
|     | S     |    |    | 56.3    |     | -2.1 | 100 |      |     |      |   |   |      |      |
| GPZ | P     | 12 | 33 | 13.2    |     | -0.6 | 100 | 4.88 | 199 |      |   |   |      |      |
|     | S     |    |    | 34 08.0 |     | -3.3 | 99  |      |     |      |   |   |      |      |
| GSP | P     | 12 | 33 | 29.8    |     | -0.7 |     | 6.19 | 214 |      |   |   |      |      |
|     | S     |    |    | 34 39   |     | -2.3 |     |      |     |      |   |   |      |      |
| OMZ | P     | 12 | 33 | 36.6    |     | 0.3  |     | 6.64 | 205 |      |   |   | 4.6* |      |
|     | S     |    |    | 34 49   |     | -2.6 |     |      |     |      |   |   |      |      |
| ROX | P     | 12 | 33 | 47.0    |     | -1.3 |     | 7.58 | 211 |      |   |   | 4.5* |      |
|     | eS    |    |    | 35 08   |     | -5.1 |     |      |     |      |   |   |      |      |
| MSZ | P     | 12 | 33 | 46.8    |     | -1.8 |     | 7.60 | 221 |      |   |   | 4.3* | 4.8* |
|     | S     |    |    | 35 09.0 |     | -4.7 |     |      |     |      |   |   |      |      |
| MNW | eP    | 12 | 34 | 00.5    |     | -0.5 |     | 8.55 | 216 |      |   |   | 4.4* |      |
|     | S     |    |    | 35 33   |     | -2.7 |     |      |     |      |   |   |      |      |
| OBZ | eP    | 12 | 34 | 09      |     | -0.6 |     | 9.22 | 210 |      |   |   |      |      |
|     | eS    |    |    | 35 47   |     | -4.2 |     |      |     |      |   |   |      |      |

AMPLITUDES: KRP 28 12 TUA 29 36 WEL 21  
 KAI 11 OMZ 4.0 ROX 2.7  
 MSZ 4.1 21 MNW 3.0 OBZ 0.5 2.3

FELT: Widely from Wanganui to Wellington, maximum MM IV

MAR 14 18<sup>h</sup>31<sup>m</sup>28<sup>s</sup>.4 41°.04s 172°.03E 33 km 77/ 143  
 ± 1.1 0.08 0.10 R S.E. of RES. 2.4 M = 4.0

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|---|---|---|
| KAI | P     | 18 | 31 | 53.2    |     | 0.1  | 100 | 1.56 | 197 | 4.2 |   |   |   |   |
|     | S     |    |    | 32 12.8 |     | 1.2  | 100 |      |     |     |   |   |   |   |
| WEL | eP    | 18 | 31 | 57.5    |     | -2.9 | 99  | 2.09 | 98  | 4.1 |   |   |   |   |
|     | S     |    |    | 32 21.3 |     | -3.1 | 99  |      |     |     |   |   |   |   |
| MNG | P     | 18 | 32 | 07.0    |     | -1.2 | 100 | 2.65 | 82  |     |   |   |   |   |
|     | S     |    |    | 40.3    |     | 2.1  | 100 |      |     |     |   |   |   |   |

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|             |     |            |          |      |     |         |
|-------------|-----|------------|----------|------|-----|---------|
| GPZ         | e   | 18 32 14.0 |          | 2.69 | 170 | 3.8     |
|             | eS  | 39.8       | 0.8 100  |      |     |         |
| CAZ         | eP  | 18 32 20   | 4.6 98   | 3.19 | 89  |         |
| GSP         | P   | 18 32 19.2 | 0.5 100  | 3.43 | 205 |         |
|             | e   | 30.2       |          |      |     |         |
| TRZ         | e   | 18 32 36.3 |          | 3.96 | 69  | 4.2     |
| KRP         | eP  | 18 32 26.8 | -1.5 100 | 4.13 | 42  | 3.8     |
|             | e   | 39.2       |          |      |     |         |
|             | S   | 33 15.2    | 1.5 100  |      |     |         |
| MSZ         | eP  | 18 32 34   | -2.3 100 | 4.72 | 218 | 4.1 3.9 |
|             | e   | 43         |          |      |     |         |
|             | eS  | 33 28      | 0.2 100  |      |     |         |
| GNZ         |     |            |          | 5.20 | 65  | 4.1     |
| AMPLITUDES: | KAI | 2.7        | WEL      | 1.3  | GPZ | 0.6     |
|             | TRZ | 0.4        | KRP      | 0.6  | MSZ | 0.8 1.0 |
|             | GNZ | 0.4        |          |      |     |         |

FELT: Collingwood (72) Cobb River (72) MM IV

|             |                                                    |     |       |         |      |          |      |        |     |         |                  |         |  |
|-------------|----------------------------------------------------|-----|-------|---------|------|----------|------|--------|-----|---------|------------------|---------|--|
|             |                                                    |     |       |         |      |          |      |        |     |         | 77/ 144          |         |  |
| MAR 16      | 13 <sup>h</sup> 36 <sup>m</sup> 56 <sup>s</sup> .9 |     |       | 33°.06s |      | 180°.00E |      | 284 km |     | M = 4.7 |                  |         |  |
|             |                                                    |     | ± 2.1 |         | 0.22 |          | 0.51 |        | 34  |         | S.E. of RES. 2.0 |         |  |
| STN         | PHASE                                              | H   | M     | S       | DIR  | RES      | WT   | DIST   | AZ  | W-A     | W P              | W S     |  |
| ECZ         | P                                                  | 13  | 38    | 12.2    |      | 0.6      | 100  | 4.77   | 194 |         | 4.9              | 4.8     |  |
|             | S                                                  |     |       | 39 11   |      | 0.8      | 100  |        |     |         |                  |         |  |
| WTZ         | eP                                                 | 13  | 38    | 18.5    |      | -1.7     | 100  | 5.49   | 206 |         | 5.5              | 4.5     |  |
|             | i                                                  |     |       | 21.0    |      |          |      |        |     |         |                  |         |  |
|             | eS                                                 |     |       | 39 23   |      | -2.5     | 99   |        |     |         |                  |         |  |
| KRP         | eP                                                 | 13  | 38    | 30.5    |      | 3.3      | 98   | 6.07   | 216 |         | 3.2*             |         |  |
| TUA         | P                                                  | 13  | 38    | 28.2    |      | -0.4     | 100  | 6.18   | 201 |         | 4.9              |         |  |
| TRZ         | P                                                  | 13  | 38    | 38.0    |      | -0.3     | 100  | 6.97   | 201 |         | 5.0              | 4.5     |  |
|             | eS                                                 |     |       | 39 59.5 |      | 1.7      | 100  |        |     |         |                  |         |  |
| MNG         | P                                                  | 13  | 38    | 54.0    |      | -1.7     | 100  | 8.37   | 204 |         | 4.2              | 4.2     |  |
|             | eS                                                 |     |       | 40 29   |      | 0.0      | 100  |        |     |         |                  |         |  |
| WEL         | eS                                                 | 13  | 40    | 48      |      | 0.2      | 100  | 9.21   | 205 | 4.6     |                  |         |  |
| AMPLITUDES: |                                                    | ECZ |       | 1.0     | 0.7  | WTZ      |      | 7.0    | 0.7 | KRP     |                  | 0.4     |  |
|             |                                                    | TUA |       | 0.6     |      | TRZ      |      | 0.5    | 0.4 | MNG     |                  | 0.4 0.6 |  |
|             |                                                    | WEL | 0.2   |         |      |          |      |        |     |         |                  |         |  |

|             |                                                    |       |         |         |          |      |         |      |         |      |          |     |      |   |  |
|-------------|----------------------------------------------------|-------|---------|---------|----------|------|---------|------|---------|------|----------|-----|------|---|--|
|             |                                                    |       |         |         |          |      |         |      |         |      | 77/ 145  |     |      |   |  |
| MAR 16      | 18 <sup>h</sup> 42 <sup>m</sup> 46 <sup>s</sup> .5 |       | 38°.16S |         | 176°.23E |      | 187 km  |      | M = 3.4 |      |          |     |      |   |  |
|             |                                                    | ± 2.6 | 0.13    |         | 0.17     |      | 18      |      | S.E. of |      | RES. 2.0 |     |      |   |  |
| STN         | PHASE                                              | H     | M       | S       | DIR      | RES  | WT      | DIST | AZ      | W-A  | W        | P   | W    | S |  |
| KRP         | P                                                  | 18    | 43      | 11.0    |          | -1.7 | 100     | 0.59 | 293     |      | 2.7*     |     |      |   |  |
|             | S                                                  |       |         | 34.3    |          | 1.4  | 100     |      |         |      |          |     |      |   |  |
| WTZ         | P                                                  | 18    | 43      | 10.7    |          | -2.1 | 99      | 0.62 | 74      |      | 3.2      | 3.2 |      |   |  |
|             | S                                                  |       |         | 32.5    |          | -0.6 | 100     |      |         |      |          |     |      |   |  |
| GSZ         | eP                                                 | 18    | 43      | 18.5    |          | 1.7  | 100     | 1.22 | 204     |      |          |     |      |   |  |
| TRZ         | e                                                  | 18    | 43      | 52      |          |      |         | 1.47 | 162     |      |          |     | 3.5  |   |  |
| ECZ         | eP                                                 | 18    | 43      | 25.2    |          | 2.0  | 99      | 1.89 | 76      |      |          |     |      |   |  |
| MNG         | P                                                  | 18    | 43      | 29.7    |          | -0.6 | 100     | 2.52 | 193     |      |          |     |      |   |  |
|             | e                                                  |       |         | 44 06.0 |          |      |         |      |         |      |          |     |      |   |  |
| WEL         | eS                                                 | 18    | 44      | 21      |          | -0.2 | 100     | 3.32 | 199     | 3.8  |          |     |      |   |  |
| COB         |                                                    |       |         |         |          |      |         | 3.98 | 222     |      |          |     | 3.0* |   |  |
| GPZ         | eS                                                 | 18    | 45      | 21      |          | -5.5 |         | 6.16 | 205     | 3.2* |          |     |      |   |  |
| MJZ         |                                                    |       |         |         |          |      |         | 7.27 | 215     |      |          |     | 2.8* |   |  |
| AMPLITUDES: |                                                    | KRP   | 0.5     |         |          | WTZ  | 0.5 0.6 |      | TRZ     | 0.5  |          |     |      |   |  |





| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|------|------|------|---|---|
| WTZ         | iP    | 19  | 42 | 06.0    | U   | -1.2 | 100 | 0.71 | 193 |      | 4.5  | 4.3  |   |   |
|             | e     |     |    | 26.0    |     |      |     |      |     |      |      |      |   |   |
|             | S     |     |    | 29.2    |     | -1.9 | 100 |      |     |      |      |      |   |   |
| ECZ         | P     | 19  | 42 | 09.3    |     | -0.4 | 100 | 1.15 | 111 |      | 4.5  | 4.4  |   |   |
|             | e     |     |    | 28.3    |     |      |     |      |     |      |      |      |   |   |
|             | eS    |     |    | 35.8    |     | 0.1  | 100 |      |     |      |      |      |   |   |
| KRP         | iP    | 19  | 42 | 13.2    |     | 1.2  | 100 | 1.46 | 244 |      | 3.7* |      |   |   |
|             | S     |     |    | 41.0    |     | 1.2  | 100 |      |     |      |      |      |   |   |
| TUA         | P     | 19  | 42 | 13.0    |     | 0.4  | 100 | 1.52 | 181 |      | 4.4  | 4.4  |   |   |
|             | S     |     |    | 40.3    |     | -0.4 | 100 |      |     |      |      |      |   |   |
| AUC         | P     | 19  | 42 | 16.3    |     | -0.5 | 100 | 1.98 | 282 |      |      |      |   |   |
| TRZ         | P     | 19  | 42 | 21.1    |     | 1.3  | 100 | 2.28 | 187 |      |      |      |   |   |
|             | S     |     |    | 52      |     | -1.5 | 100 |      |     |      |      |      |   |   |
| GSZ         | P     | 19  | 42 | 21.9    |     | 1.3  | 100 | 2.35 | 212 |      |      |      |   |   |
| MNG         | P     | 19  | 42 | 34.0    |     | -0.5 | 100 | 3.58 | 201 |      | 4.4  | 4.3  |   |   |
|             | eS    |     |    | 43 20   |     | 0.4  | 100 |      |     |      |      |      |   |   |
| CAZ         | P     | 19  | 42 | 37.3    |     | 1.5  | 100 | 3.69 | 191 |      |      |      |   |   |
|             | S     |     |    | 43 25.2 |     | 3.3  | 97  |      |     |      |      |      |   |   |
| WEL         | eP    | 19  | 42 | 43      |     | -1.7 | 100 | 4.41 | 204 | 4.3  |      |      |   |   |
|             | S     |     |    | 43 38   |     | 0.3  | 100 |      |     |      |      |      |   |   |
| COB         |       |     |    |         |     |      |     | 5.14 | 221 |      | 3.2* | 3.2* |   |   |
| GPZ         | S     | 19  | 44 | 39.7    |     | -3.3 | 98  | 7.28 | 207 | 3.7* |      |      |   |   |
| AMPLITUDES: |       | WTZ |    | 6.7     | 4.6 | ECZ  |     | 2.6  | 1.8 | KRP  |      | 3.3  |   |   |
|             |       | TUA |    | 1.7     | 1.7 | MNG  |     | 3.0  | 3.5 | WEL  | 0.3  |      |   |   |
|             |       | COB |    | 0.2     | 0.6 | GPZ  | 0.5 |      |     |      |      |      |   |   |

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MAR 18 01<sup>h</sup>25<sup>m</sup>07<sup>s</sup>.4 39°.14s 174°.84E 214 km M = 4.4  
 $\pm 1.1$  0.04 0.08 7 S.E. of RES. 1.4

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W   | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|------|------|-----|---|
| TNZ         | P     | 01  | 25 | 36.9    |     | 1.0  | 100 | 0.36 | 262 |     | 3.4* | 3.3* |     |   |
|             | e     |     |    | 39.5    |     |      |     |      |     |     |      |      |     |   |
|             | e     |     |    | 42.5    |     |      |     |      |     |     |      |      |     |   |
|             | eS    |     |    | 58      |     | 0.1  | 100 |      |     |     |      |      |     |   |
|             | e     |     |    | 26 01   |     |      |     |      |     |     |      |      |     |   |
| NGZ         | P     | 01  | 25 | 37.8    |     | 1.1  | 100 | 0.60 | 95  |     |      |      |     |   |
|             | eS    |     |    | 26 01   |     | 1.7  | 99  |      |     |     |      |      |     |   |
| KRP         | iP    | 01  | 25 | 40.0    | DSW | -1.1 | 100 | 1.32 | 25  |     | 3.4* | 2.8* |     |   |
|             | eS    |     |    | 26 07   |     | -0.4 | 100 |      |     |     |      |      |     |   |
| MNG         | iP!   | 01  | 25 | 44.0    |     | 0.9  | 100 | 1.57 | 162 |     |      |      |     |   |
|             | eS    |     |    | 26 09   |     | -1.8 | 99  |      |     |     |      |      |     |   |
| TUA         | eS    | 01  | 26 | 15.5    |     | 0.3  | 100 | 1.84 | 80  |     |      |      | 4.2 |   |
| WTZ         | iP    | 01  | 25 | 46.0    | U   | -1.7 | 99  | 2.04 | 56  |     | 4.1  | 4.2  |     |   |
|             | eS    |     |    | 26 16.5 |     | -2.3 | 99  |      |     |     |      |      |     |   |
| CAZ         | P     | 01  | 25 | 49.0    |     | 1.1  | 100 | 2.06 | 149 |     |      |      |     |   |
|             | eS    |     |    | 26 19   |     | -0.2 | 100 |      |     |     |      |      |     |   |
| WEL         | P     | 01  | 25 | 49      |     | 0.2  | 100 | 2.15 | 181 | 4.8 |      |      |     |   |
|             | eS    |     |    | 26 20   |     | -0.8 | 100 |      |     |     |      |      |     |   |
| ECZ         | P     | 01  | 26 | 00.8    |     | -0.4 | 100 | 3.25 | 65  |     | 4.8  | 4.3  |     |   |
|             | eS    |     |    | 45      |     | 2.2  | 99  |      |     |     |      |      |     |   |
| AMPLITUDES: |       | TNZ |    | 0.6     | 0.6 | KRP  |     | 2.0  | 0.5 | TUA |      | 0.9  |     |   |
|             |       | WTZ |    | 1.5     | 2.0 | WEL  | 3.2 |      |     | ECZ |      | 1.5  | 0.5 |   |

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MAR 18 09<sup>h</sup>44<sup>m</sup>50<sup>s</sup>.4 37°.77s 176°.09E 232 km M = 4.0  
 $\pm 1.5$  0.06 0.11 8 S.E. of RES. 1.4

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|------|------|
| KRP         | P     | 09  | 45 | 21.9    |     | 0.7  | 100 | 0.46 | 250 |     | 2.9* | 2.5* |
|             | S     |     |    | 44.8    |     | -0.2 | 100 |      |     |     |      |      |
| WTZ         | P     | 09  | 45 | 21.2    |     | -1.1 | 100 | 0.75 | 107 |     | 3.9  | 3.6  |
|             | S     |     |    | 45.8    |     | -1.2 | 100 |      |     |     |      |      |
| TUA         | P     | 09  | 45 | 25.9    |     | -0.0 | 100 | 1.33 | 141 |     | 4.1  | 4.0  |
|             | eS    |     |    | 54      |     | 0.5  | 100 |      |     |     |      |      |
| NGZ         | P     | 09  | 45 | 28.0    |     | 1.1  | 100 | 1.46 | 195 |     |      |      |
|             | eS    |     |    | 57      |     | 1.8  | 99  |      |     |     |      |      |
| GNZ         |       |     |    |         |     |      |     | 1.75 | 120 |     |      | 4.1  |
| TRZ         | iP    | 09  | 45 | 31.2    | D   | 0.7  | 100 | 1.87 | 162 |     | 4.2  | 3.9  |
|             | eS    |     |    | 46 02   |     | 0.5  | 100 |      |     |     |      |      |
| MNG         | iP    | 09  | 45 | 40.7    | U   | -0.2 | 100 | 2.89 | 189 |     | 4.2  | 4.0  |
|             | S     |     |    | 46 17.2 |     | -2.9 | 96  |      |     |     |      |      |
| CAZ         | S     | 09  | 46 | 26.7    |     | 1.6  | 100 | 3.13 | 178 |     |      |      |
| WEL         | eS    | 09  | 46 | 35      |     | -0.9 | 100 | 3.66 | 196 |     |      |      |
| AMPLITUDES: |       | KRP |    | 0.7     | 0.3 | WTZ  |     | 1.5  | 0.9 | TUA | 0.8  | 0.6  |
|             |       | GNZ |    | 2.7     |     | TRZ  |     | 0.7  | 0.8 | MNG | 2.8  | 2.5  |

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MAR 20 10<sup>h</sup>46<sup>m</sup>52<sup>s</sup>.3 44°.14s 168°.79E 33 km M = 4.1  
 ± 0.7 0.04 0.05 R S.E. of RES. 1.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | iPn   | 10 | 47 | 06.2    | U   | -0.7 | 100 | 0.82 | 230 |     | 4.1 | 4.0 |
|     | eP*   |    |    | 09      |     | 1.2  | 100 |      |     |     |     |     |
|     | eSn   |    |    | 17      |     | -0.8 | 100 |      |     |     |     |     |
| GSP | iPn   | 10 | 47 | 07.0    | D   | -0.9 | 100 | 0.89 | 90  |     |     |     |
|     | eSn   |    |    | 18      |     | -1.5 | 100 |      |     |     |     |     |
| MJZ |       |    |    |         |     |      |     | 1.22 | 83  |     | 4.1 | 3.9 |
| ROX | iP*   | 10 | 47 | 16.8    | U   | -0.5 | 100 | 1.39 | 164 |     |     |     |
| OMZ | iP*   | 10 | 47 | 23.8    | D   | -0.1 | 100 | 1.78 | 122 |     | 4.0 | 4.1 |
|     | eS*   |    |    | 46      |     | -1.6 | 100 |      |     |     |     |     |
| MNW | iP*   | 10 | 47 | 25.0    | D   | 0.1  | 100 | 1.84 | 206 | 4.1 | 4.2 | 4.1 |
|     | eS*   |    |    | 51      |     | 1.8  | 100 |      |     |     |     |     |
| KAI | eP*   | 10 | 47 | 37      |     | 0.7  | 100 | 2.51 | 51  | 4.4 |     |     |
|     | eS*   |    |    | 48 07.5 |     | -1.7 | 100 |      |     |     |     |     |
| OBZ | P*    | 10 | 47 | 38.8    |     | -2.5 | 99  | 2.80 | 189 |     |     |     |
|     | eS*   |    |    | 48 19   |     | 1.0  | 100 |      |     |     |     |     |
| GPZ | eP*   | 10 | 47 | 44      |     | 2.3  | 99  | 2.83 | 82  | 3.9 |     |     |
|     | eS*   |    |    | 48 22   |     | 3.3  | 98  |      |     |     |     |     |
| COB |       |    |    |         |     |      |     | 4.22 | 45  |     | 4.3 | 4.2 |
| MNG | Pn    | 10 | 48 | 23.5    |     | 4.6  |     | 6.08 | 57  |     | 4.3 | 3.9 |
|     | Sn    |    |    | 49 25.0 |     | 0.5  |     |      |     |     |     |     |
|     | e     |    |    | 33      |     |      |     |      |     |     |     |     |

AMPLITUDES: MSZ 28 35 MJZ 14 17 OMZ 2.0 5.0  
 MNW 2.0 4.5 7.2 KAI 1.5 GPZ 0.6  
 COB 0.7 2.0 MNG 1.0 0.5

FELT: Haast (103) MM V and at Glenorchy (121) MM IV

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MAR 21 00<sup>h</sup>42<sup>m</sup>41<sup>s</sup>.5 41°.27s 174°.82E 12 km  
 ± R R R R S.E. of RES. ND

| STN | PHASE | H  | M  | S    | DIR | RES | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|-----|-----|------|-----|-----|-----|-----|
| WEL | P     | 00 | 42 | 43.8 |     | 0.0 | 100 | 0.04 | 247 |     |     |     |
|     | e     |    |    | 45.0 |     |     |     |      |     |     |     |     |





|             |     |            |     |      |     |       |     |     |        |
|-------------|-----|------------|-----|------|-----|-------|-----|-----|--------|
| TUA         | P   | 02 24 33.3 |     | -3.1 | 100 | 4.63  | 189 | 5.9 | 6.3    |
|             | e   | 34         |     |      |     |       |     |     |        |
|             | eS  | 25 36.5    |     | 1.6  | 100 |       |     |     |        |
| WNZ         | eP  | 02 24 37.5 |     | 0.6  | 100 | 4.68  | 200 | 6.3 | 6.2    |
|             | e   | 25 50      |     |      |     |       |     |     |        |
| NGZ         | P   | 02 24 43.0 |     | -1.4 | 100 | 5.34  | 201 |     |        |
|             | e   | 45         |     |      |     |       |     |     |        |
| TRZ         | eP  | 02 24 44   |     | -1.4 | 100 | 5.42  | 191 |     |        |
| TNZ         | P   | 02 24 51.0 |     | 1.3  | 100 | 5.79  | 210 |     |        |
|             | e   | 52.8       |     |      |     |       |     |     |        |
| MNG         | iP  | 02 24 55.8 | U   | -4.9 | 99  | 6.71  | 197 |     |        |
| CAZ         | P   | 02 24 57.8 |     | -4.3 | 99  | 6.83  | 192 |     |        |
|             | e   | 25 00      |     |      |     |       |     |     |        |
|             | eS  | 26 20      |     | -1.0 | 100 |       |     |     |        |
| WEL         | P   | 02 25 06.7 |     | -3.9 | 100 | 7.53  | 200 | 6.4 |        |
|             | e   | 08.5       |     |      |     |       |     |     |        |
|             | eS  | 26 37      |     | 1.0  | 100 |       |     |     |        |
|             | e   | 39         |     |      |     |       |     |     |        |
| CIZ         | P   | 02 25 49.6 | U   | 2.1  | 100 | 10.57 | 159 |     |        |
|             | eS  | 27 49      |     | 6.3  | 98  |       |     |     |        |
| AMPLITUDES: | ONE | 7.5        |     | KRP  |     | 37    | 12  | CRZ | 11 3.6 |
|             | TUA | 9.0        | 24  | WNZ  |     | 3.2   | 2.0 | WEL | 18     |
|             | CIZ | 3.0        | 9.5 |      |     |       |     |     |        |

FELT: Tourerere (63), Wellington, Lower Hutt (68)

MAR 22 07<sup>h</sup>33<sup>m</sup>40<sup>s</sup>.8 36°.22s 178°.68E 251 km M = 4.0  
 ± 2.0 0.13 0.23 14 S.E. of RES. 1.6

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W   | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|-----|---|
| ECZ         | P     | 07 | 34 | 19.7  |     | 0.5  | 100 | 1.48 | 184 |     | 4.1  | 4.0 |     |   |
|             | eS    |    |    | 49    |     | -0.1 | 100 |      |     |     |      |     |     |   |
| WTZ         | P     | 07 | 34 | 23.5  |     | -2.2 | 99  | 2.22 | 217 |     | 4.1  | 3.9 |     |   |
|             | eS    |    |    | 35 00 |     | -0.6 | 100 |      |     |     |      |     |     |   |
| GNZ         |       |    |    |       |     |      |     | 2.47 | 192 |     | 4.5  | 4.2 |     |   |
| TUA         | eS    | 07 | 35 | 13    |     | 0.8  | 100 | 2.86 | 205 |     |      | 4.3 |     |   |
| KRP         | eP    | 07 | 34 | 36    |     | 1.8  | 99  | 3.04 | 235 |     | 3.0* |     |     |   |
| TRZ         | eS    | 07 | 35 | 29    |     | 1.3  | 100 | 3.64 | 203 |     |      | 4.2 |     |   |
| MNG         | P     | 07 | 34 | 57.8  |     | -0.2 | 100 | 5.07 | 209 |     | 3.6  | 3.7 |     |   |
|             | eS    |    |    | 35 57 |     | -1.2 | 100 |      |     |     |      |     |     |   |
| AMPLITUDES: | ECZ   |    |    | 0.7   | 0.5 | WTZ  |     | 1.0  | 0.7 | GNZ |      | 2.5 | 2.0 |   |
|             | TUA   |    |    |       | 0.5 | KRP  |     | 0.4  |     | TRZ |      |     | 0.6 |   |
|             | MNG   |    |    | 0.3   | 0.4 |      |     |      |     |     |      |     |     |   |

MAR 22 10<sup>h</sup>50<sup>m</sup>04<sup>s</sup>.0 34°.27s 179°.89W 377 km M = 4.5  
 ± 2.8 0.44 1.02 32 S.E. of RES. 2.0

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ | P     | 10 | 51 | 22.0    |     | 1.9  | 99  | 4.49 | 213 |     | 4.3 | 4.3 |   |   |
|     | eS    |    |    | 52 19   |     | -0.8 | 100 |      |     |     |     |     |   |   |
| GNZ |       |    |    |         |     |      |     | 4.68 | 200 |     | 4.4 | 4.5 |   |   |
| TUA | eS    | 10 | 52 | 30      |     | -1.6 | 100 | 5.12 | 207 |     |     | 4.7 |   |   |
| TRZ | P     | 10 | 51 | 34      |     | -1.2 | 100 | 5.89 | 206 |     |     | 4.6 |   |   |
|     | eS    |    |    | 52 48.5 |     | 1.7  | 100 |      |     |     |     |     |   |   |
| MNG | P     | 10 | 51 | 51      |     | -0.6 | 100 | 7.33 | 209 |     | 4.4 | 4.3 |   |   |
|     | i     |    |    | 53.0    |     |      |     |      |     |     |     |     |   |   |
|     | eS    |    |    | 53 18   |     | 1.6  | 100 |      |     |     |     |     |   |   |

## INSTRUMENTAL DATA

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|             |                                                    |         |          |       |                  |      |     |      |     |     |     |     |     |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|-----|-----|-----|
| WEL         | eS                                                 | 10      | 53       | 33    |                  | -1.3 | 100 | 8.19 | 210 |     |     |     |     |
| AMPLITUDES: | WTZ                                                |         |          | 0.5   | 0.6              | GNZ  |     | 0.7  | 1.2 | TUA |     | 0.5 |     |
|             | TRZ                                                |         |          |       | 0.6              | MNG  |     | 0.9  | 0.9 |     |     |     |     |
| 77/ 158     |                                                    |         |          |       |                  |      |     |      |     |     |     |     |     |
| MAR 23      | 17 <sup>h</sup> 24 <sup>m</sup> 44 <sup>s</sup> .9 | 35°.14s | 179°.95w | 12 km | M = 4.8          |      |     |      |     |     |     |     |     |
|             | ± 1.9                                              | 0.11    | 0.11     | R     | S.E. of RES. 2.2 |      |     |      |     |     |     |     |     |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W   | P   | W S |
| WTZ         | Pn                                                 | 17      | 25       | 42.2  |                  | 0.3  | 100 | 3.77 | 220 |     | 4.8 | 4.9 |     |
|             | P*                                                 |         |          | 49.4  |                  | -1.0 | 100 |      |     |     |     |     |     |
|             | eSn                                                |         | 26       | 25    |                  | 0.2  | 100 |      |     |     |     |     |     |
|             | eS*                                                |         |          | 38    |                  | -1.5 | 100 |      |     |     |     |     |     |
| GNZ         |                                                    |         |          |       |                  |      |     | 3.86 | 204 |     | 4.6 | 4.5 |     |
| TUA         | Pn                                                 | 17      | 25       | 50.9  |                  | 1.2  | 100 | 4.35 | 212 |     | 4.7 | 4.9 |     |
|             | eP*                                                |         | 26       | 00.5  |                  | 0.3  | 100 |      |     |     |     |     |     |
|             | eSn                                                |         |          | 42    |                  | 3.3  | 99  |      |     |     |     |     |     |
|             | eS*                                                |         |          | 59.5  |                  | 2.7  | 99  |      |     |     |     |     |     |
| KRP         | iPn                                                | 17      | 25       | 54.8  | UW               | 1.8  | 100 | 4.58 | 231 |     | 5.0 | 4.9 |     |
|             | e                                                  |         | 26       | 52    |                  |      |     |      |     |     |     |     |     |
| TRZ         | Pn                                                 | 17      | 26       | 01    |                  | 0.8  | 100 | 5.11 | 209 |     | 4.8 | 4.8 |     |
|             | P*                                                 |         |          | 14.5  |                  | 1.2  | 100 |      |     |     |     |     |     |
|             | eSn                                                |         |          | 58    |                  | 0.9  | 100 |      |     |     |     |     |     |
| MNG         | ePn                                                | 17      | 26       | 18    |                  | -2.0 | 100 | 6.56 | 212 |     | 4.8 | 5.0 |     |
|             | e                                                  |         |          | 32    |                  |      |     |      |     |     |     |     |     |
|             | eSn                                                |         | 27       | 29    |                  | -3.0 | 99  |      |     |     |     |     |     |
|             | e                                                  |         |          | 46    |                  |      |     |      |     |     |     |     |     |
| WEL         | eSn                                                | 17      | 27       | 48    |                  | -4.6 | 97  | 7.42 | 213 | 4.6 |     |     |     |
| CIZ         | ePn                                                | 17      | 26       | 54    |                  | -1.8 | 100 | 9.19 | 165 |     |     |     |     |
|             | eSn                                                |         | 28       | 36    |                  | 0.8  | 100 |      |     |     |     |     |     |
| AMPLITUDES: | WTZ                                                |         |          | 4.5   | 4.8              | GNZ  |     | 2.3  | 3.0 | TUA |     | 0.9 | 1.5 |
|             | KRP                                                |         |          | 1.3   | 0.7              | TRZ  |     | 1.1  | 1.3 | MNG |     | 2.8 | 4.8 |
|             | WEL                                                | 0.3     |          |       |                  | CIZ  |     | 0.5  | 1.0 |     |     |     |     |

|             |                                                    |         |          |        |                  |      |     |      |     |     |      |      |     |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|-----|------|------|-----|
| 77/ 159     |                                                    |         |          |        |                  |      |     |      |     |     |      |      |     |
| MAR 23      | 18 <sup>h</sup> 40 <sup>m</sup> 57 <sup>s</sup> .3 | 38°.04s | 176°.28E | 179 km | M = 4.3          |      |     |      |     |     |      |      |     |
|             | ± 1.1                                              | 0.05    | 0.07     | 7      | S.E. of RES. 1.4 |      |     |      |     |     |      |      |     |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A | W    | P    | W S |
| WTZ         | iP                                                 | 18      | 41       | 21.2   | U                | -1.2 | 100 | 0.56 | 85  |     | 4.1  | 4.1  |     |
|             | S                                                  |         |          | 39.6   |                  | -2.1 | 99  |      |     |     |      |      |     |
| KRP         | P                                                  | 18      | 41       | 23.2   |                  | 0.6  | 100 | 0.60 | 280 |     | 3.8* | 2.9* |     |
|             | eS                                                 |         |          | 42.5   |                  | 0.4  | 100 |      |     |     |      |      |     |
| TUA         | iP                                                 | 18      | 41       | 25.9   | U                | 0.6  | 100 | 1.03 | 139 |     | 4.4  | 4.2  |     |
|             | e                                                  |         |          | 35     |                  |      |     |      |     |     |      |      |     |
|             | S                                                  |         |          | 47.7   |                  | 0.9  | 100 |      |     |     |      |      |     |
| NGZ         | eP                                                 | 18      | 41       | 29     |                  | 1.8  | 99  | 1.26 | 204 |     |      |      |     |
| TRZ         | P                                                  | 18      | 41       | 31.8   |                  | 1.6  | 100 | 1.57 | 165 |     | 4.6  |      |     |
|             | eS                                                 |         |          | 57     |                  | 1.5  | 100 |      |     |     |      |      |     |
| ECZ         | eP                                                 | 18      | 41       | 32     |                  | -0.7 | 100 | 1.83 | 80  |     | 4.3  | 4.5  |     |
|             | eS                                                 |         |          | 42 00  |                  | -0.1 | 100 |      |     |     |      |      |     |
| MNG         | iP!                                                | 18      | 41       | 42.2   |                  | -0.1 | 100 | 2.65 | 193 |     |      |      |     |
|             | eS                                                 |         |          | 42 15  |                  | -1.9 | 99  |      |     |     |      |      |     |
| WEL         | P                                                  | 18      | 41       | 52     |                  | -0.1 | 100 | 3.46 | 199 | 4.5 |      |      |     |
|             | eS                                                 |         |          | 42 33  |                  | -1.3 | 100 |      |     |     |      |      |     |
| AMPLITUDES: | WTZ                                                |         |          | 4.6    | 4.7              | KRP  |     | 7.0  | 1.1 | TUA |      | 2.8  | 2.0 |
|             | TRZ                                                |         |          | 2.5    |                  | ECZ  |     | 1.3  | 2.0 | WEL | 0.8  |      |     |

MAR 24 15<sup>h</sup>51<sup>m</sup>39<sup>s</sup>.7 39°.72S 174°.16E 12 km 77/ 160  
 ± 1.1 0.03 0.11 R S.E. of RES. 1.3 M = 3.2

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | WP  | WS  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| TNZ | P*    | 15 | 51 | 51.0  |     | 0.5  | 100 | 0.56 | 18  |     |     |     |
|     | eS*   |    |    | 52 00 |     | 1.8  | 99  |      |     |     |     |     |
| NGZ | Pn    | 15 | 52 | 01.8  |     | -0.4 | 100 | 1.25 | 65  |     |     |     |
|     | eSn   |    |    | 19    |     | -0.0 | 100 |      |     |     |     |     |
| MNG | Pn    | 15 | 52 | 03.2  |     | -0.4 | 100 | 1.35 | 132 |     | 3.2 | 3.3 |
|     | eSn   |    |    | 22    |     | 0.5  | 100 |      |     |     |     |     |
| WEL | Sn    | 15 | 52 | 29    |     | 0.8  | 100 | 1.63 | 164 | 3.3 |     |     |
| COB |       |    |    |       |     | 1.75 | 218 |      |     |     | 3.6 | 3.0 |
| KRP | Pn    | 15 | 52 | 11.5  |     | -2.3 | 98  | 2.10 | 31  |     | 3.1 | 3.1 |
|     | e     |    |    | 25.5  |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 39    |     | -0.4 | 100 |      |     |     |     |     |

AMPLITUDES: MNG 1.7 2.5 WEL 0.3 COB 0.7 0.6  
 KRP 0.4 0.5

FELT: Mountain House (47) MM IV

MAR 24 16<sup>h</sup>14<sup>m</sup>22<sup>s</sup>.8 37°.98S 176°.61E 12 km 77/ 161  
 ± 0.8 0.04 0.05 R S.E. of RES. 1.6 M = 3.3

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | WP  | WS  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP*   | 16 | 14 | 29.3  | D   | 0.2  | 100 | 0.31 | 90  |     |     |     |
|     | S*    |    |    | 34.0  |     | 0.5  | 100 |      |     |     |     |     |
| KRP | eP*   | 16 | 14 | 39    |     | 0.6  | 100 | 0.85 | 274 |     | 2.9 |     |
|     | Pg    |    |    | 41.1  |     | 1.1  | 100 |      |     |     |     |     |
|     | e     |    |    | 56    |     |      |     |      |     |     |     |     |
| TUA | iP*   | 16 | 14 | 39.1  | U   | -0.7 | 100 | 0.93 | 153 |     | 3.4 | 3.2 |
|     | eS*   |    |    | 52    |     | -0.3 | 100 |      |     |     |     |     |
| GNZ |       |    |    |       |     |      |     | 1.30 | 121 |     | 3.6 | 3.1 |
| TRZ | Pg    | 16 | 14 | 53.9  |     | -0.8 | 100 | 1.57 | 174 |     | 3.4 |     |
|     | eSg   |    |    | 15 18 |     | 2.0  | 99  |      |     |     |     |     |
| MNG | e?    | 16 | 15 | 02    |     |      |     | 2.77 | 198 |     | 3.7 |     |
|     | Pn    |    |    | 03.0  |     | -3.1 | 97  |      |     |     |     |     |

AMPLITUDES: WTZ 3.7 4.0 KRP 0.8 TUA 0.8 0.5  
 GNZ 1.4 0.8 TRZ 0.3 MNG 0.8

FELT: Kawerau (34)

MAR 24 16<sup>h</sup>45<sup>m</sup>47<sup>s</sup>.6 37°.99S 176°.66E 12 km 77/ 162  
 ± 0.7 0.04 0.04 R S.E. of RES. 1.5 M = 3.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | WP  | WS  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP*   | 16 | 45 | 53.1 | D   | -0.1 | 100 | 0.26 | 90  |     |     |     |
|     | S*    |    |    | 57.8 |     | 0.8  | 100 |      |     |     |     |     |
| KRP | Pg    | 16 | 46 | 05.0 |     | -0.7 | 100 | 0.89 | 274 |     | 2.9 |     |
|     | eSg   |    |    | 19   |     | 1.2  | 100 |      |     |     |     |     |
| TUA | iP*   | 16 | 46 | 03.1 | U   | -1.1 | 100 | 0.91 | 155 |     | 3.1 | 3.0 |
|     | eS*   |    |    | 17   |     | 0.6  | 100 |      |     |     |     |     |
| GNZ |       |    |    |      |     |      |     | 1.26 | 122 |     | 3.4 | 3.0 |
| TRZ | Pg    | 16 | 46 | 17   |     | -2.4 | 99  | 1.57 | 175 |     |     |     |
|     | eSg   |    |    | 42   |     | 1.4  | 100 |      |     |     |     |     |

AMPLITUDES: WTZ 3.7 2.7 KRP 0.7 TUA 0.4 0.3  
 GNZ 1.1 0.6



FELT: Kawerau (34)

MAR 24 22<sup>h</sup>13<sup>m</sup>13<sup>s</sup>.4 31°.73s 179°.81E 549 km 77/ 163  
 ± 1.6 0.10 0.21 22 S.E. of RES. 1.8 M = 5.3

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|-------|-----|------|-----|-------|-----|------|------|------|
| ECZ | P     | 22 | 14 | 55.9  |     | 2.8  | 99  | 6.05  | 190 |      | 5.3  | 5.4  |
|     | eS    |    | 16 | 10    |     | -2.3 | 99  |       |     |      |      |      |
| ONE | eP    | 22 | 14 | 54    |     | 0.6  | 100 | 6.07  | 227 | 4.0* |      |      |
|     | eS    |    | 16 | 14.5  |     | 1.7  | 100 |       |     |      |      |      |
| CRZ | eP    | 22 | 14 | 56    |     | -1.9 | 100 | 6.57  | 244 |      | 3.7* |      |
| WTZ | eP    | 22 | 14 | 58    |     | -0.8 | 100 | 6.66  | 200 |      | 5.6  | 5.5  |
|     | eS    |    | 16 | 20.5  |     | -2.2 | 99  |       |     |      |      |      |
| GNZ |       |    |    |       |     |      |     | 7.06  | 191 |      |      | 5.6  |
| KRP | P     | 22 | 15 | 03.9  |     | 0.7  | 100 | 7.11  | 208 |      | 3.6* | 3.5* |
|     | e     |    |    | 20.7  |     |      |     |       |     |      |      |      |
|     | e     |    |    | 33    |     |      |     |       |     |      |      |      |
|     | e     |    |    | 16 34 |     |      |     |       |     |      |      |      |
| TUA | eP    | 22 | 15 | 07    |     | 1.1  | 100 | 7.40  | 196 |      | 5.2  | 5.5  |
|     | e     |    |    | 16 34 |     |      |     |       |     |      |      |      |
|     | eS    |    |    | 38    |     | 2.5  | 99  |       |     |      |      |      |
| TRZ | eS    | 22 | 16 | 50    |     | 0.4  | 100 | 8.18  | 196 |      |      |      |
| NGZ | P     | 22 | 15 | 13.5  |     | -0.3 | 100 | 8.19  | 204 |      |      |      |
|     | eS    |    |    | 16 49 |     | -0.8 | 100 |       |     |      |      |      |
|     | e     |    |    | 17 00 |     |      |     |       |     |      |      |      |
| MNG | P     | 22 | 15 | 26.0  |     | -1.4 | 100 | 9.54  | 200 |      | 5.0  | 5.3  |
|     | eS    |    |    | 17 16 |     | 1.5  | 100 |       |     |      |      |      |
| WEL | eS    | 22 | 17 | 29    |     | -0.8 | 100 | 10.37 | 202 | 5.0  |      |      |

AMPLITUDES: ECZ 1.2 1.3 ONE 0.9 CRZ 0.3  
 WTZ 4.1 3.5 GNZ 7.0 KRP 0.8 0.6  
 TUA 0.7 1.3 MNG 2.0 5.0 WEL 0.3

MAR 25 02<sup>h</sup>32<sup>m</sup>50<sup>s</sup>.4 31°.83s 179°.84E 410 km 77/ 164  
 ± 3.9 0.36 0.88 63 S.E. of RES. 2.6 M = 4.8

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|
| ECZ | eS    | 02 | 35 | 35    |     | -1.6 | 100 | 5.95 | 190 |     | 4.9  |     |
| WTZ | eP    | 02 | 34 | 30    |     | -0.3 | 100 | 6.57 | 200 |     | 4.6  | 4.9 |
|     | eS    |    |    | 35 50 |     | 0.9  | 100 |      |     |     |      |     |
| GNZ |       |    |    |       |     |      |     | 6.96 | 192 |     |      | 4.8 |
| KRP | eP    | 02 | 34 | 37    |     | 1.5  | 100 | 7.04 | 209 |     | 3.2* |     |
| TUA | eS    | 02 | 36 | 07    |     | 3.1  | 99  | 7.30 | 197 |     |      | 5.1 |
| NGZ | eS    | 02 | 36 | 17    |     | -3.2 | 99  | 8.11 | 204 |     |      |     |
| MNG | eP    | 02 | 35 | 02    |     | -1.1 | 100 | 9.45 | 201 |     | 4.6  | 4.9 |
|     | eS    |    |    | 36 49 |     | 0.9  | 100 |      |     |     |      |     |

AMPLITUDES: ECZ 0.5 WTZ 0.5 1.1 GNZ 1.5  
 KRP 0.3 TUA 0.6 MNG 0.8 2.0

MAR 25 15<sup>h</sup>14<sup>m</sup>29<sup>s</sup>.3 39°.25s 175°.38E 12 km 77/ 165  
 ± 0.4 0.02 0.03 R S.E. of RES. 1.5 M = 3.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| NGZ | iP*   | 15 | 14 | 32.1 | U   | -1.7 | 100 | 0.19 | 70  |     |     |     |
|     | eS*   |    |    | 35   |     | -1.8 | 100 |      |     |     |     |     |
| TNZ | P*    | 15 | 14 | 44.7 |     | 0.9  | 100 | 0.78 | 274 |     |     |     |
|     | eS*   |    |    | 55   |     | 0.6  | 100 |      |     |     |     |     |

|     |     |            |          |          |         |
|-----|-----|------------|----------|----------|---------|
| WNZ | eP* | 15 14 45   | 0.2 100  | 0.84 43  | 3.5     |
|     | eS* | 58         | 1.9 99   |          |         |
| TRZ | P*  | 15 14 49.8 | -0.4 100 | 1.16 106 | 3.4 4.0 |
|     | ePg | 55         | 2.2 99   |          |         |
|     | eSg | 15 09      | 0.5 100  |          |         |
| KRP | Pn  | 15 14 51.4 | -1.6 100 | 1.33 5   | 4.4 4.2 |
|     | eSn | 15 09      | -1.6 100 |          |         |
| MNG | iPn | 15 14 51.9 | -1.6 100 | 1.37 177 |         |
|     | Sn  | 15 09      | -2.6 99  |          |         |
| TUA | ePn | 15 14 54   | -0.6 100 | 1.45 73  | 3.7 3.6 |
|     | eSn | 15 15      | 1.5 100  |          |         |
| WTZ | ePn | 15 15 00.5 | 1.3 100  | 1.78 45  | 3.3     |
| WEL | Pn  | 15 15 04.7 | 1.4 100  | 2.09 193 | 3.8     |
|     | P*  | 05.9       | -0.2 100 |          |         |
|     | ePg | 12         | 0.4 100  |          |         |
|     | eSn | 30         | 1.1 100  |          |         |

AMPLITUDES: WNZ 0.3 TRZ 0.5 2.5 KRP 7.0 3.7  
TUA 0.4 0.3 WTZ 0.3 WEL 0.5

MAR 26 06<sup>h</sup>22<sup>m</sup>57<sup>s</sup>.9 44°.75s 168°.10E 12 km M = 3.2  
± 0.5 0.03 0.04 R S.E. of RES. 1.6

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|---------|
| MSZ | iPg   | 06 23 | 01.1 |   | U   | -0.5 | 100 | 0.15 | 300 |     |         |
|     | eSg   |       | 02.5 |   |     | -1.6 | 100 |      |     |     |         |
| MNW | eP*   | 06 23 | 18.5 |   |     | 0.8  | 100 | 1.09 | 198 | 3.2 | 3.3 3.4 |
|     | eS*   |       | 35   |   |     | 2.8  | 99  |      |     |     |         |
| ROX | P*    | 06 23 | 16.8 |   |     | -1.6 | 100 | 1.13 | 131 | 3.2 | 3.4     |
|     | eS*   |       | 33   |   |     | -0.5 | 100 |      |     |     |         |
|     | eSg   |       | 35.5 |   |     | -0.7 | 100 |      |     |     |         |
| GSP | iPn   | 06 23 | 25.3 |   | U   | 1.4  | 100 | 1.50 | 67  |     |         |
|     | eSn   |       | 44.5 |   |     | 1.1  | 100 |      |     |     |         |
| MJZ |       |       |      |   |     |      |     | 1.86 | 67  | 3.3 | 3.1     |
| OMZ | ePn   | 06 23 | 32   |   |     | 0.9  | 100 | 2.02 | 100 | 3.3 | 3.2     |
|     | eSn   |       | 55   |   |     | -1.0 | 100 |      |     |     |         |
| OBZ | ePn   | 06 23 | 34   |   |     | 1.1  | 100 | 2.16 | 180 |     |         |
|     | eS*   | 24 02 |      |   |     | -2.3 | 99  |      |     |     |         |

AMPLITUDES: MSZ 35 63 MNW 0.7 1.5 3.9 ROX 0.7 2.7  
MJZ 1.0 1.1 OMZ 0.3 0.4

MAR 26 16<sup>h</sup>38<sup>m</sup>58<sup>s</sup>.5 45°.24s 168°.20E 12 km M = 3.5  
± 0.6 0.03 0.05 R S.E. of RES. 1.8

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|---------|
| MSZ | iP*   | 16 39 | 09.0 |   | U   | -1.0 | 100 | 0.60 | 341 | 3.6 | 3.7     |
|     | eS*   |       | 19.5 |   |     | 1.1  | 100 |      |     |     |         |
| MNW | P*    | 16 39 | 10.7 |   |     | -0.5 | 100 | 0.67 | 217 | 3.3 | 3.1 3.4 |
|     | eS*   |       | 22   |   |     | 1.6  | 100 |      |     |     |         |
| ROX | Pg    | 16 39 | 18.1 |   |     | 2.8  | 99  | 0.83 | 107 | 3.2 |         |
|     | e     |       | 36.0 |   |     |      |     |      |     |     |         |
| OBZ | ePn   | 16 39 | 25   |   |     | -1.7 | 100 | 1.66 | 182 |     |         |
|     | eSn   |       | 47   |   |     | -0.8 | 100 |      |     |     |         |
| GSP | Pn    | 16 39 | 25.2 |   |     | -2.1 | 99  | 1.71 | 50  |     |         |
|     | eSn   |       | 50.5 |   |     | 1.6  | 100 |      |     |     |         |
| OMZ | Pn    | 16 39 | 31.4 |   |     | 1.0  | 100 | 1.93 | 86  | 3.9 | 3.7     |
|     | eS*   |       | 58   |   |     | -0.1 | 100 |      |     |     |         |
| MJZ |       |       |      |   |     |      |     | 2.05 | 53  | 3.2 | 3.5     |

|             |                                                    |         |          |        |         |                  |      |      |     |         |      |      |  |
|-------------|----------------------------------------------------|---------|----------|--------|---------|------------------|------|------|-----|---------|------|------|--|
| GPZ         | eSn                                                | 16      | 40       | 31     | -2.0    | 100              | 3.54 | 66   | 3.8 |         |      |      |  |
| AMPLITUDES: |                                                    | MSZ     | 17       | 35     | MNW     | 2.3              | 2.6  | 12   | ROX | 1.5     |      |      |  |
|             |                                                    | OMZ     | 1.2      | 1.7    | MJZ     | 0.7              |      | 2.3  | GPZ | 0.3     |      |      |  |
|             |                                                    |         |          |        |         |                  |      |      |     | 77/ 168 |      |      |  |
| MAR 26      | 23 <sup>h</sup> 04 <sup>m</sup> 58 <sup>s</sup> .0 | 40°.53s | 173°.09E | 109 km | M = 3.7 |                  |      |      |     |         |      |      |  |
|             |                                                    | ± 1.1   | 0.05     | 0.06   | 22      | S.E. of RES. 1.0 |      |      |     |         |      |      |  |
| STN         | PHASE                                              | H       | M        | S      | DIR     | RES              | WT   | DIST | AZ  | W-A     | W P  | W S  |  |
| COB         |                                                    |         |          |        |         |                  |      | 0.62 | 206 |         | 3.6* | 3.0* |  |
| WEL         | eP                                                 | 23      | 05       | 26     |         | 1.0              | 100  | 1.48 | 121 | 3.9     |      |      |  |
|             | S                                                  |         |          | 46.0   |         | 0.6              | 100  |      |     |         |      |      |  |
| TNZ         | P                                                  | 23      | 05       | 27.8   |         | 0.5              | 100  | 1.67 | 37  |         |      |      |  |
|             | e                                                  |         |          | 54     |         |                  |      |      |     |         |      |      |  |
| MNG         | iP                                                 | 23      | 05       | 29.3   | U       | 0.1              | 100  | 1.83 | 94  |         | 3.4  |      |  |
|             | eS                                                 |         |          | 52.5   |         | -0.1             | 100  |      |     |         |      |      |  |
| KAI         | eS                                                 | 23      | 06       | 04     |         | -0.8             | 100  | 2.36 | 212 | 3.9*    |      |      |  |
| NGZ         | P                                                  | 23      | 05       | 35.3   |         | -1.0             | 100  | 2.37 | 56  |         |      |      |  |
| CAZ         | eS                                                 | 23      | 06       | 05     |         | -1.2             | 99   | 2.42 | 100 |         |      |      |  |
| KRP         | eP                                                 | 23      | 05       | 49     |         | 1.0              | 100  | 3.22 | 37  |         |      |      |  |
|             | eS                                                 |         |          | 06 25  |         | -0.8             | 100  |      |     |         |      |      |  |
| AMPLITUDES: |                                                    | COB     | 2.5      | 2.2    | WEL     | 1.1              | MNG  |      |     |         | 1.5  |      |  |
|             |                                                    | KAI     | 1.6      |        |         |                  |      |      |     |         |      |      |  |

|             |       |                                                    |    |         |         |      |          |         |       |     |                  |         |         |  |
|-------------|-------|----------------------------------------------------|----|---------|---------|------|----------|---------|-------|-----|------------------|---------|---------|--|
|             |       |                                                    |    |         |         |      |          |         |       |     |                  |         | 77/ 169 |  |
| MAR 27      |       | 16 <sup>h</sup> 32 <sup>m</sup> 03 <sup>s</sup> .4 |    |         | 38°.90s |      | 175°.94E |         | 67 km |     | M = 3.3          |         |         |  |
|             |       | ± 1.1                                              |    |         | 0.04    |      | 0.07     |         | 13    |     | S.E. of RES. 1.4 |         |         |  |
| STN         | PHASE | H                                                  | M  | S       | DIR     | RES  | WT       | DIST    | AZ    | W-A | W P              | W S     |         |  |
| WNZ         | eS    | 16                                                 | 32 | 23      |         | -0.3 | 100      | 0.30    | 25    |     |                  |         |         |  |
| TRZ         | eS    | 16                                                 | 32 | 36      |         | 0.9  | 100      | 0.94    | 134   |     | 3.1              |         |         |  |
| TUA         | iP    | 16                                                 | 32 | 20.9    | D       | -0.6 | 100      | 0.94    | 85    |     | 3.4              | 3.1     |         |  |
|             | e     |                                                    |    | 21.7    |         |      |          |         |       |     |                  |         |         |  |
|             | eS    |                                                    |    | 35.5    |         | 0.4  | 100      |         |       |     |                  |         |         |  |
| KRP         | eP    | 16                                                 | 32 | 22.5    |         | 0.0  | 100      | 1.03    | 342   |     | 3.1*             | 2.7*    |         |  |
|             | eS    |                                                    |    | 37      |         | 0.2  | 100      |         |       |     |                  |         |         |  |
| GNZ         | S-P   |                                                    |    | 18      |         | -2.5 | 96       | 1.65    | 82    |     | 4.1              | 3.6     |         |  |
| MNG         | eS    | 16                                                 | 32 | 53      |         | -0.9 | 100      | 1.75    | 192   |     |                  | 2.6     |         |  |
|             | e     |                                                    |    | 59      |         |      |          |         |       |     |                  |         |         |  |
| AMPLITUDES: |       | TRZ                                                |    | 0.4     |         | TUA  |          | 0.9 0.4 |       | KRP |                  | 2.0 0.9 |         |  |
|             |       | GNZ                                                |    | 3.5 1.7 |         | MNG  |          | 0.3     |       |     |                  |         |         |  |

|             |                                                    |     |    |         |     |          |     |       |     |                  |         |     |
|-------------|----------------------------------------------------|-----|----|---------|-----|----------|-----|-------|-----|------------------|---------|-----|
|             |                                                    |     |    |         |     |          |     |       |     |                  | 77/ 170 |     |
| MAR 28      | 14 <sup>h</sup> 13 <sup>m</sup> 08 <sup>s</sup> .3 |     |    | 38°.25S |     | 176°.25E |     | 12 km |     | M = 2.2          |         |     |
|             | ± R                                                |     |    | R       |     | R        |     | R     |     | S.E. of RES. 2.6 |         |     |
| STN         | PHASE                                              | H   | M  | S       | DIR | RES      | WT  | DIST  | AZ  | W-A              | W P     | W S |
| WNZ         | iP*                                                | 14  | 13 | 15.0    | D   | -1.3     | 100 | 0.40  | 197 |                  |         |     |
| KRP         | eS*                                                | 14  | 13 | 32.5    |     | 3.0      | 99  | 0.65  | 300 |                  | 2.2     | 2.2 |
|             | e                                                  |     |    | 46      |     |          |     |       |     |                  |         |     |
| MNG         | ePg                                                | 14  | 13 | 56      |     | -1.7     | 100 | 2.44  | 194 |                  |         |     |
| AMPLITUDES: |                                                    | KRP |    | 0.3 0.3 |     |          |     |       |     |                  |         |     |

FELT: Ngangiho (33) and Wairakei (41)

MAR 28 17<sup>h</sup>28<sup>m</sup>05.4 37°.84S 177°.82E 65 km M = 3.7  
± 2.1 0.09 0.15 17 S.E. of RES. 1.6



| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W    | S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|---|------|------|---|
| ECZ         |       |     |    |       |     |      |     | 0.59 | 76  |     |   | 3.4  | 3.7  |   |
| WTZ         | P     | 17  | 28 | 19.9  |     | -0.3 | 100 | 0.67 | 257 |     |   | 3.8  | 3.7  |   |
|             | e     |     |    | 26.4  |     |      |     |      |     |     |   |      |      |   |
|             | eS    |     |    | 31    |     | -0.2 | 100 |      |     |     |   |      |      |   |
| GNZ         |       |     |    |       |     |      |     | 0.82 | 169 |     |   | 3.7  | 3.8  |   |
| TUA         |       |     |    |       |     |      |     | 1.11 | 208 |     |   | 3.4  | 3.6  |   |
| KRP         | P     | 17  | 28 | 35.1  |     | 0.1  | 100 | 1.81 | 266 |     |   | 2.7* | 2.8* |   |
|             | e     |     |    | 40    |     |      |     |      |     |     |   |      |      |   |
|             | S     |     |    | 56.8  |     | -0.2 | 100 |      |     |     |   |      |      |   |
| TRZ         | P     | 17  | 28 | 37    |     | 1.0  | 100 | 1.89 | 204 |     |   | 3.6  | 3.6  |   |
|             | e     |     |    | 29 04 |     |      |     |      |     |     |   |      |      |   |
| NGZ         | P     | 17  | 28 | 42.2  |     | 1.8  | 99  | 2.20 | 231 |     |   |      |      |   |
| MNG         | P     | 17  | 28 | 53.8  |     | -2.5 | 98  | 3.32 | 212 |     |   | 3.6  | 3.5  |   |
|             | eS    |     |    | 29 36 |     | 1.2  | 100 |      |     |     |   |      |      |   |
| WEL         | eS    | 17  | 29 | 55    |     | -1.2 | 100 | 4.18 | 213 | 4.1 |   |      |      |   |
| AMPLITUDES: |       | ECZ |    | 1.9   | 4.0 | WTZ  |     | 8.0  | 7.5 | GNZ |   | 6.0  | 12   |   |
|             |       | TUA |    | 0.7   | 1.1 | KRP  |     | 0.4  | 0.6 | TRZ |   | 0.3  | 0.7  |   |
|             |       | MNG |    | 0.7   | 0.8 | WEL  | 0.3 |      |     |     |   |      |      |   |

APR 01 06<sup>h</sup>37<sup>m</sup>25<sup>s</sup>.5 40°.09s 174°.98E 12 km M = 3.5  
 ± 0.2 0.01 0.02 R S.E. of RES. 0.8

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| MNG         | iPg   | 06  | 37 | 38.8  |     | 0.0  | 100 | 0.65 | 144 |     |   |     |     |   |
|             | Sg    |     |    | 48    |     | 0.3  | 100 |      |     |     |   |     |     |   |
| GSZ         | iPg   | 06  | 37 | 43.6  |     | -0.9 | 100 | 0.94 | 30  |     |   |     |     |   |
|             | Sg    |     |    | 57    |     | -0.3 | 100 |      |     |     |   |     |     |   |
| TNZ         | iPg   | 06  | 37 | 45.6  | U   | -0.5 | 100 | 1.02 | 333 |     |   | 3.7 | 3.6 |   |
|             | eSg   |     |    | 38 01 |     | 1.1  | 99  |      |     |     |   |     |     |   |
| WEL         | P*    | 06  | 37 | 47.5  |     | 0.3  | 100 | 1.21 | 188 | 3.6 |   |     |     |   |
|             | S*    |     |    | 38 03 |     | -0.2 | 100 |      |     |     |   |     |     |   |
| TRZ         | Pg    | 06  | 37 | 55    |     | -1.2 | 99  | 1.52 | 70  |     |   | 3.2 | 3.1 |   |
|             | eSg   |     |    | 38 18 |     | 1.3  | 99  |      |     |     |   |     |     |   |
| COB         | P*    | 06  | 38 | 00.4  |     | -0.0 | 100 | 1.98 | 239 |     |   | 3.7 | 3.4 |   |
|             | S*    |     |    | 26.5  |     | 0.0  | 100 |      |     |     |   |     |     |   |
| KRP         | P*    | 06  | 38 | 05    |     | 0.7  |     | 2.20 | 11  |     |   |     |     |   |
|             | S*    |     |    | 33    |     | -0.3 |     |      |     |     |   |     |     |   |
| KKY         | ePn   | 06  | 38 | 06    |     | 0.6  |     | 2.52 | 202 |     |   |     |     |   |
|             | eP*   |     |    | 08    |     | -1.7 |     |      |     |     |   |     |     |   |
|             | Pg    |     |    | 16    |     | -0.5 |     |      |     |     |   |     |     |   |
|             | Sg    |     |    | 51    |     | 0.5  |     |      |     |     |   |     |     |   |
| WITZ        | P*    | 06  | 38 | 10    |     | -1.4 |     | 2.62 | 37  |     |   | 3.6 |     |   |
| KAI         | eS*   | 06  | 39 | 20    |     | 4.1  |     | 3.63 | 227 |     |   |     |     |   |
| GPZ         | Sn    | 06  | 39 | 09.5  |     | -1.5 |     | 4.00 | 205 |     |   |     |     |   |
| AMPLITUDES: |       | TNZ |    | 1.7   | 1.6 | WEL  | 1.0 |      |     | TRZ |   | 0.3 | 0.3 |   |
|             |       | COB |    | 0.7   | 1.2 | WTZ  | 0.3 |      |     |     |   |     |     |   |

APR 01 10<sup>h</sup>29<sup>m</sup>26<sup>s</sup>.1 39°.04s 177°.93E 12 km M = 3.5  
 ± 0.6 0.02 0.04 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| TUA | iPg   | 10 | 29 | 39.2  | U   | -0.2 | 100 | 0.65 | 290 |     |   | 3.8 | 4.0 |   |
|     | Sg    |    |    | 48.2  |     | -0.1 | 100 |      |     |     |   |     |     |   |
| TRZ | Pg    | 10 | 29 | 47    |     | 0.5  | 100 | 1.00 | 239 |     |   | 3.6 | 3.6 |   |
|     | Sg    |    |    | 30 00 |     | -0.1 | 100 |      |     |     |   |     |     |   |

|             |     |            |          |          |         |         |
|-------------|-----|------------|----------|----------|---------|---------|
| WTZ         | P*  | 10 29 50.5 | 1.3 100  | 1.29 325 | 3.6 3.7 |         |
|             | ePg | 54.5       | 2.3 98   |          |         |         |
|             | S*  | 30 07      | 0.7 100  |          |         |         |
| ECZ         | ePg | 10 29 53.5 | -1.5 100 | 1.43 20  | 3.0 3.2 |         |
|             | Sg  | 30 14      | -0.3 100 |          |         |         |
| WNZ         | ePg | 10 30 00   | 3.8      | 1.48 285 | 3.8     |         |
| GSZ         | Pg  | 10 30 04   | 0.7 100  | 1.84 262 |         |         |
| KRP         | Pg  | 10 30 09   | -1.2 100 | 2.18 300 | 3.1 3.3 |         |
|             | Sg  | 38         | -1.6 99  |          |         |         |
| MNG         | Pn  | 10 30 05   | -0.2 100 | 2.46 229 |         |         |
|             | Pg  | 17         | 1.1 100  |          |         |         |
|             | Sn  | 33         | -1.6 99  |          |         |         |
| TNZ         | ePn | 10 30 12   | 2.6      | 2.76 266 | 3.7 3.7 |         |
|             | ePg | 27         | 5.0      |          |         |         |
|             | eSg | 31 08      | 8.7      |          |         |         |
| WEL         | Sn  | 10 30 53   | -1.9     | 3.30 226 | 3.4     |         |
| COB         | eSn | 10 31 21.5 | -1.7     | 4.48 241 | 3.0     |         |
| GPZ         | Sn  | 10 32 00   | -2.6     | 6.13 219 |         |         |
| CIZ         | Sn  | 10 32 12   | 2.1      | 6.43 142 |         |         |
| AMPLITUDES: |     |            |          |          |         |         |
|             | TUA | 5.0 9.0    | TRZ      | 1.5 2.5  | WTZ     | 2.4 2.9 |
|             | ECZ | 0.1 0.2    | WNZ      | 0.2      | MNG     | 0.4 0.8 |
|             | TNZ | 0.1 0.1    | WEL      | 0.1      | COB     | 0.1     |
|             | GPZ | 0.1        | CIZ      | 0.3      |         |         |

APR 01 11<sup>h</sup>37<sup>m</sup>54<sup>s</sup>.6 37°.95s 176°.26E 201 km M = 4.2  
 ± 0.7 0.04 0.05 4 S.E. of RES. 0.6

| STN | PHASE | H     | M       | S | DIR | RES      | WT | DIST | AZ  | W-A  | W P  | W S |
|-----|-------|-------|---------|---|-----|----------|----|------|-----|------|------|-----|
| KRP | iP    | 11 38 | 22.2    |   | DE  | -0.1 100 |    | 0.58 | 272 |      |      |     |
|     | S     |       | 43.2    |   |     | -0.2 100 |    |      |     |      |      |     |
| WTZ | iP    | 11 38 | 22.1    |   | U   | -0.1 100 |    | 0.58 | 94  | 3.9  | 3.7  |     |
| WNZ | eS    | 11 38 | 45      |   |     | 0.4 100  |    | 0.69 | 190 |      | 3.9  |     |
| TUA | P     | 11 38 | 24.5    |   | U   | -0.7 99  |    | 1.11 | 141 | 4.2  | 4.3  |     |
|     | eS    |       | 49.5    |   |     | 0.3 100  |    |      |     |      |      |     |
| GSZ | P     | 11 38 | 28.4    |   |     | 0.4 100  |    | 1.43 | 201 |      |      |     |
|     | eS    |       | 53      |   |     | -0.7 99  |    |      |     |      |      |     |
| GNZ |       |       |         |   |     |          |    | 1.55 | 117 | 4.6  | 4.4  |     |
| TRZ | P     | 11 38 | 30.5    |   |     | 0.4      |    | 1.66 | 165 | 4.2  | 4.6  |     |
|     | S     |       | 58      |   |     | 0.4      |    |      |     |      |      |     |
| ECZ | P     | 11 38 | 32.5    |   |     | 0.8      |    | 1.83 | 83  | 4.3  | 3.9  |     |
|     | S     |       | 39 03.5 |   |     | 3.1      |    |      |     |      |      |     |
| TNZ | P     | 11 38 | 33.0    |   |     | 0.3 100  |    | 1.93 | 229 | 4.1* |      |     |
| MNG | iP    | 11 38 | 40.3    |   |     | -1.4     |    | 2.74 | 193 |      |      |     |
|     | S     |       | 39 14.5 |   |     | -3.4     |    |      |     |      |      |     |
| CAZ | P     | 11 38 | 44.6    |   | D   | 0.4      |    | 2.95 | 181 |      |      |     |
|     | S     |       | 39 21   |   |     | -1.5     |    |      |     |      |      |     |
| WEL | P     | 11 38 | 49      |   |     | -2.1     |    | 3.53 | 199 | 4.3  |      |     |
|     | S     |       | 39 31   |   |     | -3.8     |    |      |     |      |      |     |
| COB | P     | 11 38 | 56      |   |     | -3.0     |    | 4.16 | 220 | 3.7* | 3.4* |     |
|     | S     |       | 39 44   |   |     | -4.8     |    |      |     |      |      |     |
| KAI | S     | 11 40 | 22      |   |     | -6.5     |    | 5.89 | 218 | 3.1* |      |     |
| GPZ | S     | 11 40 | 31      |   |     | -8.6     |    | 6.37 | 204 | 3.6* |      |     |
| CIZ | eS    | 11 41 | 20      |   |     | 0.0      |    | 8.09 | 140 |      |      |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: |     |     |     |     |     |     |     |     |     |
|             | WTZ | 2.0 | 1.7 | WNZ | 0.1 | TUA | 1.4 | 2.0 |     |
|             | GNZ | 7.3 | 6.5 | TRZ | 0.9 | 5.0 | ECZ | 1.2 | 0.5 |
|             | TNZ | 1.9 |     | WEL | 0.5 |     | COB | 0.8 | 1.3 |
|             | KAI | 0.1 |     | GPZ | 0.4 |     | CIZ |     | 0.1 |

APR 01 22<sup>h</sup>01<sup>m</sup>07<sup>s</sup>.6 44°.96S 166°.80E 12 km 77/ 175  
 ± 1.3 0.03 0.10 R S.E. of RES. 1.2 M = 4.5

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|---------|
| MSZ         | iP*   | 22  | 01 | 21.4    | D   | -1.8 | 99  | 0.85 | 71  |     | 4.3     |
| MNW         | iP*   | 22  | 01 | 25.9    | D   | -0.1 | 100 | 1.01 | 145 | 4.6 |         |
|             | S*    |     |    | 37.5    |     | -2.0 | 99  |      |     |     |         |
| ROX         | iPn   | 22  | 01 | 38.4    | D   | -0.1 | 100 | 1.86 | 107 |     |         |
|             | eSn   |     | 02 | 02      |     | 0.4  | 100 |      |     |     |         |
| OBZ         | P*    | 22  | 01 | 46.5    |     | 0.9  | 100 | 2.16 | 155 |     |         |
|             | S*    |     | 02 | 15      |     | 1.1  | 100 |      |     |     |         |
| GSP         | iPn   | 22  | 01 | 47.9    | U   | 1.4  |     | 2.45 | 71  |     |         |
|             | P*    |     |    | 52      |     | 1.5  |     |      |     |     |         |
| MJZ         | iPn   | 22  | 01 | 51.7    | U   | 0.4  | 100 | 2.80 | 71  |     | 4.7 4.7 |
|             | Sn    |     | 02 | 25      |     | 0.7  | 100 |      |     |     |         |
| OMZ         | Pn    | 22  | 01 | 52.6    |     | -0.4 | 100 | 2.92 | 94  |     | 4.8 4.6 |
|             | eSn   |     | 02 | 28      |     | 0.8  | 100 |      |     |     |         |
| KAI         | Pg    | 22  | 02 | 28.5    |     | -2.6 |     | 4.13 | 56  | 4.6 |         |
|             | Sg    |     | 03 | 27      |     | 0.2  |     |      |     |     |         |
| GPZ         | ePn   | 22  | 02 | 11.5    |     | -1.4 |     | 4.38 | 75  | 4.5 |         |
|             | eSn   |     | 03 | 03      |     | 0.7  |     |      |     |     |         |
|             | eSg   |     |    | 31      |     | -4.2 |     |      |     |     |         |
| COB         | Pn    | 22  | 02 | 31.5    |     | -1.1 |     | 5.82 | 50  |     | 5.0 4.3 |
|             | Sn    |     | 03 | 36      |     | -0.9 |     |      |     |     |         |
| WEL         | Sn    | 22  | 04 | 05      |     | 2.4  |     | 6.89 | 61  | 4.3 |         |
|             | S*    |     |    | 47      |     | 11.1 |     |      |     |     |         |
| MNG         | ePn   | 22  | 02 | 56      |     | -2.5 |     | 7.72 | 59  |     | 4.6     |
|             | eP*   |     | 03 | 21      |     | 0.5  |     |      |     |     |         |
| TNZ         | P*    | 22  | 03 | 26      |     | -0.4 |     | 8.06 | 47  |     | 4.6 4.2 |
| KRP         | ePn   | 22  | 03 | 24      |     | -0.3 |     | 9.61 | 46  |     |         |
| AMPLITUDES: |       | MSZ |    | 38      |     | MNW  | 19  |      |     |     | 13 20   |
|             |       | OMZ |    | 4.0 5.0 |     | KAI  | 0.9 |      |     | GPZ | 1.0     |
|             |       | COB |    | 1.6 1.3 |     | WEL  | 0.1 |      |     | MNG | 1.3     |
|             |       | TNZ |    | 0.2 0.1 |     |      |     |      |     |     |         |

APR 02 08<sup>h</sup>19<sup>m</sup>14<sup>s</sup>.8 45°.15S 167°.55E 91 km 77/ 176  
 ± 0.6 0.02 0.04 4 S.E. of RES. 0.6 M = 3.5

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT         | DIST | AZ  | W-A  | W P W S   |
|-------------|-------|-----|----|---------|-----|------|------------|------|-----|------|-----------|
| MSZ         | P     | 08  | 19 | 30.7    | U   | 0.3  | 100        | 0.55 | 28  |      | 3.7* 3.8* |
|             | S     |     |    | 42.5    |     | 0.3  | 100        |      |     |      |           |
| MNW         | P     | 08  | 19 | 31      |     | -0.0 | 100        | 0.63 | 176 | 3.6* | 3.3* 3.6* |
|             | S     |     |    | 42.5    |     | -0.8 | 99         |      |     |      |           |
| ROX         | P     | 08  | 19 | 39.2    | D   | 0.8  | 99         | 1.29 | 105 |      | 3.8 3.5   |
|             | S     |     |    | 57      |     | 0.8  | 99         |      |     |      |           |
| OBZ         | P     | 08  | 19 | 45      |     | 0.2  | 100        | 1.79 | 168 |      |           |
|             | S     |     | 20 | 07.5    |     | 0.2  | 100        |      |     |      |           |
| GSP         | P     | 08  | 19 | 47.5    |     | -0.6 | 100        | 2.03 | 61  |      |           |
|             | S     |     | 20 | 12.5    |     | -0.1 | 100        |      |     |      |           |
| OMZ         | P     | 08  | 19 | 52.8    |     | -0.1 | 100        | 2.38 | 89  |      | 3.5 3.4   |
|             | eS    |     | 20 | 20.5    |     | -0.7 | 99         |      |     |      |           |
| MJZ         | S     | 08  | 20 | 20      |     | -1.3 |            | 2.38 | 62  |      | 3.0 3.6   |
| GPZ         | S     | 08  | 20 | 58.5    |     | -0.9 |            | 3.93 | 70  |      |           |
| AMPLITUDES: |       | MSZ |    | 14 26   |     | MNW  | 3.4 3.0 13 |      |     | ROX  | 1.8 2.3   |
|             |       | OMZ |    | 0.4 0.5 |     | MJZ  | 0.4 2.1    |      |     |      |           |



|                                                                                          |       |     |    |      |     |      |     |      |     |     | 77/ 177 |
|------------------------------------------------------------------------------------------|-------|-----|----|------|-----|------|-----|------|-----|-----|---------|
| APR 02 17 <sup>h</sup> 51 <sup>m</sup> 42 <sup>s</sup> .4 39°.15s 177°.93E 12 km M = 3.4 |       |     |    |      |     |      |     |      |     |     |         |
| ± 1.6 0.04 0.11 R S.E. of RES. 1.8                                                       |       |     |    |      |     |      |     |      |     |     |         |
| STN                                                                                      | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
| GNZ                                                                                      |       |     |    |      |     |      |     | 0.51 | 8   |     | 3.3 3.3 |
| TUA                                                                                      | P*    | 17  | 51 | 56.4 |     | 0.8  | 100 | 0.70 | 299 |     | 4.1 3.7 |
|                                                                                          | S*    |     | 52 | 04   |     | -1.1 | 100 |      |     |     |         |
| TRZ                                                                                      | P*    | 17  | 52 | 00.3 |     | 0.5  | 100 | 0.95 | 245 |     | 3.2 3.6 |
|                                                                                          | eS*   |     |    | 13   |     | 0.4  | 100 |      |     |     |         |
| WTZ                                                                                      | P*    | 17  | 52 | 07.5 |     | 0.3  | 100 | 1.39 | 327 |     | 3.6 3.6 |
|                                                                                          | Pg    |     |    | 09.5 |     | -0.9 | 100 |      |     |     |         |
|                                                                                          | i     |     |    | 14   |     |      |     |      |     |     |         |
|                                                                                          | S*    |     |    | 23   |     | -2.5 | 99  |      |     |     |         |
| WNZ                                                                                      | eS*   | 17  | 52 | 30   |     | 0.3  |     | 1.52 | 289 |     |         |
| CNZ                                                                                      | Pn    | 17  | 52 | 15   |     | 1.7  | 100 | 1.85 | 268 |     |         |
|                                                                                          | Pg    |     |    | 22   |     | 2.0  | 100 |      |     |     |         |
|                                                                                          | Sn    |     |    | 35.5 |     | -0.9 | 100 |      |     |     |         |
| KRP                                                                                      | P*    | 17  | 52 | 24   |     | 2.1  | 99  | 2.24 | 302 |     |         |
|                                                                                          | eSn   |     |    | 47.5 |     | 1.8  | 100 |      |     |     |         |
| MNG                                                                                      | Pn    | 17  | 52 | 18.5 |     | -2.0 | 100 | 2.39 | 231 |     | 3.0 3.2 |
|                                                                                          | Sn    |     |    | 47   |     | -2.2 | 99  |      |     |     |         |
| WEL                                                                                      | Sn    | 17  | 53 | 05   |     | -4.4 |     | 3.23 | 228 | 3.4 |         |
| COB                                                                                      | Sn    | 17  | 53 | 33.5 |     | -4.8 |     | 4.44 | 242 |     | 3.0     |
| GPZ                                                                                      | Sn    | 17  | 54 | 09   |     | -7.9 |     | 6.04 | 220 |     |         |
| AMPLITUDES:                                                                              |       | GNZ |    | 6.0  | 10  | TUA  |     | 8.0  | 4.0 | TRZ | 0.7 2.5 |
|                                                                                          |       | WTZ |    | 2.3  | 1.9 | MNG  |     | 0.3  | 0.7 | WEL | 0.1     |
|                                                                                          |       | COB |    |      | 0.1 |      |     |      |     |     |         |

|                                                                                          |       |     |    |      |     |      |     |      |     |     | 77/ 178 |
|------------------------------------------------------------------------------------------|-------|-----|----|------|-----|------|-----|------|-----|-----|---------|
| APR 02 18 <sup>h</sup> 01 <sup>m</sup> 08 <sup>s</sup> .3 36°.55s 177°.76E 12 km M = 3.9 |       |     |    |      |     |      |     |      |     |     |         |
| ± 1.4 0.06 0.07 R S.E. of RES. 1.6                                                       |       |     |    |      |     |      |     |      |     |     |         |
| STN                                                                                      | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
| ECZ                                                                                      | Pg    | 18  | 01 | 34.5 |     | -0.2 | 100 | 1.30 | 151 |     | 3.7 3.9 |
| WTZ                                                                                      | Pn    | 18  | 01 | 34   |     | -1.0 | 100 | 1.56 | 203 |     | 3.6 3.9 |
|                                                                                          | P*    |     |    | 36   |     | 0.0  | 100 |      |     |     |         |
|                                                                                          | S*    |     |    | 55   |     | -1.6 | 100 |      |     |     |         |
| GNZ                                                                                      |       |     |    |      |     |      |     | 2.10 | 174 |     | 4.0 4.0 |
| KRP                                                                                      | Pn    | 18  | 01 | 44   |     | -0.3 | 100 | 2.24 | 232 |     |         |
|                                                                                          | P*    |     |    | 49.5 |     | 1.8  | 100 |      |     |     |         |
|                                                                                          | Sn    |     | 02 | 13   |     | 1.5  | 100 |      |     |     |         |
| TUA                                                                                      |       |     |    |      |     |      |     | 2.30 | 192 |     | 4.0 3.9 |
| AUC                                                                                      | ePg   | 18  | 02 | 01   |     | 3.9  | 94  | 2.41 | 262 |     |         |
| ONE                                                                                      | eSn   | 18  | 02 | 26   |     | -0.2 | 100 | 2.85 | 285 | 3.7 |         |
|                                                                                          | eSg   |     |    | 42   |     | -2.5 | 99  |      |     |     |         |
| TRZ                                                                                      | eP*   | 18  | 02 | 03   |     | 0.9  | 100 | 3.09 | 194 |     | 4.0 3.9 |
|                                                                                          | Pg    |     |    | 09   |     | -1.7 | 100 |      |     |     |         |
|                                                                                          | S*    |     |    | 43   |     | 0.5  | 100 |      |     |     |         |
| CNZ                                                                                      | P*    | 18  | 02 | 03.5 |     | -0.0 | 100 | 3.17 | 213 |     |         |
| TNZ                                                                                      | P*    | 18  | 02 | 13   |     | -0.4 | 100 | 3.75 | 224 |     | 4.3     |
|                                                                                          | Pg    |     |    | 24   |     | -0.1 | 100 |      |     |     |         |
| MNG                                                                                      | Pn    | 18  | 02 | 15   |     | 0.7  |     | 4.44 | 203 |     | 3.8 3.8 |
|                                                                                          | Pg    |     |    | 38   |     | 0.1  |     |      |     |     |         |
| WEL                                                                                      | Sn    | 18  | 03 | 26.5 |     | 2.1  |     | 5.27 | 205 | 3.9 |         |
| COB                                                                                      |       |     |    |      |     |      |     | 5.99 | 219 |     | 3.9 3.6 |
| GPZ                                                                                      | eSn   | 18  | 04 | 33   |     | -0.3 |     | 8.14 | 207 |     |         |
| AMPLITUDES:                                                                              |       | ECZ |    | 0.5  | 1.1 | WTZ  |     | 1.6  | 2.4 | GNZ | 1.6 2.7 |

|     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| TUA | 0.5 | 0.5 | ONE | 0.1 | TRZ | 0.4 | 0.4 |     |
| TNZ | 0.1 |     | MNG |     | 0.5 | 0.6 | WEL | 0.1 |
| COB | 0.1 | 0.2 |     |     |     |     |     |     |

APR 03 19<sup>h</sup>35<sup>m</sup>44<sup>s</sup>.7 37°.41S 176°.79E 220 km 77/ 179 M = 5.3  
 ± 0.7 0.04 0.05 5 S.E. of RES. 0.8

| STN | PHASE | H  | M  | S    | DIR | RES   | WT  | DIST  | AZ  | W-A  | W    | P    | S |
|-----|-------|----|----|------|-----|-------|-----|-------|-----|------|------|------|---|
| WTZ | P     | 19 | 36 | 14.5 |     | -0.2  | 100 | 0.60  | 165 |      |      |      |   |
|     | eS    |    |    | 37   |     | -0.8  | 100 |       |     |      |      |      |   |
| KRP | iP    | 19 | 36 | 17.6 | USW | 0.1   | 100 | 1.12  | 242 |      |      |      |   |
|     | S     |    |    | 43   |     | 0.1   | 100 |       |     |      |      |      |   |
| WNZ | P     | 19 | 36 | 19.1 |     | -0.0  | 100 | 1.34  | 204 |      | 5.2  | 5.4  |   |
| ECZ | iP    | 19 | 36 | 21   | D   | 1.2   | 99  | 1.43  | 102 |      |      |      |   |
| TUA |       |    |    |      |     |       |     | 1.43  | 169 |      | 5.0  | 5.7  |   |
| AUC | P     | 19 | 36 | 21.5 |     | -0.6  | 100 | 1.69  | 288 |      |      |      |   |
| CNZ | iP    | 19 | 36 | 24.8 |     | -0.7  | 100 | 2.04  | 208 |      |      |      |   |
|     | eS    |    |    | 58.5 |     | 1.6   | 98  |       |     |      |      |      |   |
| TRZ | P     | 19 | 36 | 26.0 | D   | -0.5  | 100 | 2.15  | 179 |      |      |      |   |
| ONE | P     | 19 | 36 | 31.2 |     | 0.5   | 100 | 2.54  | 309 | 3.9* |      |      |   |
|     | S     |    |    | 37   |     | 0.3   | 100 |       |     |      |      |      |   |
| TNZ | P     | 19 | 36 | 30.7 |     | -0.6  | 100 | 2.60  | 226 |      | 4.6* |      |   |
| MNG | iP    | 19 | 36 | 37.6 |     | -2.6  |     | 3.37  | 197 |      |      |      |   |
| CAZ | iP    | 19 | 36 | 40.3 | U   | -1.7  |     | 3.53  | 187 |      |      |      |   |
|     | eS    |    |    | 37   |     | -2.4  |     |       |     |      |      |      |   |
| WEL | P     | 19 | 36 | 46.2 | US  | -3.9  |     | 4.18  | 201 | 5.4  |      |      |   |
|     | S     |    |    | 37   |     | -4.7  |     |       |     |      |      |      |   |
| CRZ | P     | 19 | 36 | 52.6 | DE  | -1.0  |     | 4.46  | 310 |      | 3.6* |      |   |
| COB | P     | 19 | 36 | 53   |     | -5.2  |     | 4.84  | 219 |      | 4.7* | 4.6* |   |
|     | S     |    |    | 37   |     | -6.4  |     |       |     |      |      |      |   |
| KAI | eP    | 19 | 37 | 16   |     | -4.4  |     | 6.58  | 217 | 4.5* |      |      |   |
|     | eS    |    |    | 38   |     | -8.0  |     |       |     |      |      |      |   |
| GPZ | P     | 19 | 37 | 20.5 |     | -5.8  |     | 7.04  | 205 | 5.0* |      |      |   |
|     | S     |    |    | 38   |     | -8.6  |     |       |     |      |      |      |   |
| MJZ | eP    | 19 | 37 | 34.7 |     | -5.9  |     | 8.14  | 214 |      | 4.2* | 4.3* |   |
|     | S     |    |    | 39   |     | -11.2 |     |       |     |      |      |      |   |
| CIZ | P     | 19 | 37 | 43   |     | 0.8   |     | 8.27  | 144 |      |      |      |   |
|     | S     |    |    | 39   |     | 6.9   |     |       |     |      |      |      |   |
| OMZ | eP    | 19 | 37 | 45   |     | -4.7  |     | 8.85  | 208 |      | 4.4* | 4.0* |   |
|     | eS    |    |    | 39   |     | -12.4 |     |       |     |      |      |      |   |
| ROX | P     | 19 | 37 | 56   |     | -6.1  |     | 9.82  | 212 |      | 4.2* | 4.1* |   |
|     | S     |    |    | 39   |     | -12.8 |     |       |     |      |      |      |   |
| MSZ | P     | 19 | 37 | 56   |     | -6.9  |     | 9.88  | 220 |      | 4.2* | 4.2* |   |
|     | S     |    |    | 39   |     | -8.7  |     |       |     |      |      |      |   |
| MNW | P     | 19 | 38 | 10   |     | -5.0  |     | 10.83 | 216 |      | 4.1* | 4.0* |   |
|     | S     |    |    | 40   |     | -10.1 |     |       |     |      |      |      |   |
| OBZ | eP    | 19 | 38 | 17.5 |     | -5.7  |     | 11.47 | 211 |      |      |      |   |
|     | S     |    |    | 40   |     | -9.4  |     |       |     |      |      |      |   |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WNZ | 1.4 | 1.8 | TUA | 7.1 | 30  | ONE | 1.5 |     |
|             | TNZ | 5.0 |     | WEL | 4.5 |     | CRZ | 0.4 |     |
|             | COB | 6.5 | 19  | KAI | 2.3 |     | GPZ | 10  |     |
|             | MJZ | 3.7 | 8.2 | CIZ | 0.5 | 1.4 | OMZ | 1.8 | 1.5 |
|             | ROX | 1.1 | 2.1 | MSZ | 2.3 | 4.5 | MNW | 1.1 | 2.1 |

APR 04 09<sup>h</sup>53<sup>m</sup>11<sup>s</sup>.6 40°.55S 174°.51E 75 km 77/ 180 M = 4.8  
 ± 0.4 0.02 0.02 7 S.E. of RES. 0.7

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT      | DIST | AZ  | W-A     | W P  | W S  |
|-------------|-------|-----|-----|---------|-----|------|---------|------|-----|---------|------|------|
| MNG         | iP    | 09  | 53  | 27.6    |     | -0.1 | 100     | 0.75 | 96  |         |      |      |
| WEL         | iP    | 09  | 53  | 28.2    | USE | 0.2  | 100     | 0.76 | 165 | 4.8     |      |      |
|             | S     |     |     | 40      |     | -0.3 | 100     |      |     |         |      |      |
| CAZ         | iP    | 09  | 53  | 35.5    | D   | 0.2  | 100     | 1.35 | 106 |         |      |      |
|             | S     |     |     | 54      |     | 0.8  | 100     |      |     |         |      |      |
| TNZ         | P     | 09  | 53  | 36.5    | D   | 1.0  | 99      | 1.37 | 356 |         | 4.0* |      |
|             | eS    |     |     | 53.5    |     | -0.0 | 100     |      |     |         |      |      |
| COB         | iP    | 09  | 53  | 36.5    | D   | -0.1 | 100     | 1.45 | 248 |         | 4.8* |      |
|             | S     |     |     | 55.5    |     | -0.0 | 100     |      |     |         |      |      |
| CNZ         | P     | 09  | 53  | 38.8    |     | 0.7  | 100     | 1.57 | 31  |         |      |      |
|             | e     |     |     | 44      |     |      |         |      |     |         |      |      |
|             | S     |     |     | 57.5    |     | -0.6 | 100     |      |     |         |      |      |
| KKY         | iP    | 09  | 53  | 43.5    | U   | -0.0 | 100     | 1.97 | 198 |         |      |      |
|             | i     |     |     | 50      |     |      |         |      |     |         |      |      |
|             | i     |     |     | 54 02   |     |      |         |      |     |         |      |      |
| TRZ         | iP    | 09  | 53  | 43.2    | D   | -1.3 | 97      | 2.03 | 62  |         | 4.6  |      |
| WNZ         | i     | 09  | 53  | 59      |     |      |         | 2.28 | 33  |         | 5.0  | 5.3  |
|             | eS    |     |     | 54 15   |     | 0.2  |         |      |     |         |      |      |
| TUA         |       |     |     |         |     |      |         | 2.68 | 50  |         | 4.5  | 4.9  |
| KRP         | P     | 09  | 53  | 53.8    | U   | -0.6 |         | 2.74 | 17  |         |      |      |
|             | i     |     |     | 54 09   |     |      |         |      |     |         |      |      |
|             | S     |     |     | 28      |     | 1.6  |         |      |     |         |      |      |
|             | i     |     |     | 39      |     |      |         |      |     |         |      |      |
| KAI         | P     | 09  | 53  | 58.5    |     | -0.3 |         | 3.05 | 229 | 4.4*    |      |      |
|             | i     |     |     | 54 09.5 |     |      |         |      |     |         |      |      |
|             | S     |     |     | 31.5    |     | -2.8 |         |      |     |         |      |      |
| WTZ         | P     | 09  | 53  | 57.5    |     | -3.4 |         | 3.20 | 38  |         | 4.6  | 4.9  |
|             | i     |     |     | 54 14   |     |      |         |      |     |         |      |      |
|             | S     |     |     | 31      |     | -7.1 |         |      |     |         |      |      |
| GNZ         |       |     |     |         |     |      |         | 3.32 | 56  |         | 4.8  | 5.2  |
| GPZ         | eP    | 09  | 54  | 01.5    |     | -2.7 |         | 3.44 | 203 | 4.2*    |      |      |
|             | S     |     |     | 38      |     | -5.9 |         |      |     |         |      |      |
| AUC         | P     | 09  | 54  | 07      |     | -0.7 |         | 3.69 | 3   |         |      |      |
|             | e     |     |     | 23      |     |      |         |      |     |         |      |      |
|             | e     |     |     | 55 01.5 |     |      |         |      |     |         |      |      |
| ECZ         | P     | 09  | 54  | 11      |     | -4.3 |         | 4.25 | 49  |         | 4.3  | 4.9  |
|             | e     |     |     | 27      |     |      |         |      |     |         |      |      |
|             | S     |     |     | 58      |     | -6.0 |         |      |     |         |      |      |
|             | i     |     |     | 55 03   |     |      |         |      |     |         |      |      |
| MJZ         | eP    | 09  | 54  | 16      |     | -3.7 |         | 4.56 | 220 |         | 3.9* | 4.0* |
|             | e     |     |     | 28      |     |      |         |      |     |         |      |      |
|             | S     |     |     | 55 07   |     | -4.9 |         |      |     |         |      |      |
| ONE         | S     | 09  | 55  | 16.5    |     | -0.6 |         | 4.77 | 359 | 3.5*    |      |      |
| OMZ         | P     | 09  | 54  | 26.5    |     | -2.6 |         | 5.24 | 209 |         | 3.5* | 3.7* |
|             | eS    |     |     | 55 22   |     | -6.8 |         |      |     |         |      |      |
| ROX         | S     | 09  | 55  | 44      |     | -9.3 |         | 6.23 | 216 |         | 3.6* | 3.8* |
| CRZ         | eP    | 09  | 54  | 44      |     | 0.5  |         | 6.28 | 346 |         | 3.4* |      |
|             | S     |     |     | 55 50   |     | -4.6 |         |      |     |         |      |      |
| MSZ         | P     | 09  | 54  | 44      |     | -0.8 |         | 6.38 | 228 |         | 4.0* | 4.0* |
|             | S     |     |     | 55 49.5 |     | -7.5 |         |      |     |         |      |      |
| MNW         | S     | 09  | 56  | 11.5    |     | -7.3 |         | 7.26 | 222 | 3.7*    | 3.6* | 4.0* |
| OBZ         | S     | 09  | 56  | 26      |     | -7.6 |         | 7.87 | 214 |         |      |      |
| AMPLITUDES: |       | WEL | 33  |         |     | TNZ  | 2.5     | COB  |     | 24      |      |      |
|             |       | TRZ |     | 2.5     |     | WNZ  | 0.7 1.4 | TUA  |     | 1.3 3.5 |      |      |
|             |       | KAI | 4.1 |         |     | WTZ  | 2.6 6.0 | GNZ  |     | 4.5 19  |      |      |
|             |       | GPZ | 3.0 |         |     | ECZ  | 0.4 1.5 | MJZ  |     | 3.5 8.0 |      |      |
|             |       | ONE | 0.4 |         |     | OMZ  | 0.4 1.3 | ROX  |     | 0.4 1.6 |      |      |



CRZ 0.2 MSZ 2.8 4.7 MNW 0.4 0.6 3.0

FELT: Southern parts of the North Island. Maximum intensity MM  
IV

APR 05 11<sup>h</sup>13<sup>m</sup>37<sup>s</sup>.1 44°.91S 167°.75E 73 km M = 3.5  
 ± 0.6 0.02 0.04 4 S.E. of RES. 0.7 77/ 181

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|-----|-----|
| MSZ | P     | 11 | 13 | 49.0    | U   | 0.1  | 100 | 0.27 | 26  |      |     |     |
|     | S     |    |    | 58      |     | 0.2  | 100 |      |     |      |     |     |
| MNW | P     | 11 | 13 | 54.7    |     | 0.1  | 100 | 0.87 | 186 | 3.8* |     |     |
|     | S     |    |    | 14 06.5 |     | -1.0 | 99  |      |     |      |     |     |
| ROX | P     | 11 | 14 | 00.3    | D   | 1.0  | 99  | 1.24 | 117 |      | 3.7 | 3.5 |
|     | S     |    |    | 16.5    |     | 0.4  | 100 |      |     |      |     |     |
| GSP | P     | 11 | 14 | 06.5    |     | -0.1 |     | 1.80 | 65  |      |     |     |
|     | S     |    |    | 28.5    |     | -0.1 |     |      |     |      |     |     |
| OBZ | P     | 11 | 14 | 09.5    |     | 0.0  | 100 | 2.01 | 173 |      |     |     |
|     | S     |    |    | 33.5    |     | 0.0  | 100 |      |     |      |     |     |
| MJZ | P     | 11 | 14 | 11      |     | -0.6 | 100 | 2.16 | 65  |      | 3.4 | 3.5 |
|     | S     |    |    | 36.5    |     | -0.6 | 100 |      |     |      |     |     |
| OMZ | P     | 11 | 14 | 13.6    |     | 0.6  | 100 | 2.25 | 95  |      | 3.5 | 3.7 |
|     | S     |    |    | 39      |     | -0.4 | 100 |      |     |      |     |     |
| KAI |       |    |    |         |     |      |     | 3.57 | 49  | 3.3  |     |     |
| GPZ | eP    | 11 | 15 | 12      |     | -4.4 |     | 3.73 | 73  | 3.2  |     |     |
| COB | S     | 11 | 14 | 55      |     | -0.3 |     | 5.29 | 45  |      | 3.9 | 3.5 |
|     | S     |    |    | 15 54.5 |     | -1.1 |     |      |     |      |     |     |

AMPLITUDES: MSZ 15 53 MNW 4.0 ROX 1.7 2.5  
 MJZ 1.4 2.9 OMZ 0.5 1.4 KAI 0.1  
 GPZ 0.1 COB 0.3 0.3

APR 05 18<sup>h</sup>27<sup>m</sup>01<sup>s</sup>.9 45°.09S 167°.55E 94 km M = 3.5  
 ± 0.6 0.02 0.04 4 S.E. of RES. 0.7 77/ 182

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|------|------|------|
| MSZ | iP    | 18 | 27 | 17.7  | U   | 0.5  | 100 | 0.49 | 32  |      | 3.6* | 3.5* |
|     | S     |    |    | 29    |     | 0.1  | 100 |      |     |      |      |      |
| MNW | P     | 18 | 27 | 18.5  |     | -0.5 | 100 | 0.69 | 176 | 3.3* | 3.2* | 3.5* |
|     | S     |    |    | 31    |     | -0.9 | 99  |      |     |      |      |      |
| ROX | P     | 18 | 27 | 27    |     | 1.1  | 98  | 1.30 | 108 |      | 3.6  | 3.8  |
|     | S     |    |    | 44.5  |     | 0.5  | 100 |      |     |      |      |      |
| OBZ | P     | 18 | 27 | 33    |     | 0.1  | 100 | 1.86 | 168 |      |      |      |
|     | S     |    |    | 56    |     | 0.1  | 100 |      |     |      |      |      |
| GSP | P     | 18 | 27 | 34    |     | -0.7 |     | 2.00 | 62  |      |      |      |
|     | S     |    |    | 58.5  |     | -0.6 |     |      |     |      |      |      |
| MJZ | P     | 18 | 27 | 39    |     | -0.6 | 100 | 2.36 | 63  |      | 2.9  | 3.4  |
|     | S     |    |    | 28 07 |     | -0.7 | 100 |      |     |      |      |      |
| OMZ | P     | 18 | 27 | 40    |     | 0.0  | 100 | 2.38 | 91  |      | 3.4  | 3.6  |
|     | S     |    |    | 28 08 |     | -0.3 | 100 |      |     |      |      |      |
| GPZ | S     | 18 | 28 | 43    |     | -3.0 |     | 3.91 | 71  | 3.5  |      |      |
| COB | S     | 18 | 29 | 21.5  |     | -4.1 |     | 5.51 | 45  |      |      |      |

AMPLITUDES: MSZ 10 15 MNW 1.4 2.0 7.8 ROX 1.0 4.2  
 MJZ 0.3 1.3 OMZ 0.3 0.8 GPZ 0.1

APR 06 09<sup>h</sup>48<sup>m</sup>18<sup>s</sup>.9 37°.12S 176°.96E 192 km M = 3.8  
 ± 1.6 0.10 0.08 11 S.E. of RES. 1.5 77/ 183

| STN         | PHASE | H  | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|----|-----|------|-----|------|-----|------|-----|-----|------|------|
| WTZ         | eP    | 09 | 48  | 45.5 |     | -1.5 | 100 | 0.86 | 178 |     | 3.9  | 3.5  |
|             | S     |    | 49  | 07   |     | -1.8 | 99  |      |     |     |      |      |
| KRP         | P     | 09 | 48  | 51   |     | -0.1 | 100 | 1.39 | 234 |     |      |      |
|             | eS    |    | 49  | 17   |     | 1.0  | 100 |      |     |     |      |      |
| ECZ         | P     | 09 | 48  | 50   |     | -1.1 | 100 | 1.39 | 115 |     | 3.7  | 3.7  |
|             | S     |    | 49  | 18.5 |     | 2.5  | 98  |      |     |     |      |      |
| TUA         |       |    |     |      |     |      |     | 1.69 | 175 |     | 3.7  | 3.8  |
| GNZ         | P     | 09 | 48  | 54.0 | D   | -0.4 | 100 | 1.74 | 151 |     | 4.1  | 4.3  |
|             | S     |    | 49  | 21.5 |     | -0.3 | 100 |      |     |     |      |      |
| CNZ         | eP    | 09 | 49  | 02.5 |     | 1.4  | 100 | 2.36 | 208 |     |      |      |
| TRZ         | eP    | 09 | 49  | 02   |     | 0.1  | 100 | 2.43 | 182 |     | 3.7  | 3.9  |
|             | eS    |    |     | 35   |     | -0.1 | 100 |      |     |     |      |      |
| TNZ         | eP    | 09 | 49  | 04   |     | -3.4 |     | 2.90 | 224 |     | 3.0* |      |
| MNG         | P     | 09 | 49  | 14.8 |     | -2.1 |     | 3.68 | 198 |     | 3.8  | 3.7  |
|             | S     |    | 50  | 00   |     | -1.8 |     |      |     |     |      |      |
| WEL         | S     | 09 | 50  | 18   |     | -2.3 |     | 4.49 | 202 | 3.7 |      |      |
| COB         | S     | 09 | 50  | 32   |     | -3.3 |     | 5.15 | 218 |     |      | 2.7* |
| AMPLITUDES: |       |    |     |      |     |      |     |      |     |     |      |      |
|             | WTZ   |    | 2.0 | 0.9  | ECZ |      | 0.4 | 0.4  | TUA |     | 0.3  | 0.4  |
|             | GNZ   |    | 2.1 | 5.5  | TRZ |      | 0.2 | 0.7  | TNZ |     | 0.1  |      |
|             | MNG   |    | 0.8 | 0.9  | WEL | 0.1  |     |      | COB |     |      | 0.2  |

APR 06 16<sup>h</sup>29<sup>m</sup>05<sup>s</sup>.6 37°.40s 177°.39E 133 km M = 4.2  
 ± 0.6 0.05 0.03 4 S.E. of RES. 0.7 77/ 184

| STN         | PHASE | H  | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|----|-----|------|-----|------|-----|------|-----|------|------|------|
| WTZ         | iP    | 16 | 29  | 25.2 | D   | -1.0 | 99  | 0.67 | 208 |      | 4.2  | 4.1  |
|             | S     |    |     | 42   |     | -0.0 | 100 |      |     |      |      |      |
| ECZ         | eP    | 16 | 29  | 29   |     | 0.4  | 100 | 0.96 | 108 |      | 4.0  | 4.3  |
|             | eS    |    |     | 46.5 |     | 0.3  | 100 |      |     |      |      |      |
|             | e     |    |     | 54   |     |      |     |      |     |      |      |      |
| GNZ         | iP    | 16 | 29  | 32.0 | D   | -0.5 | 100 | 1.34 | 158 |      | 4.7  | 4.5  |
|             | S     |    |     | 53.5 |     | 0.5  | 100 |      |     |      |      |      |
| TUA         |       |    |     |      |     |      |     | 1.42 | 188 |      | 3.9  | 4.2  |
| KRP         | iP    | 16 | 29  | 34.9 | DNE | -0.0 | 100 | 1.57 | 250 |      |      |      |
|             | Sn    |    |     | 57.5 |     | 0.1  | 100 |      |     |      |      |      |
| WNZ         | eP    | 16 | 29  | 36   |     | 0.6  |     | 1.60 | 219 |      |      |      |
| AUC         | eP    | 16 | 29  | 41.5 |     | -0.6 |     | 2.16 | 284 |      |      |      |
| TRZ         | P     | 16 | 29  | 42   |     | -0.7 | 99  | 2.20 | 192 |      | 4.1  | 4.0  |
| CNZ         | P     | 16 | 29  | 44.5 |     | 0.4  | 100 | 2.31 | 218 |      |      |      |
| TNZ         | P     | 16 | 29  | 53.5 |     | 0.8  | 99  | 2.97 | 232 |      | 3.5* |      |
| MNG         | P     | 16 | 29  | 56.5 |     | -3.9 |     | 3.55 | 204 |      | 4.2  | 4.0  |
|             | S     |    | 30  | 40   |     | -2.2 |     |      |     |      |      |      |
| CAZ         | iP    | 16 | 29  | 59.1 | D   | -2.3 |     | 3.62 | 194 |      |      |      |
|             | S     |    | 30  | 42   |     | -1.9 |     |      |     |      |      |      |
| WEL         | P     | 16 | 30  | 08   |     | -3.5 |     | 4.39 | 207 | 4.0  |      |      |
|             | S     |    |     | 59   |     | -3.2 |     |      |     |      |      |      |
| COB         | P     | 16 | 30  | 18   |     | -4.0 |     | 5.17 | 223 |      | 3.4* | 3.1* |
|             | S     |    | 31  | 18   |     | -3.0 |     |      |     |      |      |      |
| KAI         | S     | 16 | 32  | 00   |     | -2.6 |     | 6.88 | 220 | 3.2* |      |      |
| GPZ         | S     | 16 | 32  | 04.5 |     | -7.2 |     | 7.26 | 208 | 3.3* |      |      |
| CIZ         | eP    | 16 | 31  | 01   |     | 0.7  |     | 8.01 | 147 |      |      |      |
|             | S     |    | 32  | 26   |     | -3.7 |     |      |     |      |      |      |
| MJZ         | S     | 16 | 32  | 32   |     | -7.9 |     | 8.43 | 216 |      |      |      |
| AMPLITUDES: |       |    |     |      |     |      |     |      |     |      |      |      |
|             | WTZ   |    | 10  | 9.0  | ECZ |      | 2.0 | 3.4  | GNZ |      | 14   | 14   |
|             | TUA   |    | 1.0 | 1.7  | TRZ |      | 0.7 | 1.2  | TNZ |      | 0.4  |      |
|             | MNG   |    | 2.5 | 2.1  | WEL | 0.2  |     |      | COB |      | 0.3  | 0.6  |

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APR 07 01<sup>h</sup>23<sup>m</sup>49<sup>s</sup>.3 39°.20S 174°.60E 12 km  
 ± R R R S.E. of RES. 3.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| TNZ | eP    | 01 | 23 | 51   |     | -2.4 | 100 | 0.17 | 274 |     |     |     |
|     | S     |    |    | 58.5 |     | 2.4  | 100 |      |     |     |     |     |

FELT: Purangi (48) MM IV

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APR 07 07<sup>h</sup>02<sup>m</sup>39<sup>s</sup>.5 39°.46S 174°.23E 205 km M = 4.2  
 ± 1.1 0.04 0.06 8 S.E. of RES. 1.3

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|
| TNZ | eP    | 07 | 03 | 07      |     | 0.3  | 100 | 0.30 | 23  |      |      |      |
|     | S     |    |    | 29      |     | 1.4  | 100 |      |     |      |      |      |
| CNZ | iP    | 07 | 03 | 11.0    |     | 0.8  | 100 | 1.05 | 76  |      |      |      |
|     | S     |    |    | 35.5    |     | 1.4  | 100 |      |     |      |      |      |
| MNG | iP    | 07 | 03 | 14.8    |     | 0.9  | 100 | 1.50 | 141 |      |      |      |
|     | S     |    |    | 39      |     | -1.5 | 100 |      |     |      |      |      |
| KRP | P     | 07 | 03 | 16.5    |     | -0.6 | 100 | 1.84 | 34  |      |      |      |
|     | S     |    |    | 44      |     | -2.1 | 99  |      |     |      |      |      |
| WEL | P     | 07 | 03 | 18      |     | 0.6  | 100 | 1.87 | 168 | 4.2  |      |      |
|     | S     |    |    | 45.5    |     | -1.2 | 100 |      |     |      |      |      |
| COB | iP    | 07 | 03 | 19.2    | U   | 0.6  | 100 | 1.99 | 215 |      | 4.3* | 3.4* |
|     | S     |    |    | 47.5    |     | -1.3 | 100 |      |     |      |      |      |
| TRZ | P     | 07 | 03 | 19      |     | 0.2  | 100 | 2.01 | 94  |      | 4.5  | 4.0  |
|     | S     |    |    | 48      |     | -1.0 | 100 |      |     |      |      |      |
| CAZ | S     | 07 | 03 | 52      |     | 1.1  | 100 | 2.11 | 134 |      |      |      |
| TUA |       |    |    |         |     |      |     | 2.37 | 75  |      | 4.4  |      |
| WIZ | P     | 07 | 03 | 23.7    |     | -1.6 |     | 2.61 | 57  |      | 3.9  | 3.7  |
| GNZ | P     | 07 | 03 | 29      |     | -1.6 |     | 3.06 | 76  |      | 4.8  | 4.1  |
|     | S     |    |    | 04 06   |     | -4.2 |     |      |     |      |      |      |
| KAI | S     | 07 | 04 | 24.5    |     | -0.2 |     | 3.73 | 214 | 3.4* |      |      |
| ECZ | P     | 07 | 03 | 38      |     | -1.7 |     | 3.82 | 64  |      | 4.5  | 4.2  |
|     | S     |    |    | 04 20.5 |     | -5.9 |     |      |     |      |      |      |
| GPZ | P     | 07 | 03 | 45.5    |     | -1.6 |     | 4.40 | 195 | 4.2* |      |      |
|     | iS    |    |    | 04 34.5 |     | -5.0 |     |      |     |      |      |      |
| MJZ | P     | 07 | 03 | 58      |     | -1.0 |     | 5.34 | 211 |      | 3.2* | 3.1* |
|     | S     |    |    | 04 56   |     | -4.7 |     |      |     |      |      |      |
| GSP | P     | 07 | 04 | 02      |     | -0.9 |     | 5.63 | 213 |      |      |      |
|     | e     |    |    | 26      |     |      |     |      |     |      |      |      |
|     | S     |    |    | 05 04   |     | -3.7 |     |      |     |      |      |      |
| CIZ | S     | 07 | 06 | 18      |     | 10.0 |     | 8.23 | 126 |      |      |      |

AMPLITUDES: TNZ 0.1 0.6 WEL 1.1 COB 5.3 2.2  
 TRZ 1.5 1.1 TUA 1.1 WIZ 0.7 0.4  
 GNZ 3.9 1.5 KAI 0.3 ECZ 0.6 0.3  
 GPZ 2.5 MJZ 0.6 0.8

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APR 07 09<sup>h</sup>00<sup>m</sup>59<sup>s</sup>.1 50°.86S 162°.65E 12 km M = 4.4  
 ± 0.3 0.03 0.07 R S.E. of RES. 0.2

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|----|-----|-----|-----|
| OBZ | Pn    | 09 | 02 | 18    |     | 0.3  | 99  | 5.35 | 44 |     |     |     |
|     | Sn    |    |    | 03 17 |     | -0.1 | 100 |      |    |     |     |     |
| MNW | Pn    | 09 | 02 | 27.2  | D   | -0.2 | 100 | 6.07 | 35 | 4.5 | 5.0 | 4.6 |



|                                                 |     |                             |       |     |       |    |     |     |
|-------------------------------------------------|-----|-----------------------------|-------|-----|-------|----|-----|-----|
| ROX                                             | Sn  | 03 34.5                     | 0.2   | 100 |       |    |     |     |
| MSZ                                             | Pn  | 09 02 40                    | -0.1  | 100 | 6.99  | 42 | 4.8 |     |
|                                                 | Pn  | 09 02 42                    | -0.0  | 100 | 7.14  | 32 | 4.7 | 4.4 |
|                                                 | Sn  | 04 00                       | -0.0  | 100 |       |    |     |     |
| OMZ                                             | Pn  | 09 02 54                    | -0.1  |     | 8.02  | 47 | 4.0 | 4.0 |
| GSP                                             | ePn | 09 02 57.5                  | -1.4  |     | 8.38  | 39 |     |     |
|                                                 | eP* | 03 16                       | -7.2  |     |       |    |     |     |
|                                                 | Sn  | 04 29                       | -0.8  |     |       |    |     |     |
| MJZ                                             | P*  | 09 03 18                    | -10.4 |     | 8.68  | 41 | 4.1 | 4.0 |
|                                                 | Sn  | 04 29                       | -8.1  |     |       |    |     |     |
| COB                                             | ePn | 09 03 48                    | -0.7  |     | 12.02 | 39 |     |     |
|                                                 | eSn | 05 54                       | -3.4  |     |       |    |     |     |
| CIZ                                             | ePn | 09 04 41                    | 2.8   |     | 15.66 | 72 |     |     |
| AMPLITUDES: MNW 0.4 2.5 2.2 ROX 0.8 MSZ 1.3 1.3 |     |                             |       |     |       |    |     |     |
|                                                 | OMZ | 0.1 0.2 MJZ 0.3 0.4 CIZ 0.1 |       |     |       |    |     |     |

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APR 07 15<sup>h</sup>06<sup>m</sup>23<sup>s</sup>.7 44°.29S 167°.99E 12 km M = 4.0  
 ± 1.2 0.06 0.06 R S.E. of RES. 1.2

| STN                                        | PHASE | H                   | M    | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|--------------------------------------------|-------|---------------------|------|-------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ                                        | iP*   | 15                  | 06   | 30.6  | D   | -0.9 | 100 | 0.39 | 188 |     |     |     |
| GSP                                        | P*    | 15                  | 06   | 50.5  | D   | 0.5  | 100 | 1.47 | 85  |     |     |     |
|                                            | S*    | 07                  | 09.5 |       |     | 0.1  | 100 |      |     |     |     |     |
| MNW                                        | iP*   | 15                  | 06   | 50.3  |     | -0.5 | 100 | 1.51 | 190 | 4.2 | 4.4 |     |
|                                            | Pg    |                     |      | 54    |     | -0.4 | 100 |      |     |     |     |     |
|                                            | S*    | 07                  | 10   |       |     | -0.8 | 100 |      |     |     |     |     |
| ROX                                        | iP*   | 15                  | 06   | 49.8  | D   | -1.0 | 100 | 1.52 | 142 |     | 4.4 |     |
| MJZ                                        | ePn   | 15                  | 06   | 55    |     | 1.0  |     | 1.81 | 81  |     | 4.0 | 3.9 |
|                                            | eP*   |                     |      | 57    |     | 1.2  |     |      |     |     |     |     |
|                                            | S*    | 07                  | 21   |       |     | 1.3  |     |      |     |     |     |     |
| OMZ                                        | ePn   | 15                  | 07   | 00.5  |     | 0.8  | 100 | 2.23 | 112 |     | 4.2 | 4.0 |
|                                            | P*    |                     |      | 01.6  |     | -1.4 | 100 |      |     |     |     |     |
|                                            | eSn   |                     |      | 27    |     | 0.3  | 100 |      |     |     |     |     |
|                                            | eS*   |                     |      | 32    |     | -0.3 | 100 |      |     |     |     |     |
| OBZ                                        | Pn    | 15                  | 07   | 06    |     | 1.0  | 100 | 2.62 | 178 |     |     |     |
|                                            | Sn    |                     |      | 39    |     | 2.9  | 90  |      |     |     |     |     |
| KAI                                        | S*    | 15                  | 08   | 02    |     | 5.0  |     | 3.05 | 56  | 4.0 |     |     |
| GPZ                                        | P*    | 15                  | 07   | 25    |     | 1.8  |     | 3.41 | 82  | 3.7 |     |     |
|                                            | Pg    |                     |      | 31    |     | -1.8 |     |      |     |     |     |     |
|                                            | eS*   |                     |      | 08 11 |     | 3.3  |     |      |     |     |     |     |
| COB                                        | ePn   | 15                  | 07   | 34    |     | 0.0  |     | 4.74 | 49  |     | 4.3 | 3.5 |
|                                            | eSn   |                     |      | 08 29 |     | 1.9  |     |      |     |     |     |     |
| MNG                                        | ePn   | 15                  | 08   | 03    |     | 3.0  |     | 6.65 | 59  |     | 4.2 | 3.6 |
|                                            | e     |                     |      | 09    |     |      |     |      |     |     |     |     |
|                                            | eSn   |                     |      | 09 27 |     | 14.1 |     |      |     |     |     |     |
| AMPLITUDES: MNW 3.8 10 ROX 6.0 MJZ 5.6 8.3 |       |                     |      |       |     |      |     |      |     |     |     |     |
|                                            | OMZ   | 1.7 2.2 KAI 0.4     |      |       |     |      |     |      |     |     |     |     |
|                                            | COB   | 0.5 0.3 MNG 0.7 0.2 |      |       |     |      |     |      |     |     |     |     |

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APR 09 14<sup>h</sup>10<sup>m</sup>19<sup>s</sup>.7 37°.73S 176°.24E 217 km M = 4.5  
 ± 1.3 0.07 0.06 8 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| KRP | iP    | 14 | 10 | 48.8  | D   | -0.4 | 100 | 0.58 | 250 |     |     |     |
|     | S     |    |    | 11 12 |     | 0.0  | 100 |      |     |     |     |     |
| WTZ | iP    | 14 | 10 | 48.4  | D   | -1.1 | 100 | 0.65 | 114 |     | 4.5 | 3.8 |
|     | S     |    |    | 11 11 |     | -1.5 | 100 |      |     |     |     |     |

|             |     |            |     |       |     |      |     |      |      |
|-------------|-----|------------|-----|-------|-----|------|-----|------|------|
| WNZ         | eP  | 14 10 50.5 |     | -0.3  | 100 | 0.91 | 187 |      |      |
| TUA         |     |            |     |       |     | 1.30 | 147 | 4.5  | 4.3  |
| CNZ         | P   | 14 10 55.2 |     | -0.5  | 100 | 1.57 | 200 |      |      |
|             | i   | 11 19      |     |       |     |      |     |      |      |
|             | S   | 27         |     | 3.4   | 91  |      |     |      |      |
| GSZ         | S   | 14 11 23   |     | -1.6  | 100 | 1.63 | 198 |      |      |
| GNZ         | iP  | 14 10 56.6 | DSW | -0.2  | 100 | 1.68 | 124 | 4.8  | 4.5  |
|             | S   | 11 25      |     | -0.3  | 100 |      |     |      |      |
| ECZ         | iP  | 14 10 59.2 | U   | 1.0   | 100 | 1.84 | 90  | 4.3  | 4.4  |
|             | eS  | 11 30      |     | 2.1   | 99  |      |     |      |      |
| TRZ         | P   | 14 10 58.0 | D   | -0.6  | 100 | 1.88 | 166 | 4.7  | 4.6  |
|             | eS  | 11 28      |     | -0.7  | 100 |      |     |      |      |
| TNZ         | P   | 14 11 00.4 |     | 0.0   | 100 | 2.06 | 224 | 3.6* | 3.0* |
|             | eS  | 33         |     | 1.1   | 100 |      |     |      |      |
| MNG         | iP  | 14 11 07.3 |     | -2.8  |     | 2.95 | 191 |      |      |
| WEL         | P   | 14 11 16   |     | -3.3  |     | 3.73 | 197 | 4.6  |      |
|             | S   | 12 00.5    |     | -5.1  |     |      |     |      |      |
| COB         | eP  | 14 11 22   |     | -4.6  |     | 4.32 | 218 | 3.8* | 3.4* |
|             | S   | 12 13      |     | -5.5  |     |      |     |      |      |
| KAI         | eS  | 14 12 50   |     | -7.9  |     | 6.06 | 216 | 3.1* |      |
| GPZ         | P   | 14 11 50   |     | -5.1  |     | 6.56 | 203 | 3.6* |      |
|             | S   | 12 59.5    |     | -10.1 |     |      |     |      |      |
| MJZ         | P   | 14 12 04   |     | -4.9  |     | 7.63 | 213 | 3.3* | 3.2* |
|             | S   | 13 26      |     | -8.4  |     |      |     |      |      |
| CIZ         | eS  | 14 13 56   |     | 6.7   |     | 8.28 | 141 |      |      |
| AMPLITUDES: |     |            |     |       |     |      |     |      |      |
|             | WTZ | 6.5        | 1.8 | TUA   | 2.4 | 1.5  | GNZ | 10   | 7.0  |
|             | ECZ | 1.1        | 1.3 | TRZ   | 2.2 | 4.1  | TNZ | 0.6  | 0.2  |
|             | WEL | 0.9        |     | COB   | 0.8 | 1.1  | KAI | 0.1  |      |
|             | GPZ | 0.4        |     | MJZ   | 0.5 | 0.7  | CIZ |      | 0.1  |

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APR 10 13<sup>h</sup>28<sup>m</sup>57<sup>s</sup>.5 38°.01s 176°.25E 158 km M = 4.0  
 $\pm 0.3$  0.02 0.02 2 S.E. of RES. 0.3

| STN | PHASE | H     | M       | S | DIR | RES   | WT  | DIST | AZ  | W-A  | W P W S |
|-----|-------|-------|---------|---|-----|-------|-----|------|-----|------|---------|
| KRP | P     | 13 29 | 20.3    |   |     | 0.1   | 100 | 0.57 | 278 |      |         |
|     | S     |       | 38      |   |     | 0.1   | 100 |      |     |      |         |
| WTZ | P     | 13 29 | 20.0    |   |     | -0.3  | 99  | 0.58 | 88  | 3.9  | 3.6     |
|     | S     |       | 38      |   |     | -0.0  | 100 |      |     |      |         |
| TUA |       |       |         |   |     |       |     | 1.07 | 139 | 3.6  | 4.0     |
| CNZ | P     | 13 29 | 26      |   |     | -0.1  | 100 | 1.31 | 205 |      |         |
| GNZ | P     | 13 29 | 28.8    |   | D   | 0.4   | 98  | 1.53 | 115 | 4.0  | 4.2     |
|     | S     |       | 52      |   |     | -0.0  | 100 |      |     |      |         |
| TRZ | P     | 13 29 | 29.0    |   |     | -0.1  | 100 | 1.60 | 164 | 4.2  | 4.0     |
|     | S     |       | 53.5    |   |     | 0.1   | 100 |      |     |      |         |
| ECZ | iP    | 13 29 | 32.9    |   | U   | 1.1   |     | 1.84 | 81  | 4.1  |         |
| MNG | iP    | 13 29 | 39.1    |   |     | -2.6  |     | 2.67 | 193 |      |         |
|     | eS    |       | 30 12   |   |     | -3.6  |     |      |     |      |         |
| CAZ | P     | 13 29 | 42.2    |   |     | -2.2  |     | 2.89 | 180 |      |         |
|     | S     |       | 30 17.5 |   |     | -3.0  |     |      |     |      |         |
| WEL | P     | 13 29 | 48      |   |     | -3.9  |     | 3.46 | 199 | 4.4  |         |
|     | S     |       | 30 29   |   |     | -4.6  |     |      |     |      |         |
| COB | S     | 13 30 | 42.5    |   |     | -5.9  |     | 4.10 | 220 | 3.1* | 3.5*    |
| KAI | eS    | 13 31 | 20      |   |     | -9.4  |     | 5.84 | 218 | 3.1* |         |
| GPZ | S     | 13 31 | 30      |   |     | -10.5 |     | 6.31 | 205 | 3.8* |         |
| MJZ | eP    | 13 30 | 34      |   |     | -9.9  |     | 7.41 | 214 | 2.9* | 3.4*    |
|     | S     |       | 31 55   |   |     | -11.9 |     |      |     |      |         |
| CIZ | S     | 13 32 | 18      |   |     | -4.3  |     | 8.05 | 140 |      |         |

| AMPLITUDES: |                                                    | WTZ     | 3.2      | 2.2   | TUA              | 0.6   | 1.4 | GNZ   | 2.2 | 5.5         |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|-------|-----|-------|-----|-------------|
|             |                                                    | TRZ     | 1.2      | 1.7   | ECZ              | 0.8   |     | WEL   | 0.7 |             |
|             |                                                    | COB     | 0.2      | 1.6   | KAI              | 0.1   |     | GPZ   | 0.7 |             |
|             |                                                    | MJZ     | 0.2      | 1.1   | CIZ              |       | 0.2 |       |     |             |
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| APR 11      | 13 <sup>h</sup> 55 <sup>m</sup> 05 <sup>s</sup> .9 | 36°.29S | 178°.34E | 33 km | M = 4.3          |       |     |       |     |             |
|             | ± 1.1                                              | 0.05    | 0.07     | R     | S.E. of RES. 1.3 |       |     |       |     |             |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES   | WT  | DIST  | AZ  | W-A W P W S |
| ECZ         | P*                                                 | 13      | 55       | 31    |                  | -0.3  | 100 | 1.41  | 173 | 3.9 4.5     |
|             | S*                                                 |         |          | 51    |                  | 0.8   | 100 |       |     |             |
| WTZ         | Pn                                                 | 13      | 55       | 36.4  |                  | -0.4  | 100 | 2.01  | 212 | 4.3 4.3     |
|             | Sn                                                 |         |          | 58    |                  | -2.1  | 99  |       |     |             |
| GNZ         | Pn                                                 | 13      | 55       | 41.3  |                  | -0.4  | 100 | 2.37  | 186 |             |
| TUA         |                                                    |         |          |       |                  |       |     | 2.69  | 200 | 4.3 4.4     |
| KRP         | Pn                                                 | 13      | 55       | 48.9  | U                | 1.6   | 99  | 2.77  | 233 |             |
|             | eSn                                                |         |          | 56 18 |                  | -0.5  | 100 |       |     |             |
| ONE         | eP*                                                | 13      | 56       | 03    |                  | 0.1   | 100 | 3.27  | 278 |             |
| TRZ         | Pn                                                 | 13      | 55       | 55    |                  | -1.8  | 99  | 3.47  | 200 | 4.2 4.3     |
|             | Sn                                                 |         |          | 56 37 |                  | 1.7   | 99  |       |     |             |
|             | S*                                                 |         |          | 51    |                  | -0.7  | 100 |       |     |             |
| CNZ         | Pn                                                 | 13      | 56       | 00    |                  | 0.7   | 100 | 3.65  | 217 |             |
|             | Sn                                                 |         |          | 41    |                  | 1.3   | 100 |       |     |             |
| MNG         | Pn                                                 | 13      | 56       | 14    |                  | -1.9  |     | 4.88  | 207 | 4.1 4.6     |
|             | P*                                                 |         |          | 22.5  |                  | -7.6  |     |       |     |             |
|             | Sn                                                 |         |          | 57 05 |                  | -3.9  |     |       |     |             |
|             | eS*                                                |         |          | 26    |                  | -7.5  |     |       |     |             |
| WEL         | eSn                                                | 13      | 57       | 23    |                  | -6.3  |     | 5.72  | 208 | 4.2         |
|             | S*                                                 |         |          | 45    |                  | -13.8 |     |       |     |             |
| COB         | Pn                                                 | 13      | 56       | 36.5  |                  | -1.6  |     | 6.50  | 221 | 4.2 4.1     |
|             | Sn                                                 |         |          | 57 46 |                  | -2.0  |     |       |     |             |
| KAI         |                                                    |         |          |       |                  |       |     | 8.23  | 219 | 4.2         |
| GPZ         | Sn                                                 | 13      | 58       | 28.5  |                  | -9.9  |     | 8.59  | 209 | 4.4         |
| CIZ         | eSn                                                | 13      | 58       | 33    |                  | -5.3  |     | 8.59  | 155 |             |
| MJZ         | Sn                                                 | 13      | 58       | 54    |                  | -12.7 |     | 9.77  | 216 | 4.2         |
| MSZ         | Sn                                                 | 13      | 59       | 42    |                  | -7.0  |     | 11.54 | 220 | 4.2         |
| AMPLITUDES: |                                                    | ECZ     | 0.9      | 4.0   | WTZ              | 5.7   | 5.0 | TUA   | 1.0 | 1.3         |
|             |                                                    | TRZ     | 0.6      | 1.0   | MNG              | 1.0   | 4.2 | WEL   | 0.2 |             |
|             |                                                    | COB     | 0.2      | 0.6   | KAI              | 0.1   |     | GPZ   | 0.2 |             |
|             |                                                    | CIZ     | 0.3      |       | MJZ              |       | 0.6 | MSZ   |     | 0.3         |

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|---------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|----------------|
| APR 11  | 17 <sup>h</sup> 36 <sup>m</sup> 32 <sup>s</sup> .2 | 45°.65S | 167°.05E | 82 km   | M = 3.1          |      |     |      |     |                |
|         | ± 0.3                                              | 0.01    | 0.03     | 2       | S.E. of RES. 0.3 |      |     |      |     |                |
| STN     | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S    |
| MNW     | P                                                  | 17      | 36       | 46.0    |                  | 0.1  | 100 | 0.42 | 109 | 3.6* 3.2* 3.4* |
|         | S                                                  |         |          | 56.5    |                  | 0.2  | 100 |      |     |                |
| MSZ     | P                                                  | 17      | 36       | 53.6    |                  | 0.0  | 100 | 1.15 | 33  | 3.3* 3.4*      |
|         | S                                                  |         |          | 37 09.5 |                  | -0.3 | 99  |      |     |                |
| OBZ     | P                                                  | 17      | 36       | 57.6    | D                | 0.0  | 100 | 1.46 | 150 |                |
|         | S                                                  |         |          | 37 16.5 |                  | -0.3 | 99  |      |     |                |
| ROX     | P                                                  | 17      | 37       | 00.0    | U                | 0.4  | 99  | 1.61 | 85  | 3.4 3.4        |
|         | S                                                  |         |          | 20      |                  | 0.0  | 100 |      |     |                |
| GSP     | P                                                  | 17      | 37       | 12.5    |                  | -0.6 |     | 2.60 | 55  |                |
|         | S                                                  |         |          | 43      |                  | -0.7 |     |      |     |                |
| MJZ     | P                                                  | 17      | 37       | 16      |                  | -2.0 |     | 2.95 | 57  | 2.5 3.2        |
|         | S                                                  |         |          | 50      |                  | -2.3 |     |      |     |                |



AMPLITUDES: MNW 4.9 4.0 15 MSZ 1.9 4.0 ROX 0.6 1.3  
MZ 0.1 0.7

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APR 12 00<sup>h</sup>22<sup>m</sup>36<sup>s</sup>.7 35°.60S 179°.73E 33 km M = 4.6  
± 1.5 0.09 0.11 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S       | DIR | RES   | WT  | DIST  | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|-------|-----|-------|-----|-----|-----|-----|---|---|
| ECZ | Pn    | 00 | 23 | 12.7    |     | 1.1   | 100 | 2.29  | 204 |     | 4.6 | 4.8 |   |   |
|     | Sn    |    |    | 40      |     | 2.2   | 99  |       |     |     |     |     |   |   |
| WTZ | iPn   | 00 | 23 | 24.7    | D   | 0.2   | 100 | 3.24  | 222 |     | 4.6 | 4.7 |   |   |
|     | Sn    |    |    | 24 00   |     | -0.6  | 100 |       |     |     |     |     |   |   |
| GNZ | Pn    | 00 | 23 | 24.5    |     | -1.2  | 100 | 3.33  | 204 |     | 4.6 | 4.6 |   |   |
|     | eP*   |    |    | 35      |     | 0.3   | 100 |       |     |     |     |     |   |   |
|     | Sn    |    |    | 24 01.5 |     | -1.2  | 100 |       |     |     |     |     |   |   |
| TUA |       |    |    |         |     |       |     | 3.81  | 212 |     | 4.6 | 4.7 |   |   |
| KRP | iPn   | 00 | 23 | 37.8    | DE  | 1.7   | 99  | 4.09  | 234 |     |     |     |   |   |
|     | eSn   |    |    | 24 20   |     | -1.0  | 100 |       |     |     |     |     |   |   |
| TRZ | Pn    | 00 | 23 | 40.5    |     | -2.2  | 99  | 4.57  | 210 |     | 4.4 | 4.7 |   |   |
|     | Sn    |    |    | 24 32   |     | -0.6  | 100 |       |     |     |     |     |   |   |
| CNZ | Pn    | 00 | 23 | 47      |     | -0.1  | 100 | 4.90  | 222 |     |     |     |   |   |
|     | eSn   |    |    | 24 41   |     | 0.6   | 100 |       |     |     |     |     |   |   |
| MNG | ePn   | 00 | 23 | 57.5    |     | -5.0  |     | 6.03  | 213 |     | 4.5 | 4.7 |   |   |
|     | eSn   |    |    | 25 04   |     | -3.5  |     |       |     |     |     |     |   |   |
| WEL | Sn    | 00 | 25 | 21      |     | -7.1  |     | 6.88  | 213 | 4.6 |     |     |   |   |
| COB | ePn   | 00 | 24 | 22      |     | -4.2  |     | 7.77  | 223 |     | 4.0 | 4.3 |   |   |
|     | Sn    |    |    | 25 44   |     | -5.2  |     |       |     |     |     |     |   |   |
| CIZ | ePn   | 00 | 24 | 41      |     | 0.4   |     | 8.82  | 162 |     |     |     |   |   |
|     | Sn    |    |    | 26 07   |     | -7.6  |     |       |     |     |     |     |   |   |
| KAI | Sn    | 00 | 26 | 22      |     | -8.3  |     | 9.48  | 221 | 4.3 |     |     |   |   |
| GPZ | Sn    | 00 | 26 | 27      |     | -10.2 |     | 9.76  | 212 | 4.8 |     |     |   |   |
| MJZ | Pn    | 00 | 25 | 07      |     | -3.3  |     | 11.00 | 218 |     |     |     |   |   |
|     | Sn    |    |    | 26 56.5 |     | -10.4 |     |       |     |     |     |     |   |   |
| MSZ | Pn    | 00 | 25 | 32      |     | -2.8  |     | 12.79 | 221 |     | 4.7 | 4.4 |   |   |
|     | Sn    |    |    | 27 39   |     | -11.1 |     |       |     |     |     |     |   |   |
| MNW | ePn   | 00 | 25 | 47      |     | -0.2  |     | 13.70 | 218 |     | 4.9 | 4.4 |   |   |
|     | eSn   |    |    | 28 07   |     | -4.8  |     |       |     |     |     |     |   |   |

AMPLITUDES: ECZ 1.6 3.0 WTZ 3.7 4.2 GNZ 3.0 4.5  
TUA 1.0 1.3 TRZ 0.5 1.4 MNG 1.6 2.9  
WEL 0.3 COB 0.1 0.7 CIZ 0.3 1.1  
KAI 0.1 GPZ 0.4 MSZ 0.4 0.4  
MNW 0.4 0.3

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APR 12 09<sup>h</sup>08<sup>m</sup>33<sup>s</sup>.5 39°.93S 174°.34E 12 km M = 4.7  
± 0.4 0.02 0.03 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---|---|---|---|
| MNG | iP*   | 09 | 08 | 54.0  |     | 0.3  | 100 | 1.12 | 129 |     |   |   |   |   |
| GSZ | iP*   | 09 | 08 | 53.8  |     | -0.7 | 100 | 1.16 | 56  |     |   |   |   |   |
| CNZ | iP*   | 09 | 08 | 54.4  |     | -0.5 | 100 | 1.19 | 52  |     |   |   |   |   |
| WEL | P*    | 09 | 08 | 58.3  | U   | -0.1 | 100 | 1.39 | 167 | 5.1 |   |   |   |   |
|     | Sn    |    |    | 09 14 |     | -2.4 | 99  |      |     |     |   |   |   |   |
|     | S*    |    |    | 17    |     | 0.0  | 100 |      |     |     |   |   |   |   |
| COB | iP*   | 09 | 09 | 03.7  | D   | 0.3  | 100 | 1.68 | 226 |     |   |   |   |   |
| CAZ | P*    | 09 | 09 | 06.6  |     | 2.3  | 99  | 1.74 | 125 |     |   |   |   |   |
|     | Pg    |    |    | 09    |     | 0.3  | 100 |      |     |     |   |   |   |   |
|     | Sg    |    |    | 31.5  |     | -0.7 | 100 |      |     |     |   |   |   |   |
| WNZ | P*    | 09 | 09 | 08    |     | 1.1  | 100 | 1.89 | 47  |     |   |   |   |   |

|      |     |       |         |   |      |     |      |     |             |
|------|-----|-------|---------|---|------|-----|------|-----|-------------|
|      | Pg  |       | 13.5    |   | 1.8  | 99  |      |     |             |
|      | S*  |       | 31.5    |   | -0.2 | 100 |      |     |             |
| TRZ  | Pn  | 09 09 | 06.5    | D | 0.9  | 100 | 1.95 | 80  |             |
|      | eP* |       | 09      |   | 1.0  | 100 |      |     |             |
|      | eS* |       | 34      |   | 0.3  | 100 |      |     |             |
| KRP  | Pn  | 09 09 | 08.8    |   | -0.4 | 100 | 2.21 | 25  |             |
|      | Pg  |       | 16      |   | -2.2 | 99  |      |     |             |
|      | Sn  |       | 35      |   | -1.0 | 100 |      |     |             |
| TUA  |     |       |         |   |      |     | 2.45 | 64  | 4.9 4.8     |
| KKY  | P*  | 09 09 | 16      |   | -1.9 | 99  | 2.54 | 191 |             |
|      | Pg  |       | 24      |   | -0.8 | 100 |      |     |             |
|      | Sn  |       | 43      |   | -0.8 | 100 |      |     |             |
| WTZ  | Pn  | 09 09 | 18.3    | D | 0.6  |     | 2.83 | 48  | 5.0 5.5     |
|      | Sn  |       | 51      |   | -0.0 |     |      |     |             |
| GNZ  | iPn | 09 09 | 21.8    | D | 0.0  |     | 3.13 | 67  | 4.9 4.7     |
|      | Pg  |       | 40      |   | 3.1  |     |      |     |             |
|      | Sn  |       | 10 00   |   | 1.8  |     |      |     |             |
| KAI  | Pn  | 09 09 | 28      |   | 2.5  | 99  | 3.41 | 219 | 4.9         |
|      | Pg  |       | 41      |   | -1.4 | 100 |      |     |             |
|      | Sn  |       | 10 07   |   | 2.2  | 99  |      |     |             |
| GPZ  | ePn | 09 09 | 33      |   | -0.2 |     | 3.98 | 198 | 4.8         |
|      | Sn  |       | 10 17   |   | -1.3 |     |      |     |             |
| ECZ  | Pn  | 09 09 | 34.4    | D | 1.1  |     | 3.98 | 57  | 4.9 4.9     |
|      | P*  |       | 40      |   | -2.5 |     |      |     |             |
|      | Pg  |       | 56      |   | 2.2  |     |      |     |             |
|      | Sn  |       | 10 22   |   | 3.6  |     |      |     |             |
| ONE  | Pn  | 09 09 | 36      |   | 0.4  |     | 4.15 | 0   | 4.4         |
|      | P*  |       | 44      |   | -1.5 |     |      |     |             |
|      | eSn |       | 10 27   |   | 4.4  |     |      |     |             |
|      | Sg  |       | 53      |   | -0.3 |     |      |     |             |
| MIJZ | Pn  | 09 09 | 49.5    |   | 2.5  |     | 4.98 | 214 | 4.7 4.6     |
|      | Sn  |       | 10 45   |   | 2.5  |     |      |     |             |
| CRZ  | Pn  | 09 09 | 57.5    |   | 1.4  |     | 5.65 | 346 | 4.3 4.1     |
|      | Sn  |       | 10 58.5 |   | -0.1 |     |      |     |             |
| OMZ  | ePn | 09 09 | 58.5    |   | 1.3  |     | 5.73 | 205 | 4.2 4.5     |
|      | eSn |       | 10 59   |   | -1.6 |     |      |     |             |
| ROX  |     |       |         |   |      |     | 6.67 | 212 | 4.5 4.6     |
| MSZ  | Pn  | 09 10 | 11      |   | 0.3  |     | 6.72 | 223 | 4.9 4.8     |
| MNW  | ePn | 09 10 | 27      |   | 3.5  |     | 7.66 | 218 | 4.1 4.6 4.5 |
| CIZ  | ePn | 09 10 | 27      |   | 0.4  |     | 7.88 | 124 |             |
|      | Sn  |       | 11 48   |   | -4.4 |     |      |     |             |

|             |     |     |     |     |     |     |      |     |     |
|-------------|-----|-----|-----|-----|-----|-----|------|-----|-----|
| AMPLITUDES: | WEL | 24  |     | TUA | 3.1 | 2.7 | WTZ  | 2.7 | 5.0 |
|             | GNZ | 5.0 | 5.8 | KAI | 2.9 |     | GPZ  | 2.8 |     |
|             | ECZ | 0.5 | 0.5 | ONE | 0.8 |     | MIJZ | 3.4 | 5.5 |
|             | CRZ | 0.3 | 0.2 | OMZ | 0.3 | 1.1 | ROX  | 0.4 | 1.2 |
|             | MSZ | 2.3 | 3.7 | MNW | 0.1 | 0.6 | CIZ  | 0.2 | 0.6 |

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APR 13 10<sup>h</sup>28<sup>m</sup>51<sup>s</sup>.8 31°.09S 176°.97W 33 km M = 5.4  
 ± 2.4 0.12 0.26 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---------|
| ECZ | Pn    | 10 | 30 | 41      |     | 2.4  | 99  | 7.56 | 208 |     | 5.3 6.0 |
|     | e     |    |    | 56      |     |      |     |      |     |     |         |
|     | eSn   |    |    | 32 00.5 |     | 1.0  | 100 |      |     |     |         |
| WTZ | Pn    | 10 | 30 | 49.4    |     | -1.9 | 100 | 8.50 | 214 |     | 5.2 5.8 |
|     | e     |    |    | 31 09.5 |     |      |     |      |     |     |         |
|     | i     |    |    | 32 17.5 |     |      |     |      |     |     |         |
|     | Sn    |    |    | 20      |     | -1.9 | 100 |      |     |     |         |

|             |     |            |       |     |       |     |     |         |
|-------------|-----|------------|-------|-----|-------|-----|-----|---------|
| GNZ         | Pn  | 10 30 52   | -0.6  | 100 | 8.59  | 207 | 5.1 | 5.9     |
|             | Sn  | 32 22      | -2.1  | 100 |       |     |     |         |
| ONE         | Pn  | 10 30 53   | -0.1  | 100 | 8.62  | 235 |     |         |
| AUC         | Pn  | 10 30 59.5 | 2.0   | 100 | 8.95  | 228 |     |         |
| KRP         | Pn  | 10 31 00   | -1.0  | 100 | 9.21  | 220 |     |         |
|             | e   | 37         |       |     |       |     |     |         |
|             | Sn  | 32 41      | 2.0   | 100 |       |     |     |         |
| CRZ         | Pn  | 10 31 01.5 | -1.3  | 100 | 9.33  | 246 | 5.8 |         |
| TNZ         | ePn | 10 31 23.5 | 1.5   |     | 10.75 | 219 | 5.5 |         |
| MNG         | Pn  | 10 31 24   | -5.7  |     | 11.31 | 211 | 5.1 | 5.5     |
|             | Sn  | 33 23      | -6.5  |     |       |     |     |         |
| WEL         | Sn  | 10 33 41.5 | -8.6  |     | 12.17 | 211 | 5.8 |         |
| CIZ         | Sn  | 10 34 15.5 | 8.8   |     | 12.85 | 179 |     |         |
| COB         | ePn | 10 31 44.5 | -8.2  |     | 12.99 | 217 | 5.1 | 5.2     |
|             | Sn  | 34 00.5    | -9.4  |     |       |     |     |         |
| KAI         | Sn  | 10 34 42   | -9.5  |     | 14.71 | 216 | 5.2 |         |
| GPZ         | ePn | 10 32 16.5 | -4.1  |     | 15.04 | 210 | 5.7 |         |
|             | Sn  | 34 48      | -11.2 |     |       |     |     |         |
| MJZ         | ePn | 10 32 29.5 | -7.8  |     | 16.26 | 214 | 5.3 | 5.1     |
|             | Sn  | 35 11      | -17.6 |     |       |     |     |         |
| AMPLITUDES: |     |            |       |     |       |     |     |         |
|             | ECZ | 0.7        | 4.5   | WTZ | 2.4   | 9.0 | GNZ | 1.5 13  |
|             | CRZ | 0.4        |       | TNZ | 0.2   |     | MNG | 1.8 6.0 |
|             | WEL | 1.5        |       | CIZ | 0.3   | 1.7 | COB | 0.4 1.8 |
|             | KAI | 0.3        |       | GPZ | 1.4   |     | MJZ | 1.5 1.4 |

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APR 13 16<sup>h</sup>26<sup>m</sup>58<sup>s</sup>.0 40°.87s 175°.40E 12 km M = 3.4  
 ± 0.4 0.04 0.03 R S.E. of RES. 0.9

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|-----|-----|
| MNG | iPg   | 16 27 | 04.0    |   |     | 0.2  | 100 | 0.26 | 14  |     |     |     |
| CPW | iPg   | 16 27 | 05.8    |   | U   | 0.5  | 100 | 0.34 | 227 |     |     |     |
| WDW | iPg   | 16 27 | 07.9    |   | U   | -0.4 | 100 | 0.49 | 218 |     |     |     |
| CAZ | iPg   | 16 27 | 09.6    |   | D   | -1.3 | 99  | 0.63 | 93  |     |     |     |
|     | Sg    |       | 20.5    |   |     | 1.0  | 99  |      |     |     |     |     |
| WEL | Pg    | 16 27 | 10.5    |   | D   | -0.4 | 100 | 0.63 | 229 | 3.4 |     |     |
|     | Sg    |       | 20      |   |     | 0.5  | 100 |      |     |     |     |     |
| MRW | iPg   | 16 27 | 10.8    |   | U   | -0.2 |     | 0.64 | 235 |     |     |     |
| WHW | Pg    | 16 27 | 10.9    |   | U   | -0.5 |     | 0.66 | 229 |     |     |     |
| BHW | iPg   | 16 27 | 10.8    |   | D   | -0.9 |     | 0.67 | 216 |     |     |     |
| TCW | P*    | 16 27 | 14.8    |   |     | 0.0  |     | 0.92 | 248 |     |     |     |
| GSZ | Pn    | 16 27 | 25.7    |   |     | 0.3  |     | 1.60 | 5   |     |     |     |
|     | Pg    |       | 32      |   |     | 1.5  |     |      |     |     |     |     |
|     | Sn    |       | 47.5    |   |     | 1.6  |     |      |     |     |     |     |
| CNZ | Pn    | 16 27 | 27      |   |     | 0.6  |     | 1.67 | 4   |     |     |     |
|     | S*    |       | 53      |   |     | 3.1  |     |      |     |     |     |     |
| TRZ | Pg    | 16 27 | 33.5    |   |     | 0.8  |     | 1.71 | 40  | 3.5 | 3.2 |     |
|     | eSg   |       | 59      |   |     | 3.2  |     |      |     |     |     |     |
| TNZ | ePn   | 16 27 | 30      |   |     | 1.1  |     | 1.85 | 335 | 3.5 | 4.0 |     |
|     | ePg   |       | 37      |   |     | 1.4  |     |      |     |     |     |     |
|     | S*    |       | 57.5    |   |     | 2.1  |     |      |     |     |     |     |
| KKY | eP*   | 16 27 | 35      |   |     | 1.6  |     | 2.01 | 219 |     |     |     |
|     | Sg    |       | 28 18.5 |   |     | 12.8 |     |      |     |     |     |     |
| COB | Pn    | 16 27 | 31.5    |   |     | 0.3  |     | 2.02 | 263 | 3.8 | 3.5 |     |
|     | ePg   |       | 41      |   |     | 1.9  |     |      |     |     |     |     |
|     | eS*   |       | 28 02.5 |   |     | 2.0  |     |      |     |     |     |     |
|     | Sg    |       | 04.5    |   |     | -1.9 |     |      |     |     |     |     |
| KRP | ePn   | 16 27 | 42.5    |   |     | -1.3 |     | 2.95 | 2   |     |     |     |
|     | P*    |       | 51      |   |     | 1.5  |     |      |     |     |     |     |

|             |     |          |      |      |     |     |         |
|-------------|-----|----------|------|------|-----|-----|---------|
|             | S*  | 28 30    | 1.9  |      |     |     |         |
|             | Sg  | 36.5     | -0.9 |      |     |     |         |
| GNZ         | eP* | 16 27 56 | 5.4  | 3.01 | 43  | 3.0 | 3.3     |
|             | Sn  | 28 17.5  | -2.2 |      |     |     |         |
|             | eSg | 52       | 12.5 |      |     |     |         |
| WTZ         | Pg  | 16 27 59 | -2.5 | 3.14 | 24  | 3.3 | 3.0     |
|             | eSn | 28 22    | -0.8 |      |     |     |         |
| GPZ         | Sn  | 16 28 28 | -3.1 | 3.48 | 215 | 3.3 |         |
| AMPLITUDES: | WEL | 2.8      | TRZ  | 0.4  | 0.3 | TNZ | 0.3 1.4 |
|             | COB | 0.8 1.5  | GNZ  | 0.1  | 0.3 | WTZ | 0.2 0.1 |
|             | GPZ | 0.1      |      |      |     |     |         |

APR 13 17<sup>h</sup>35<sup>m</sup>16<sup>s</sup>.0 40°.90s 175°.43E 12 km 77/ 197 M = 3.3  
 ± 0.4 0.04 0.03 R S.E. of RES. 0.9

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MNG         | iPg   | 17  | 35  | 22.3  |     | 0.2  | 100 | 0.28 | 8   |     |     |     |
| CPW         | iPg   | 17  | 35  | 23.7  | U   | 0.3  | 100 | 0.35 | 232 |     |     |     |
| WDW         | iPg   | 17  | 35  | 25.8  | U   | -0.5 | 100 | 0.49 | 222 |     |     |     |
| CAZ         | iPg   | 17  | 35  | 27.2  | D   | -1.1 | 99  | 0.60 | 91  |     |     |     |
|             | Sg    |     |     | 37.5  |     | 0.9  | 100 |      |     |     |     |     |
| WEL         | Pg    | 17  | 35  | 28.5  |     | -0.6 | 100 | 0.64 | 232 | 3.6 |     |     |
|             | Sg    |     |     | 38.5  |     | 0.7  | 100 |      |     |     |     |     |
| MRW         | iPg   | 17  | 35  | 28.5  | D   | -0.7 |     | 0.65 | 238 |     |     |     |
| BHW         | iPg   | 17  | 35  | 28.5  | D   | -1.1 |     | 0.67 | 219 |     |     |     |
| WHW         | iPg   | 17  | 35  | 28.8  |     | -0.7 |     | 0.67 | 232 |     |     |     |
| TCW         | iP*   | 17  | 35  | 32.9  | D   | -0.2 |     | 0.94 | 250 |     |     |     |
| GSZ         | Pn    | 17  | 35  | 43.3  |     | -0.3 |     | 1.62 | 4   |     |     |     |
|             | Sn    |     |     | 36 06 |     | 1.7  |     |      |     |     |     |     |
| CNZ         | Pn    | 17  | 35  | 44.3  |     | -0.4 |     | 1.70 | 3   |     |     |     |
|             | S*    |     |     | 36 11 |     | 2.4  |     |      |     |     |     |     |
| TRZ         | eP*   | 17  | 35  | 46    |     | -0.4 |     | 1.71 | 39  |     | 3.2 | 3.2 |
|             | Pg    |     |     | 51    |     | 0.3  |     |      |     |     |     |     |
|             | Sg    |     |     | 36 17 |     | 3.2  |     |      |     |     |     |     |
| TNZ         | Pn    | 17  | 35  | 48.5  |     | 1.2  |     | 1.89 | 334 |     | 3.5 | 3.9 |
|             | S*    |     |     | 36 16 |     | 1.7  |     |      |     |     |     |     |
| KKY         | ePn   | 17  | 35  | 46    |     | -2.9 |     | 2.01 | 220 |     |     |     |
|             | Pg    |     |     | 54    |     | -2.6 |     |      |     |     |     |     |
|             | Sg    |     |     | 36 24 |     | 0.3  |     |      |     |     |     |     |
| COB         | Pn    | 17  | 35  | 48.5  |     | -1.0 |     | 2.05 | 264 |     | 3.6 | 3.4 |
|             | Pg    |     |     | 58    |     | 0.4  |     |      |     |     |     |     |
|             | Sn    |     |     | 36 16 |     | 1.3  |     |      |     |     |     |     |
|             | S*    |     |     | 19.5  |     | 0.3  |     |      |     |     |     |     |
| KRP         | ePn   | 17  | 36  | 01    |     | -1.0 |     | 2.97 | 2   |     |     |     |
|             | P*    |     |     | 08.5  |     | 0.6  |     |      |     |     |     |     |
|             | S*    |     |     | 47    |     | 0.3  |     |      |     |     |     |     |
|             | Sg    |     |     | 53    |     | -3.1 |     |      |     |     |     |     |
| GNZ         | eP*   | 17  | 36  | 11    |     | 2.5  |     | 3.01 | 42  |     |     | 3.1 |
|             | Sn    |     |     | 34.5  |     | -3.1 |     |      |     |     |     |     |
| WTZ         | eP*   | 17  | 36  | 12    |     | 1.1  |     | 3.15 | 23  |     | 3.3 | 3.0 |
|             | Pg    |     |     | 18.5  |     | -1.2 |     |      |     |     |     |     |
|             | eSn   |     |     | 38    |     | -3.0 |     |      |     |     |     |     |
| GPZ         | Sn    | 17  | 36  | 45    |     | -4.0 |     | 3.48 | 216 | 3.3 |     |     |
| MJZ         | Pn    | 17  | 36  | 25    |     | -2.1 |     | 4.81 | 228 |     | 3.1 | 3.3 |
|             | Sn    |     |     | 37 17 |     | -3.8 |     |      |     |     |     |     |
| AMPLITUDES: | WEL   | 4.2 | TRZ | 0.2   | 0.3 | TNZ  | 0.3 | 1.0  |     |     |     |     |
|             | COB   | 0.5 | 1.2 | GNZ   | 0.2 | WTZ  | 0.2 | 0.1  |     |     |     |     |



GPZ 0.1 MIZ 0.1 0.3

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APR 13 17<sup>h</sup>44<sup>m</sup>30<sup>s</sup>.5 40°.89s 175°.39E 12 km M = 3.0  
 ± 0.3 0.02 0.02 R S.E. of RES. 0.8

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W   | S   |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|---|-----|-----|
| MNG | iPg   | 17 | 44 | 36.4    |     | -0.2 | 100 | 0.28 | 14  |     |   |   |     |     |
|     | eSg   |    |    | 41      |     | 0.3  | 100 |      |     |     |   |   |     |     |
| CPW | iPg   | 17 | 44 | 38.0    |     | 0.6  | 100 | 0.32 | 228 |     |   |   |     |     |
| WDW | iPg   | 17 | 44 | 40.0    | U   | -0.4 | 100 | 0.48 | 218 |     |   |   |     |     |
| WEL | Pg    | 17 | 44 | 42.5    |     | -0.6 | 100 | 0.61 | 230 | 2.7 |   |   |     |     |
|     | Sg    |    |    | 52      |     | 0.6  | 100 |      |     |     |   |   |     |     |
| MRW | iPg   | 17 | 44 | 42.7    | D   | -0.5 |     | 0.62 | 237 |     |   |   |     |     |
| CAZ | ePg   | 17 | 44 | 42.5    |     | -1.0 | 99  | 0.64 | 91  |     |   |   |     |     |
|     | Sg    |    |    | 53      |     | 0.8  | 100 |      |     |     |   |   |     |     |
| WHW | iPg   | 17 | 44 | 42.9    |     | -0.7 |     | 0.64 | 230 |     |   |   |     |     |
| BHW | iPg   | 17 | 44 | 42.7    | D   | -1.1 |     | 0.65 | 217 |     |   |   |     |     |
| TCW | P*    | 17 | 44 | 47.0    |     | -0.1 |     | 0.90 | 249 |     |   |   |     |     |
| GSZ | ePn   | 17 | 44 | 58      |     | -0.1 |     | 1.62 | 5   |     |   |   |     |     |
|     | Pg    |    |    | 45 04   |     | 0.7  |     |      |     |     |   |   |     |     |
|     | eSn   |    |    | 20      |     | 1.2  |     |      |     |     |   |   |     |     |
| CNZ | Pn    | 17 | 44 | 58.5    |     | -0.6 |     | 1.69 | 4   |     |   |   |     |     |
|     | S*    |    |    | 45 25.5 |     | 2.5  |     |      |     |     |   |   |     |     |
| TNZ | Pn    | 17 | 45 | 03      |     | 1.4  |     | 1.87 | 335 |     |   |   | 3.0 | 3.2 |
|     | S*    |    |    | 30      |     | 1.7  |     |      |     |     |   |   |     |     |
| COB | Pg    | 17 | 45 | 13.5    |     | 2.1  |     | 2.02 | 264 |     |   |   | 3.1 | 2.9 |
|     | Sn    |    |    | 30.5    |     | 2.1  |     |      |     |     |   |   |     |     |
|     | Sg    |    |    | 36      |     | -2.6 |     |      |     |     |   |   |     |     |
| KRP | eP*   | 17 | 45 | 23      |     | 0.7  |     | 2.97 | 2   |     |   |   |     |     |
|     | S*    |    |    | 46 02   |     | 0.9  |     |      |     |     |   |   |     |     |
|     | Sg    |    |    | 07      |     | -3.5 |     |      |     |     |   |   |     |     |

AMPLITUDES: WEL 0.5 TNZ 0.1 0.2 COB 0.2 0.4

FELT: Lower Hutt (68) MM III

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APR 14 21<sup>h</sup>14<sup>m</sup>54<sup>s</sup>.2 38°.50s 175°.86E 163 km M = 4.0  
 ± 0.4 0.02 0.02 2 S.E. of RES. 0.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W    | S    |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---|---|------|------|
| WNZ | S     | 21 | 15 | 36    |     | 2.8  |     | 0.23 | 124 |     |   |   |      |      |
| KRP | P     | 21 | 15 | 18.0  | D   | 0.2  | 100 | 0.63 | 336 |     |   |   |      |      |
|     | S     |    |    | 36    |     | -0.0 | 100 |      |     |     |   |   |      |      |
| CNZ | iP    | 21 | 15 | 18.8  |     | 0.4  | 100 | 0.74 | 199 |     |   |   |      |      |
|     | S     |    |    | 42.5  |     | 5.4  | 0   |      |     |     |   |   |      |      |
| GSZ | P     | 21 | 15 | 18.7  |     | -0.1 | 100 | 0.80 | 195 |     |   |   |      |      |
|     | S     |    |    | 38    |     | 0.1  | 100 |      |     |     |   |   |      |      |
| WTZ | iP    | 21 | 15 | 20.4  | D   | -0.2 | 100 | 1.03 | 60  |     |   |   | 3.9  | 3.6  |
|     | S     |    |    | 41    |     | 0.1  | 100 |      |     |     |   |   |      |      |
| TUA |       |    |    |       |     |      |     | 1.06 | 107 |     |   |   | 4.0  | 4.3  |
| TNZ | P     | 21 | 15 | 23.0  | U   | -0.5 | 99  | 1.34 | 239 |     |   |   | 3.4* | 3.0* |
|     | S     |    |    | 46    |     | 0.1  | 100 |      |     |     |   |   |      |      |
| GNZ | iP    | 21 | 15 | 27.7  | D   | 0.6  | 99  | 1.70 | 95  |     |   |   | 4.3  | 4.1  |
|     | S     |    |    | 52.2  |     | -0.3 | 100 |      |     |     |   |   |      |      |
| MNG | iP    | 21 | 15 | 30.3  |     | -1.7 |     | 2.13 | 188 |     |   |   | 4.3  | 4.1  |
|     | eS    |    |    | 57    |     | -4.1 |     |      |     |     |   |   |      |      |
| ECZ | P     | 21 | 15 | 34.5  |     | 0.8  |     | 2.27 | 70  |     |   |   | 4.0  | 4.1  |
|     | S     |    |    | 16 05 |     | 1.0  |     |      |     |     |   |   |      |      |
| CAZ | P     | 21 | 15 | 34.5  | U   | -1.0 |     | 2.42 | 173 |     |   |   |      |      |

|             |     |          |       |         |     |           |
|-------------|-----|----------|-------|---------|-----|-----------|
|             | S   | 16 05    | -2.1  |         |     |           |
| WEL         | P   | 21 15 38 | -3.5  | 2.91    | 196 | 3.8       |
|             | S   | 16 13    | -4.8  |         |     |           |
| COB         | P   | 21 15 45 | -4.5  | 3.53    | 222 | 3.2* 3.3* |
|             | S   | 16 26.5  | -5.6  |         |     |           |
| KAI         | S   | 21 17 03 | -9.4  | 5.26    | 219 | 3.4*      |
| GPZ         | eP  | 21 16 12 | -6.3  | 5.73    | 204 | 3.7*      |
|             | S   | 17 14.5  | -9.1  |         |     |           |
| MJZ         | eP  | 21 16 28 | -4.9  | 6.82    | 215 |           |
|             | S   | 17 38.5  | -11.1 |         |     |           |
| CIZ         | eS  | 21 18 19 | 3.8   | 7.89    | 136 |           |
| MSZ         | S   | 21 18 19 | -12.2 | 8.57    | 221 | 3.1*      |
| AMPLITUDES: | WNZ | 0.2      | WTZ   | 2.4 1.4 | TUA | 1.3 2.5   |
|             | TNZ | 0.5 0.3  | GNZ   | 3.5 4.0 | MNG | 7.0 5.0   |
|             | ECZ | 0.5 0.6  | WEL   | 0.2     | COB | 0.3 1.3   |
|             | KAI | 0.2      | GPZ   | 0.6     | CIZ | 0.2       |
|             | MSZ | 0.4      |       |         |     |           |

APR 15 14<sup>h</sup>04<sup>m</sup>53<sup>s</sup>.8 37°.62s 177°.82E 165 km 77/ 200 M = 4.4  
 ± 2.5 0.09 0.20 18 S.E. of RES. 1.9

| STN         | PHASE | H       | M       | S | DIR | RES  | WT      | DIST | AZ  | W-A  | W P       | W S  |
|-------------|-------|---------|---------|---|-----|------|---------|------|-----|------|-----------|------|
| WTZ         | iP    | 14 05   | 15.4    |   |     | -3.0 | 99      | 0.75 | 241 |      |           |      |
| GNZ         | P     | 14 05   | 21.0    |   |     | 0.6  | 100     | 1.03 | 171 |      | 4.4       | 4.4  |
|             | S     |         | 40.2    |   |     | -0.7 | 100     |      |     |      |           |      |
| TUA         |       |         |         |   |     |      |         | 1.30 | 204 |      | 4.4       | 4.1  |
| WNZ         | P     | 14 05   | 27.9    |   |     | 1.1  | 100     | 1.68 | 233 |      | 4.6       |      |
| KRP         | iP    | 14 05   | 27.3    |   |     | -1.0 | 100     | 1.84 | 260 |      | 3.8*      |      |
| TRZ         | P     | 14 05   | 32.8    |   |     | 1.6  | 100     | 2.08 | 202 |      |           |      |
|             | e     |         | 06 04   |   |     |      |         |      |     |      |           |      |
| GSZ         | P     | 14 05   | 36.9    |   |     | 1.8  | 100     | 2.41 | 226 |      |           |      |
| TNZ         | eP    | 14 05   | 46      |   |     | 2.0  | 100     | 3.12 | 239 |      |           | 3.3* |
| MNG         | P     | 14 05   | 48.9    |   |     | 0.1  | 100     | 3.50 | 211 |      |           |      |
|             | eS    |         | 06 32.5 |   |     | 1.4  | 100     |      |     |      |           |      |
| WEL         | S     | 14 06   | 51.0    |   |     | 0.1  | 100     | 4.36 | 212 | 4.5  |           |      |
| COB         | eP    | 14 06   | 10      |   |     | -1.6 | 100     | 5.25 | 227 |      | 3.4* 3.6* |      |
|             | S     |         | 07 12   |   |     | 0.2  | 100     |      |     |      |           |      |
| KAI         |       |         |         |   |     |      |         | 6.94 | 223 | 3.5* |           |      |
| GPZ         | eS    | 14 07   | 56      |   |     | -3.0 | 99      | 7.24 | 211 | 3.6* |           |      |
| AMPLITUDES: | GNZ   | 7.6     | 12      |   |     | TUA  | 2.7 1.4 | WNZ  |     | 0.4  |           |      |
|             | KRP   | 5.0     |         |   |     | TNZ  | 0.3     | WEL  | 0.7 |      |           |      |
|             | COB   | 0.3 1.7 |         |   |     | KAI  | 0.2     | GPZ  | 0.4 |      |           |      |

APR 15 16<sup>h</sup>41<sup>m</sup>47<sup>s</sup>.4 37°.27s 177°.29E 162 km 77/ 201 M = 3.8  
 ± 1.9 0.11 0.13 12 S.E. of RES. 1.8

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|------|-----|
| WTZ | P     | 16 42 | 11.4    |   |     | -0.3 | 100 | 0.76 | 199 |     | 3.6  | 3.8 |
|     | S     |       | 29      |   |     | -1.4 | 100 |      |     |     |      |     |
| GNZ | P     | 16 42 | 17.9    |   |     | -0.2 | 100 | 1.48 | 157 |     | 3.7  | 4.0 |
|     | S     |       | 40.8    |   |     | -0.9 | 100 |      |     |     |      |     |
| KRP | P     | 16 42 | 20.5    |   |     | 1.9  | 100 | 1.54 | 244 |     |      |     |
| TUA |       |       |         |   |     |      |     | 1.54 | 184 |     | 3.5  | 3.8 |
| KRP |       |       |         |   |     |      |     | 1.54 | 244 |     | 3.5* |     |
| TRZ | eP    | 16 42 | 28      |   |     | 0.7  | 100 | 2.31 | 189 |     | 3.7  | 3.6 |
|     | eS    |       | 43 00.5 |   |     | 2.5  | 99  |      |     |     |      |     |
| GSZ | P     | 16 42 | 30.4    |   |     | 1.9  | 100 | 2.41 | 213 |     |      |     |

|             |    |     |    |      |      |     |      |     |           |     |     |
|-------------|----|-----|----|------|------|-----|------|-----|-----------|-----|-----|
| MNG         | P  | 16  | 42 | 43.0 | -1.0 | 100 | 3.64 | 202 | 4.1       |     |     |
| COB         | eP | 16  | 43 | 03   | -1.5 | 100 | 5.21 | 221 | 3.2* 2.7* |     |     |
|             | eS |     | 44 | 03   | -1.3 | 100 |      |     |           |     |     |
| AMPLITUDES: |    | WTZ |    | 1.6  | 2.7  | GNZ | 1.2  | 4.0 | TUA       | 0.3 | 0.5 |
|             |    | KRP |    | 2.5  |      | TRZ | 0.2  | 0.4 | MNG       | 1.6 |     |
|             |    | COB |    | 0.2  | 0.2  |     |      |     |           |     |     |

APR 15 19<sup>h</sup>51<sup>m</sup>05<sup>s</sup>.5 38°.13s 176°.52E 157 km 77/ 202 M = 3.9  
 ± 2.2 0.09 0.08 14 S.E. of RES. 1.9

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|------|------|
| WTZ         | iP    | 19  | 51  | 26.3    |     | -1.0 | 100 | 0.40 | 69  |      | 4.0  | 3.5  |
|             | S     |     |     | 42.0    |     | -2.1 | 99  |      |     |      |      |      |
| KRP         | P     | 19  | 51  | 30.0    |     | 0.5  | 100 | 0.80 | 285 |      | 3.1* |      |
|             | S     |     |     | 48.2    |     | 0.2  | 100 |      |     |      |      |      |
| TUA         |       |     |     |         |     |      |     | 0.84 | 144 |      | 4.0  |      |
| GNZ         | P     | 19  | 51  | 34.6    |     | 0.9  | 100 | 1.29 | 114 |      | 4.2  | 3.9  |
|             | S     |     |     | 55.3    |     | 0.0  | 100 |      |     |      |      |      |
| GSZ         | P     | 19  | 51  | 36.9    |     | 2.6  | 99  | 1.36 | 212 |      |      |      |
| MNG         | P     | 19  | 51  | 49.5    |     | 0.6  | 100 | 2.61 | 198 |      | 4.0  | 3.9  |
|             | S     |     |     | 52 24.2 |     | 2.2  | 99  |      |     |      |      |      |
| WEL         | eS    | 19  | 52  | 40      |     | -0.6 | 100 | 3.43 | 203 | 3.9  |      |      |
| COB         | eS    | 19  | 52  | 57      |     | -0.5 | 100 | 4.16 | 224 |      |      | 2.8* |
| GPZ         | eS    | 19  | 53  | 45      |     | -3.1 | 99  | 6.29 | 207 | 3.3* |      |      |
| AMPLITUDES: |       | WTZ | 5.2 | 1.7     | KRP | 1.5  |     | TUA  | 1.8 |      |      |      |
|             |       | GNZ | 4.7 | 3.6     | MNG | 2.5  | 2.8 | WEL  | 0.2 |      |      |      |
|             |       | COB | 0.3 |         | GPZ | 0.2  |     |      |     |      |      |      |

APR 17 17<sup>h</sup>49<sup>m</sup>05<sup>s</sup>.8 41°.48s 172°.93E 133 km 77/ 203 M = 3.3  
 ± 0.7 0.04 0.06 7 S.E. of RES. 1.6

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|------|------|
| COB         | P     | 17  | 49  | 26.0    |     | 1.0  | 100 | 0.41 | 340 |      | 3.8* |      |
|             | S     |     |     | 38.3    |     | -1.3 | 100 |      |     |      |      |      |
| KKY         | eP    | 17  | 49  | 31.1    |     | 1.0  | 100 | 1.11 | 149 |      |      |      |
|             | iS    |     |     | 47.5    |     | -1.2 | 100 |      |     |      |      |      |
|             | e     |     |     | 52.2    |     |      |     |      |     |      |      |      |
| WEL         | eS    | 17  | 49  | 54.2    |     | -0.2 | 100 | 1.40 | 83  | 3.6  |      |      |
| KAI         | eS    | 17  | 49  | 57.0    |     | -0.2 | 100 | 1.54 | 227 | 3.6* |      |      |
| MNG         | eP    | 17  | 49  | 41.5    |     | -0.3 | 100 | 2.12 | 67  |      | 3.0  |      |
|             | S     |     |     | 50 09   |     | 0.0  | 100 |      |     |      |      |      |
| GPZ         | eS    | 17  | 50  | 13.0    |     | 1.5  | 100 | 2.23 | 185 | 3.4* |      |      |
| TNZ         | eP    | 17  | 49  | 49.7    |     | 2.3  | 99  | 2.55 | 26  |      | 3.2* | 3.0* |
|             | eS    |     |     | 50 19   |     | 0.2  | 100 |      |     |      |      |      |
| MJZ         | eP    | 17  | 49  | 56      |     | 1.4  | 100 | 3.10 | 215 |      | 2.8* | 3.0* |
|             | eS    |     |     | 50 32.0 |     | 0.3  | 100 |      |     |      |      |      |
| GSP         | eP    | 17  | 49  | 59.7    |     | 0.9  | 100 | 3.41 | 218 |      |      |      |
|             | S     |     |     | 50 38.5 |     | -0.6 | 100 |      |     |      |      |      |
| KRP         | eP    | 17  | 50  | 08      |     | 0.3  | 100 | 4.09 | 30  |      | 2.7* |      |
| GNZ         | eS    | 17  | 51  | 10      |     | -3.1 | 98  | 4.83 | 56  |      |      |      |
| MSZ         | S     | 17  | 51  | 10.5    |     | -3.4 | 97  | 4.87 | 227 |      |      | 2.8* |
| AMPLITUDES: |       | COB | 4.2 |         | WEL | 0.6  |     | KAI  | 1.1 |      |      |      |
|             |       | MNG | 0.4 |         | GPZ | 0.7  |     | TNZ  | 0.2 | 0.2  |      |      |
|             |       | MJZ | 0.4 | 1.2     | KRP | 0.2  |     | MSZ  |     | 0.4  |      |      |



APR 18 00<sup>h</sup>45<sup>m</sup>41<sup>s</sup>.5 37°.66S 178°.13E 33 km 77/ 204  
 ± 3.2 0.14 0.25 R S.E. of RES. 1.9 M = 3.6

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S     |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|---------|
| WTZ         | P     | 00 | 45 | 57.5 |     | -0.6 | 100 | 0.95 | 250 |     | 3.7 |         |
| GNZ         | P     | 00 | 45 | 59.5 |     | 1.0  | 100 | 0.99 | 185 |     | 3.6 | 3.5     |
|             | S     |    | 46 | 10.0 |     | -1.2 | 100 |      |     |     |     |         |
| TUA         |       |    |    |      |     |      |     | 1.38 | 214 |     | 3.6 | 4.3     |
| TRZ         | eS    | 00 | 46 | 40   |     | 0.8  | 100 | 2.15 | 208 |     |     | 3.4     |
|             | e     |    |    | 48   |     |      |     |      |     |     |     |         |
| MNG         | e     | 00 | 46 | 43   |     |      |     | 3.60 | 214 |     | 3.2 |         |
| AMPLITUDES: | WTZ   |    |    | 5.3  |     | GNZ  |     | 3.1  | 4.6 | TUA |     | 0.7 3.6 |
|             | TRZ   |    |    |      | 0.3 | MNG  |     | 0.2  |     |     |     |         |

APR 18 01<sup>h</sup>54<sup>m</sup>41<sup>s</sup>.7 43°.75S 169°.56E 12 km 77/ 205  
 ± 0.5 0.03 0.02 R S.E. of RES. 0.5 M = 3.2

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST    | AZ  | W-A | W P | W S |
|-------------|-------|----|----|---------|-----|------|-----|---------|-----|-----|-----|-----|
| GSP         | P*    | 01 | 54 | 51.0    |     | -0.5 | 100 | 0.50    | 139 |     |     |     |
|             | S*    |    |    | 58.7    |     | 0.2  | 100 |         |     |     |     |     |
| MJZ         | P*    | 01 | 54 | 54.9    |     | 0.1  | 100 | 0.70    | 110 |     | 2.6 | 2.5 |
|             | S*    |    | 55 | 04.0    |     | -0.2 | 100 |         |     |     |     |     |
| MSZ         | eP*   | 01 | 55 | 09      |     | 0.6  | 99  | 1.49    | 232 |     | 3.1 | 3.5 |
|             | S*    |    |    | 27.5    |     | -0.7 | 99  |         |     |     |     |     |
| OMZ         | e(P*) | 01 | 55 | 16.0    |     | 5.2  |     | 1.64    | 144 |     | 3.0 |     |
| ROX         | P*    | 01 | 55 | 12.5    |     | 0.1  | 100 | 1.74    | 186 |     | 3.8 | 3.9 |
|             | S*    |    |    | 35.5    |     | 0.2  | 100 |         |     |     |     |     |
| KAI         | eS*   | 01 | 55 | 35      |     | -3.1 |     | 1.83    | 49  | 3.2 |     |     |
| AMPLITUDES: | MJZ   |    |    | 1.6 2.3 |     | MSZ  |     | 0.8 3.8 |     | OMZ |     | 0.2 |
|             | ROX   |    |    | 1.2 3.5 |     | KAI  | 0.2 |         |     |     |     |     |

FELT: Mahitahi (104) MM IV

APR 18 10<sup>h</sup>30<sup>m</sup>40<sup>s</sup>.1 37°.75S 178°.14E 33 km 77/ 206  
 ± 0.8 0.06 0.06 R S.E. of RES. 1.4 M = 4.1

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P     | 10 | 30 | 48.2  |     | 0.1  | 100 | 0.32 | 80  |     |     |     |
| GNZ | P     | 10 | 30 | 55.9  |     | 0.0  | 100 | 0.90 | 186 |     | 3.9 |     |
|     | S     |    | 31 | 09.7  |     | 2.1  | 99  |      |     |     |     |     |
| WTZ | P     | 10 | 30 | 56.7  |     | 0.2  | 100 | 0.94 | 255 |     |     |     |
|     | e     |    | 31 | 05.2  |     |      |     |      |     |     |     |     |
| TUA |       |    |    |       |     |      |     | 1.31 | 216 |     | 4.0 | 4.2 |
| WNZ | e     | 10 | 31 | 18.5  |     |      |     | 1.83 | 241 |     |     |     |
| KRP | P     | 10 | 31 | 12.1  |     | 0.2  | 100 | 2.07 | 264 |     | 4.3 | 4.5 |
|     | S     |    |    | 36.8  |     | 1.1  | 100 |      |     |     |     |     |
| TRZ | P     | 10 | 31 | 12.2  |     | 0.2  | 100 | 2.08 | 209 |     | 4.2 | 4.3 |
|     | e     |    |    | 40.5  |     |      |     |      |     |     |     |     |
| CNZ | P     | 10 | 31 | 19.0  |     | 1.3  | 100 | 2.50 | 234 |     |     |     |
| TNZ | eP    | 10 | 31 | 30.5  |     | 2.1  |     | 3.28 | 243 |     |     |     |
| MNG | P     | 10 | 31 | 29.5  |     | -2.3 | 99  | 3.54 | 215 |     | 4.2 |     |
| WEL | S     | 10 | 32 | 30    |     | -1.6 | 100 | 4.39 | 215 | 4.1 |     |     |
| COB | eP    | 10 | 31 | 55    |     | -1.7 | 99  | 5.35 | 230 |     | 4.0 | 3.8 |
|     | eS    |    |    | 32 55 |     | 0.3  | 100 |      |     |     |     |     |
| MJZ | eP    | 10 | 32 | 36    |     | -3.9 |     | 8.52 | 221 |     | 4.1 | 4.2 |
|     | eS    |    |    | 34 08 |     | -2.9 |     |      |     |     |     |     |



|             |     |         |     |         |     |         |
|-------------|-----|---------|-----|---------|-----|---------|
| AMPLITUDES: | GNZ | 9.0     | TUA | 1.7 3.3 | KRP | 2.8 3.7 |
|             | TRZ | 1.5 2.5 | MNG | 2.5     | WEL | 0.3     |
|             | COB | 0.2 0.5 | MJZ | 0.3 0.7 |     |         |

APR 18 23<sup>h</sup>25<sup>m</sup>02<sup>s</sup>.4 37°.95s 178°.09E 107 km M = 4.5  
 ± 2.1 0.11 0.11 19 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W    | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|------|------|---|
| GNZ | iP    | 23 | 25 | 20.0 |     | -0.5 | 100 | 0.69 | 185 |     |   |      |      |   |
| WTZ | P     | 23 | 25 | 20.8 |     | -1.4 | 100 | 0.87 | 267 |     |   |      |      |   |
| TUA |       |    |    |      |     |      |     | 1.13 | 221 |     |   | 4.3  | 4.8  |   |
| WNZ | eP    | 23 | 25 | 31.5 |     | -0.5 | 100 | 1.71 | 246 |     |   | 4.5  |      |   |
| TRZ | P     | 23 | 25 | 36.0 |     | 1.8  | 100 | 1.88 | 211 |     |   |      |      |   |
| KRP | P     | 23 | 25 | 36.2 |     | 0.2  | 100 | 2.02 | 270 |     |   | 3.9* | 4.0* |   |
|     | S     |    | 26 | 01.0 |     | 0.1  | 100 |      |     |     |   |      |      |   |
| GSZ | P     | 23 | 25 | 43.1 |     | 2.4  | 99  | 2.37 | 235 |     |   |      |      |   |
| MNG | P     | 23 | 25 | 53.2 |     | -0.9 | 100 | 3.35 | 216 |     |   |      |      |   |
| WEL | eP    | 23 | 26 | 06   |     | 0.3  | 100 | 4.21 | 217 | 4.5 |   |      |      |   |
|     | S     |    |    | 54   |     | -0.0 | 100 |      |     |     |   |      |      |   |
| COB | P     | 23 | 26 | 19.0 |     | -0.2 | 100 | 5.20 | 231 |     |   | 3.8* | 3.6* |   |
|     | e     |    |    | 29.0 |     |      |     |      |     |     |   |      |      |   |
|     | S     |    | 27 | 20.5 |     | 2.1  | 99  |      |     |     |   |      |      |   |
| KAI | eS    | 23 | 27 | 56   |     | -3.0 | 98  | 6.86 | 226 |     |   | 3.7* |      |   |
| GPZ | eS    | 23 | 27 | 59   |     | -5.3 |     | 7.07 | 214 |     |   | 3.6* |      |   |
| MJZ | eP    | 23 | 27 | 00   |     | -2.2 |     | 8.35 | 221 |     |   | 3.5* | 3.4* |   |
|     | eS    |    | 28 | 30.4 |     | -4.9 |     |      |     |     |   |      |      |   |
| GSP | P     | 23 | 27 | 05.5 |     | -1.2 |     | 8.68 | 222 |     |   |      |      |   |
|     | S     |    | 28 | 39   |     | -4.5 |     |      |     |     |   |      |      |   |

|             |     |     |    |     |         |     |         |
|-------------|-----|-----|----|-----|---------|-----|---------|
| AMPLITUDES: | TUA | 4.0 | 12 | WNZ | 0.4     | KRP | 5.5 9.2 |
|             | WEL | 0.8 |    | COB | 0.7 1.6 | KAI | 0.3     |
|             | GPZ | 0.4 |    | MJZ | 0.8 1.0 |     |         |

FELT: Maraenui (28) MM IV

APR 19 02<sup>h</sup>13<sup>m</sup>37<sup>s</sup>.3 37°.96s 178°.44E 33 km M = 4.5  
 ± 2.3 0.10 0.22 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| GNZ | P     | 02 | 13 | 52.4 |     | 1.2  | 100 | 0.76 | 205 |     |   |     |     |   |
| WTZ | P     | 02 | 13 | 54.2 |     | -2.3 | 99  | 1.14 | 268 |     |   |     |     |   |
| WNZ | P     | 02 | 14 | 08.8 |     | 1.2  | 100 | 1.95 | 249 |     |   | 4.8 |     |   |
|     | e     |    |    | 12.0 |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 30   |     |      |     |      |     |     |   |     |     |   |
| KRP | eP    | 02 | 14 | 12.0 |     | -0.2 | 100 | 2.29 | 270 |     |   | 4.5 |     |   |
|     | i     |    |    | 19.0 |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 40   |     |      |     |      |     |     |   |     |     |   |
| CNZ | eP    | 02 | 14 | 17.0 |     | 0.9  | 100 | 2.58 | 240 |     |   |     |     |   |
|     | i     |    |    | 20.0 |     |      |     |      |     |     |   |     |     |   |
| TNZ | eP    | 02 | 14 | 30.2 |     | 2.8  | 99  | 3.41 | 248 |     |   | 4.6 |     |   |
| MNG | P     | 02 | 14 | 27.1 |     | -1.6 | 100 | 3.51 | 220 |     |   |     |     |   |
|     | e     |    |    | 38.0 |     |      |     |      |     |     |   |     |     |   |
| WEL | S     | 02 | 15 | 27   |     | -1.2 | 100 | 4.36 | 219 | 4.5 |   |     |     |   |
|     | e     |    |    | 31   |     |      |     |      |     |     |   |     |     |   |
| COB | eP    | 02 | 14 | 53.0 |     | -1.6 | 100 | 5.41 | 233 |     |   | 4.8 | 4.1 |   |
|     | e     |    | 15 | 01.5 |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 10.0 |     |      |     |      |     |     |   |     |     |   |
|     | eS    |    |    | 54   |     | 0.8  | 100 |      |     |     |   |     |     |   |
| KAI | e     | 02 | 16 | 25   |     |      |     | 7.05 | 228 | 4.4 |   |     |     |   |



AMPLITUDES: MNW 4.0 ROX 1.2 1.6 MJZ 1.5 1.3  
OMZ 0.2 0.3

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APR 20 07<sup>h</sup>40<sup>m</sup>57<sup>s</sup>.9 37°.69s 176°.61E 242 km M = 4.8  
± 1.4 0.07 0.10 13 S.E. of RES. 1.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|---|---|
| WTZ | P     | 07 | 41 | 28.4 |     | -1.3 | 100 | 0.42 | 134 |      | 4.5  |      |   |   |
| TUA |       |    |    |      |     |      |     | 1.20 | 159 |      | 4.4  | 5.0  |   |   |
| GNZ | iP    | 07 | 41 | 37.2 |     | 1.8  | 100 | 1.47 | 131 |      |      |      |   |   |
|     | S     |    | 42 | 02.5 |     | -1.9 | 100 |      |     |      |      |      |   |   |
| AUC | P     | 07 | 41 | 36.1 |     | -1.0 | 100 | 1.68 | 299 |      |      |      |   |   |
|     | i     |    | 42 | 11.0 |     |      |     |      |     |      |      |      |   |   |
| CNZ | P     | 07 | 41 | 38.9 |     | 1.4  | 100 | 1.72 | 209 |      |      |      |   |   |
|     | eS    |    | 42 | 08.5 |     | 0.4  | 100 |      |     |      |      |      |   |   |
| TRZ | P     | 07 | 41 | 40.4 |     | 1.7  | 100 | 1.87 | 175 |      |      |      |   |   |
| TNZ | P     | 07 | 41 | 44.9 |     | 2.0  | 100 | 2.30 | 229 |      | 4.1* | 3.8* |   |   |
|     | S     |    | 42 | 20.0 |     | 2.3  | 99  |      |     |      |      |      |   |   |
| ONE | eP    | 07 | 41 | 45   |     | -1.2 | 100 | 2.63 | 316 |      |      |      |   |   |
| MNG | P     | 07 | 41 | 51.4 |     | 0.6  | 100 | 3.05 | 196 |      |      |      |   |   |
| WEL | P     | 07 | 42 | 00.3 |     | 0.1  | 100 | 3.86 | 201 | 5.1  |      |      |   |   |
|     | S     |    |    | 46.7 |     | -2.0 | 100 |      |     |      |      |      |   |   |
| COB | P     | 07 | 42 | 07.8 |     | -0.5 | 100 | 4.54 | 220 |      | 4.3* | 4.2* |   |   |
|     | S     |    | 43 | 00.8 |     | -2.2 | 99  |      |     |      |      |      |   |   |
| KAI | eS    | 07 | 43 | 38.5 |     | -3.2 |     | 6.26 | 218 | 4.2* |      |      |   |   |
| GPZ | eP    | 07 | 42 | 34.5 |     | -1.1 |     | 6.71 | 205 | 4.4* |      |      |   |   |
|     | S     |    | 43 | 48.3 |     | -3.7 |     |      |     |      |      |      |   |   |

AMPLITUDES: WTZ 6.5 TUA 1.8 6.7 TNZ 1.5 1.0  
WEL 2.8 COB 2.7 8.0 KAI 1.2  
GPZ 2.8

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APR 20 07<sup>h</sup>49<sup>m</sup>03<sup>s</sup>.1 31°.97s 179°.89W 472 km M = 5.0  
± 2.0 0.19 0.56 26 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A | W    | P    | W    | S |
|-----|-------|----|----|------|-----|------|-----|-------|-----|-----|------|------|------|---|
| WTZ | eP    | 07 | 50 | 44   |     | -0.6 | 100 | 6.52  | 202 |     | 5.1  | 5.1  |      |   |
|     | i     |    |    | 45.9 |     |      |     |       |     |     |      |      |      |   |
|     | e     |    | 52 | 33   |     |      |     |       |     |     |      |      |      |   |
| GNZ | eP    | 07 | 50 | 49   |     | 0.8  | 100 | 6.88  | 194 |     | 4.5  | 5.3  |      |   |
|     | S     |    | 52 | 10.0 |     | -1.4 | 100 |       |     |     |      |      |      |   |
| TRZ | eS    | 07 | 52 | 34   |     | 0.6  | 100 | 8.03  | 199 |     |      |      | 5.3  |   |
| TNZ | eP    | 07 | 51 | 09   |     | 2.6  | 99  | 8.58  | 211 |     | 3.7* |      |      |   |
| MNG | P     | 07 | 51 | 14.5 |     | -0.9 | 100 | 9.40  | 202 |     | 5.1  |      |      |   |
|     | eS    |    | 53 | 02   |     | 1.6  | 100 |       |     |     |      |      |      |   |
| WEL | eS    | 07 | 53 | 16   |     | -0.9 | 100 | 10.24 | 203 | 5.0 |      |      |      |   |
| COB | eP    | 07 | 51 | 29   |     | -2.0 | 99  | 10.86 | 211 |     | 3.7* | 3.5* |      |   |
|     | eS    |    | 53 | 28   |     | -1.2 | 100 |       |     |     |      |      |      |   |
| GPZ | eS    | 07 | 54 | 14   |     | 0.9  | 100 | 13.10 | 205 |     |      |      | 3.4* |   |

AMPLITUDES: WTZ 1.5 1.8 GNZ 0.4 4.2 TRZ 1.5  
TNZ 0.2 MNG 2.3 WEL 0.3  
COB 0.3 0.6 GPZ 0.3

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APR 21 13<sup>h</sup>18<sup>m</sup>04<sup>s</sup>.4 33°.98s 179°.82E 267 km M = 4.8  
± 1.8 0.14 0.30 20 S.E. of RES. 1.7



| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A  | W | P | W | S |
|-----|-------|----|----|---------|-----|------|-----|-------|-----|------|---|---|---|---|
| WTZ | eP    | 13 | 19 | 15.0    |     | -1.6 | 100 | 4.61  | 209 |      |   |   |   |   |
|     | i     |    |    | 18.2    |     |      |     |       |     |      |   |   |   |   |
|     | S     |    |    | 20 11   |     | -2.0 | 99  |       |     |      |   |   |   |   |
| GNZ | eP    | 13 | 19 | 19.0    |     | -0.8 | 100 | 4.88  | 197 |      |   |   |   |   |
|     | i     |    |    | 20.5    |     |      |     |       |     |      |   |   |   |   |
|     | e     |    |    | 20 17.5 |     |      |     |       |     |      |   |   |   |   |
|     | S     |    |    | 20.4    |     | 1.6  | 100 |       |     |      |   |   |   |   |
| KRP | P     | 13 | 19 | 27      |     | 2.6  | 99  | 5.26  | 220 |      |   |   |   |   |
|     | e     |    |    | 20 32   |     |      |     |       |     |      |   |   |   |   |
| TRZ | eP    | 13 | 19 | 36      |     | 1.6  | 100 | 6.07  | 203 |      |   |   |   |   |
|     | eS    |    |    | 20 45   |     | 0.3  | 100 |       |     |      |   |   |   |   |
| MNG | P     | 13 | 19 | 51.0    |     | -0.9 | 100 | 7.48  | 206 |      |   |   |   |   |
|     | e     |    |    | 21 11   |     |      |     |       |     |      |   |   |   |   |
|     | eS    |    |    | 17      |     | 0.7  | 100 |       |     |      |   |   |   |   |
| WEL | eS    | 13 | 21 | 34      |     | -1.3 | 100 | 8.32  | 207 | 4.7  |   |   |   |   |
| COB | eP    | 13 | 20 | 11      |     | -0.8 | 100 | 9.06  | 216 |      |   |   |   |   |
|     | eS    |    |    | 21 53   |     | 1.1  | 100 |       |     |      |   |   |   |   |
| GPZ | eS    | 13 | 22 | 40      |     | -0.3 | 100 | 11.20 | 208 | 3.5* |   |   |   |   |

AMPLITUDES: WTZ 3.2 1.8 GNZ 4.0 3.5 KRP 0.6  
 TRZ 0.4 0.8 MNG 1.5 3.0 WEL 0.3  
 COB 0.2 0.7 GPZ 0.2

APR 21 17<sup>h</sup>11<sup>m</sup>03<sup>s</sup>.8 39°.17s 175°.33E 127 km 77/ 215  
 ± 1.6 0.06 0.11 14 S.E. of RES. 2.2 M = 3.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|---|---|---|
| CNZ | P     | 17 | 11 | 19.9    |     | -1.4 | 100 | 0.17 | 101 |     |   |   |   |   |
|     | i     |    |    | 30.2    |     |      |     |      |     |     |   |   |   |   |
|     | iS    |    |    | 35.3    |     | 0.6  | 100 |      |     |     |   |   |   |   |
| TRZ | eP    | 17 | 11 | 28      |     | -0.8 | 100 | 1.22 | 109 |     |   |   |   |   |
|     | eS    |    |    | 50      |     | 2.0  | 100 |      |     |     |   |   |   |   |
| KRP | P     | 17 | 11 | 29.5    |     | 0.3  | 100 | 1.25 | 8   |     |   |   |   |   |
|     | eS    |    |    | 46.8    |     | -1.8 | 100 |      |     |     |   |   |   |   |
| MNG | P     | 17 | 11 | 32.2    |     | 0.7  | 100 | 1.46 | 175 |     |   |   |   |   |
|     | S     |    |    | 49.3    |     | -3.3 | 99  |      |     |     |   |   |   |   |
| TUA |       |    |    |         |     |      |     | 1.47 | 76  |     |   |   |   |   |
| WTZ | eP    | 17 | 11 | 33      |     | -1.9 | 100 | 1.76 | 48  |     |   |   |   |   |
|     | eS    |    |    | 12 01.5 |     | 2.8  | 99  |      |     |     |   |   |   |   |
| WEL | eS    | 17 | 12 | 14      |     | 6.6  |     | 2.16 | 191 | 3.4 |   |   |   |   |
| COB | eP    | 17 | 11 | 48      |     | 0.0  | 100 | 2.76 | 225 |     |   |   |   |   |
|     | eS    |    |    | 12 24   |     | 2.5  | 99  |      |     |     |   |   |   |   |

AMPLITUDES: TRZ 0.3 0.5 KRP 2.1 MNG 2.0 3.0  
 TUA 1.5 0.8 WTZ 0.2 0.3 WEL 0.2  
 COB 0.2 0.4

APR 21 20<sup>h</sup>42<sup>m</sup>13<sup>s</sup>.7 32°.43s 179°.50E 417 km 77/ 216  
 ± 1.2 0.11 0.26 12 S.E. of RES. 1.0 M = 5.0

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|---|---|---|
| WTZ | eP    | 20 | 43 | 47.6    |     | 1.0  | 100 | 5.91 | 200 |     |   |   |   |   |
|     | S     |    |    | 45 00.0 |     | 0.2  | 100 |      |     |     |   |   |   |   |
| GNZ | P     | 20 | 43 | 50.7    |     | -0.3 | 100 | 6.32 | 191 |     |   |   |   |   |
|     | S     |    |    | 45 07.5 |     | -0.3 | 100 |      |     |     |   |   |   |   |
| TRZ | S     | 20 | 45 | 31      |     | 0.8  | 100 | 7.43 | 196 |     |   |   |   |   |
| MNG | P     | 20 | 44 | 18.0    |     | -0.9 | 100 | 8.79 | 200 |     |   |   |   |   |



|             |     |          |      |         |       |     |      |      |      |
|-------------|-----|----------|------|---------|-------|-----|------|------|------|
|             | eS  | 45 56    | -1.9 | 97      |       |     |      |      |      |
| WEL         | S   | 20 46 15 | 0.0  | 100     | 9.62  | 202 | 4.9  |      |      |
| COB         | eP  | 20 44 35 | -0.1 | 100     | 10.21 | 210 |      | 5.7* | 4.7* |
|             | S   | 46 27    | -0.2 | 100     |       |     |      |      |      |
| GPZ         | eS  | 20 47 15 | 0.9  | 100     | 12.48 | 204 | 4.0* |      |      |
| AMPLITUDES: | WTZ | 1.6 1.8  | GNZ  | 1.1 4.0 | TRZ   |     | 1.5  |      |      |
|             | WEL | 0.3      | COB  | 30 10   | GPZ   | 0.5 |      |      |      |

APR 22 10<sup>h</sup>04<sup>m</sup>35<sup>s</sup>.0 38°.66s 175°.70E 191 km M = 4.0  
 ± 1.5 0.06 0.08 12 S.E. of RES. 1.8

| STN         | PHASE | H       | M   | S       | DIR     | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|-------------|-------|---------|-----|---------|---------|------|-----|------|-----|------|-----------|
| CNZ         | iP    | 10      | 05  | 03.0    |         | 1.5  | 100 | 0.55 | 192 |      |           |
| KRP         | iP    | 10      | 05  | 03.1    |         | 0.8  | 100 | 0.75 | 350 |      | 3.6* 2.9* |
|             | S     |         |     | 22.7    |         | -0.8 | 100 |      |     |      |           |
| TUA         |       |         |     |         |         |      |     | 1.14 | 98  |      | 4.4 4.2   |
| TNZ         | P     | 10      | 05  | 07.1    |         | 2.0  | 100 | 1.15 | 242 |      | 3.5*      |
| WIZ         | P     | 10      | 05  | 04.8    |         | -0.9 | 100 | 1.21 | 57  |      | 3.4 3.8   |
|             | S     |         |     | 27.0    |         | -2.4 | 99  |      |     |      |           |
| TRZ         | P     | 10      | 05  | 08.2    |         | 2.3  | 99  | 1.25 | 136 |      |           |
|             | S     |         |     | 32      |         | 2.1  | 100 |      |     |      |           |
| GNZ         | P     | 10      | 05  | 12.0    |         | 0.7  | 100 | 1.82 | 90  |      | 3.8 4.1   |
|             | S     |         |     | 37.7    |         | -1.7 | 100 |      |     |      |           |
| MNG         | P     | 10      | 05  | 14.3    |         | 1.5  | 100 | 1.96 | 185 |      |           |
|             | S     |         |     | 40.8    |         | -1.2 | 100 |      |     |      |           |
| WEL         | eP    | 10      | 05  | 22      |         | 0.6  | 100 | 2.72 | 195 | 4.2  |           |
|             | S     |         |     | 57.5    |         | 0.3  | 100 |      |     |      |           |
| COB         | eP    | 10      | 05  | 28.0    |         | -0.7 | 100 | 3.33 | 222 |      | 3.5* 3.5* |
|             | S     |         |     | 06 10.0 |         | -0.2 | 100 |      |     |      |           |
| GPZ         | S     | 10      | 06  | 57.2    |         | -3.3 | 98  | 5.53 | 204 | 3.6* |           |
| AMPLITUDES: | KRP   | 4.0     | 0.8 | TUA     | 2.2 1.5 | TNZ  | 0.6 |      |     |      |           |
|             | WTZ   | 0.5 1.4 | GNZ | 0.9 2.8 | WEL     | 0.6  |     |      |     |      |           |
|             | COB   | 0.5 1.8 | GPZ | 0.5     |         |      |     |      |     |      |           |

APR 22 11<sup>h</sup>20<sup>m</sup>18<sup>s</sup>.2 37°.70s 176°.14E 314 km M = 4.6  
 ± 1.0 0.05 0.08 7 S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|-----------|
| KRP | P     | 11 | 20 | 59.0    |     | 0.3  | 100 | 0.52 | 245 |      | 3.2* 2.8* |
|     | eS    |    |    | 21 30.7 |     | 0.5  | 100 |      |     |      |           |
| WIZ | P     | 11 | 20 | 58.1    |     | -1.0 | 100 | 0.73 | 113 |      | 4.5 4.2   |
|     | S     |    |    | 21 29.0 |     | -2.3 | 98  |      |     |      |           |
| TUA |       |    |    |         |     |      |     | 1.36 | 144 |      | 4.8 4.6   |
| AUC | P     | 11 | 21 | 02      |     | -0.2 | 100 | 1.38 | 307 |      |           |
| CNZ | eP    | 11 | 21 | 04.4    |     | 1.0  | 100 | 1.57 | 197 |      |           |
|     | eS    |    |    | 40.2    |     | 1.5  | 99  |      |     |      |           |
| GNZ | P     | 11 | 21 | 05.8    |     | 1.1  | 100 | 1.75 | 123 |      | 4.6 4.5   |
|     | S     |    |    | 40.0    |     | -0.9 | 100 |      |     |      |           |
| TRZ | P     | 11 | 21 | 07.5    |     | 1.6  | 99  | 1.93 | 164 |      |           |
|     | S     |    |    | 44      |     | 0.8  | 100 |      |     |      |           |
| MNG | P     | 11 | 21 | 15.3    |     | 0.4  | 100 | 2.96 | 190 |      |           |
|     | eS    |    |    | 52      |     |      |     |      |     |      |           |
|     | eS    |    |    | 58.5    |     | -0.6 | 100 |      |     |      |           |
| WEL | eS    | 11 | 22 | 13.7    |     | 0.4  | 100 | 3.73 | 196 | 4.8  |           |
| COB | P     | 11 | 21 | 27.7    |     | -1.0 | 100 | 4.29 | 217 |      | 3.7* 3.4* |
|     | S     |    |    | 22 23.5 |     | -0.6 | 100 |      |     |      |           |
| GPZ | eS    | 11 | 23 | 10.0    |     | -1.1 | 100 | 6.55 | 203 | 3.8* |           |

AMPLITUDES: KRP 1.0 0.4 WIZ 3.6 1.8 TUA 2.3 1.4  
 GNZ 3.5 4.2 WEL 1.1 COB 0.7 1.1  
 GPZ 0.7

APR 22 12<sup>h</sup>05<sup>m</sup>47<sup>s</sup>.5 50°.17s 165°.36E 33 km M = 4.7  
 ± 4.1 0.25 0.54 R S.E. of RES. 3.0

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST  | AZ | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|-------|----|-----|-----|-----|
| MNW | P     | 12 | 06 | 53.0  |     | -1.5 | 100 | 4.64  | 20 |     | 5.2 | 5.1 |
|     | eS    |    |    | 07 43 |     | -2.1 | 100 |       |    |     |     |     |
| MSZ | P     | 12 | 07 | 08.8  |     | -1.0 | 100 | 5.77  | 18 |     | 5.0 | 4.7 |
|     | eS    |    |    | 08 14 |     | 1.9  | 100 |       |    |     |     |     |
| OMZ | eP    | 12 | 07 | 20.5  |     | 3.0  | 100 | 6.34  | 38 |     | 4.7 | 4.4 |
|     | eS    |    |    | 08 22 |     | -3.7 | 99  |       |    |     |     |     |
| GPZ |       |    |    |       |     |      |     | 8.17  | 40 | 4.5 |     |     |
| COB | eP    | 12 | 08 | 13    |     | -0.6 | 100 | 10.45 | 32 |     | 4.8 | 4.2 |
|     | eS    |    |    | 10 08 |     | 3.5  | 99  |       |    |     |     |     |
| MNG | eP    | 12 | 08 | 38    |     | 4.5  |     | 11.91 | 40 |     | 4.4 |     |

AMPLITUDES: MNW 6.8 11 MSZ 4.2 4.2 OMZ 0.8 0.8  
 GPZ 0.3 COB 0.3 MNG 0.3

APR 23 10<sup>h</sup>20<sup>m</sup>17<sup>s</sup>.7 45°.38s 167°.45E 85 km M = 3.3  
 ± 0.6 0.02 0.04 4 S.E. of RES. 0.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|------|
| MNW | P     | 10 | 20 | 32.0  |     | 0.3  | 99  | 0.41 | 163 |     | 3.4* |      |
|     | S     |    |    | 42    |     | -0.3 | 100 |      |     |     |      |      |
| MSZ | iP    | 10 | 20 | 34.6  |     | -0.3 | 99  | 0.78 | 25  |     | 3.5* | 3.6* |
|     | S     |    |    | 48.1  |     | 0.1  | 100 |      |     |     |      |      |
| OMZ | P     | 10 | 20 | 56.8  |     | -0.1 | 100 | 2.47 | 84  |     | 3.4  | 3.3  |
|     | S     |    |    | 21 26 |     | -0.1 | 100 |      |     |     |      |      |

AMPLITUDES: MNW 5.5 MSZ 5.8 12 OMZ 0.3 0.4

APR 23 11<sup>h</sup>46<sup>m</sup>59<sup>s</sup>.6 39°.87s 174°.11E 162 km M = 3.6  
 ± 1.3 0.05 0.07 10 S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|
| TNZ | P     | 11 | 47 | 23.0    |     | -0.5 | 100 | 0.71 | 18  |      | 2.9* | 2.9* |
|     | eS    |    |    | 41      |     | -0.9 | 100 |      |     |      |      |      |
| MNG | P     | 11 | 47 | 31.0    |     | 2.7  | 99  | 1.30 | 126 |      |      |      |
|     | S     |    |    | 50.0    |     | -0.3 | 100 |      |     |      |      |      |
| CNZ | P     | 11 | 47 | 29.0    |     | 0.7  | 100 | 1.30 | 60  |      |      |      |
|     | S     |    |    | 49.2    |     | -1.2 | 100 |      |     |      |      |      |
| WEL | eS    | 11 | 47 | 54      |     | 0.0  | 100 | 1.50 | 161 | 3.7  |      |      |
| COB | P     | 11 | 47 | 33.2    |     | 1.8  | 100 | 1.61 | 220 |      | 3.9* | 3.2* |
|     | S     |    |    | 56.5    |     | 0.6  | 100 |      |     |      |      |      |
| TRZ | eS    | 11 | 48 | 07.4    |     | 1.3  | 100 | 2.12 | 82  |      |      | 3.3  |
| GNZ | eP    | 11 | 47 | 51      |     | -0.7 | 100 | 3.28 | 69  |      | 3.5  | 3.8  |
|     | S     |    |    | 48 30.7 |     | -0.9 | 100 |      |     |      |      |      |
| GPZ | eS    | 11 | 48 | 45      |     | -2.8 | 98  | 3.98 | 195 | 3.2* |      |      |

AMPLITUDES: TNZ 0.2 0.3 WEL 0.5 COB 2.6 1.9  
 TRZ 0.2 GNZ 0.2 0.7 GPZ 0.3

APR 24 01<sup>h</sup>49<sup>m</sup>59<sup>s</sup>.8 40°.42s 173°.42E 192 km M = 5.5  
 ± 0.7 0.04 0.06 8 S.E. of RES. 1.6

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|------|------|
| COB         | P     | 01  | 50 | 29.4    |     | 1.6  | 100 | 0.85 | 218 |     |      |      |
| WEL         | P     | 01  | 50 | 33.1    |     | 1.5  | 100 | 1.34 | 131 | 5.6 |      |      |
|             | S     |     |    | 55.2    |     | -0.9 | 100 |      |     |     |      |      |
| TNZ         | P     | 01  | 50 | 33.4    |     | 0.9  | 100 | 1.44 | 31  |     |      |      |
| MNG         | P     | 01  | 50 | 35.7    |     | 1.9  | 100 | 1.58 | 98  |     |      |      |
| KKY         | iP    | 01  | 50 | 38.4    |     | 0.3  | 100 | 2.01 | 174 |     |      |      |
|             | i     |     |    | 58.6    |     |      |     |      |     |     |      |      |
| CNZ         | iP    | 01  | 50 | 39.2    |     | 0.6  | 100 | 2.04 | 54  |     |      |      |
| CAZ         | P     | 01  | 50 | 42.1    |     | 2.0  | 99  | 2.19 | 104 |     |      |      |
| KAI         | P     | 01  | 50 | 45.8    |     | 1.1  | 100 | 2.59 | 215 |     |      |      |
|             | S     |     |    | 51 16.8 |     | -2.5 | 99  |      |     |     |      |      |
| WNZ         | P     | 01  | 50 | 46.9    |     | 0.4  | 100 | 2.74 | 50  |     | 5.8  |      |
| TRZ         | P     | 01  | 50 | 47.0    |     | 0.4  | 100 | 2.75 | 73  |     |      |      |
| KRP         | P     | 01  | 50 | 49.0    |     | -0.5 | 100 | 2.99 | 34  |     | 4.6* |      |
|             | e     |     |    | 51 22   |     |      |     |      |     |     |      |      |
| TUA         |       |     |    |         |     |      |     | 3.30 | 62  |     | 5.3  | 5.7  |
| GPZ         | P     | 01  | 50 | 52.5    |     | -0.9 | 100 | 3.32 | 190 |     |      |      |
| WTZ         | P     | 01  | 50 | 56.4    |     | -1.7 | 100 | 3.69 | 50  |     | 5.2  |      |
|             | eS    |     |    | 51 39   |     | -4.1 | 90  |      |     |     |      |      |
| AUC         | P     | 01  | 50 | 59.3    |     | 1.0  | 100 | 3.72 | 17  |     |      |      |
| GNZ         | P     | 01  | 51 | 00.7    |     | -1.1 | 100 | 3.98 | 65  |     |      |      |
|             | e     |     |    | 45      |     |      |     |      |     |     |      |      |
| ONE         | P     | 01  | 51 | 12.0    |     | 1.1  | 100 | 4.70 | 9   |     |      |      |
| ECZ         | P     | 01  | 51 | 11.2    |     | -1.4 | 100 | 4.83 | 57  |     |      |      |
| OMZ         | P     | 01  | 51 | 15.0    |     | 0.3  | 100 | 5.00 | 201 |     |      |      |
|             | eS    |     |    | 52 11   |     | -1.8 | 100 |      |     |     |      |      |
| MSZ         | P     | 01  | 51 | 25.0    |     | -1.1 |     | 5.88 | 222 |     | 5.1* | 4.9* |
|             | S     |     |    | 52 29.5 |     | -3.8 |     |      |     |     |      |      |
| ROX         | P     | 01  | 51 | 24.0    |     | -2.1 |     | 5.88 | 209 |     | 5.3* | 5.0* |
|             | S     |     |    | 52 26   |     | -7.3 |     |      |     |     |      |      |
| MNW         | P     | 01  | 51 | 38.0    |     | -0.6 |     | 6.84 | 216 |     | 4.8* | 4.5* |
|             | S     |     |    | 52 53.5 |     | -2.2 |     |      |     |     |      |      |
| CIZ         | P     | 01  | 51 | 58      |     | 1.0  | 100 | 8.23 | 119 |     |      |      |
|             | S     |     |    | 53 29   |     | 0.4  | 100 |      |     |     |      |      |
| AMPLITUDES: | WEL   | 38  |    |         | WNZ | 2.7  |     | KRP  | 20  |     |      |      |
|             | TUA   | 5.5 | 14 |         | WTZ | 7.0  |     | MSZ  | 31  | 38  |      |      |
|             | ROX   | 21  | 28 |         | MNW | 10   | 9.2 | CIZ  | 1.2 | 2.3 |      |      |

FELT: Southern Taranaki, Wellington and southwards to Banks Peninsula, maximum intensity MM IV

APR 25 06<sup>h</sup>40<sup>m</sup>06<sup>s</sup>.5 37°.79s 176°.43E 264 km M = 4.0  
 ± 1.7 0.12 0.18 16 S.E. of RES. 1.5

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S  |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|------|-----|------|
| WTZ         | P     | 06  | 40 | 39.8    |     | -1.4 | 100 | 0.49 | 113 |      | 3.6 |      |
| GNZ         | iP    | 06  | 40 | 47.6    |     | 1.1  | 100 | 1.52 | 125 |      | 4.3 | 4.0  |
|             | S     |     |    | 41 16.0 |     | -1.5 | 99  |      |     |      |     |      |
| ECZ         | P     | 06  | 40 | 48.0    |     | 0.2  | 100 | 1.68 | 87  |      |     |      |
| TRZ         | eS    | 06  | 41 | 23.3    |     | 2.0  | 99  | 1.78 | 170 |      |     | 3.8  |
| MNG         | P     | 06  | 41 | 00.3    |     | 0.9  | 100 | 2.92 | 194 |      | 4.2 | 4.3  |
|             | S     |     |    | 40.5    |     | 0.0  | 100 |      |     |      |     |      |
| WEL         | eS    | 06  | 41 | 55      |     | -1.1 | 100 | 3.72 | 200 | 3.9  |     |      |
| COB         | eS    | 06  | 42 | 10      |     | 0.4  | 100 | 4.36 | 220 |      |     | 2.8* |
| GPZ         | eS    | 06  | 42 | 57      |     | -0.7 | 100 | 6.56 | 205 | 3.3* |     |      |
| AMPLITUDES: | WTZ   | 0.6 |    |         | GNZ | 2.7  | 2.1 | TRZ  | 0.6 |      |     |      |



MNG 2.6 3.7 WEL 0.2 COB 0.3  
GPZ 0.2

APR 25 15<sup>h</sup>08<sup>m</sup>36<sup>s</sup>.3 37°.90s 176°.03E 295 km M = 5.0  
± 0.8 0.04 0.06 6 S.E. of RES. 1.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|---|---|
| KRP | P     | 15 | 09 | 14.6    |     | 0.2  | 100 | 0.39 | 267 |      | 3.6* | 3.3* |   |   |
|     | S     |    |    | 44.9    |     | 0.9  | 100 |      |     |      |      |      |   |   |
| WNZ | P     | 15 | 09 | 15.2    |     | -0.0 | 100 | 0.73 | 175 |      | 4.8  |      |   |   |
| WTZ | iP    | 15 | 09 | 14.2    | D   | -1.2 | 100 | 0.76 | 96  |      | 5.0  |      |   |   |
| TUA |       |    |    |         |     |      |     | 1.26 | 136 |      | 5.2  | 5.1  |   |   |
| CNZ | P     | 15 | 09 | 19.2    |     | 0.8  | 100 | 1.35 | 196 |      |      |      |   |   |
|     | S     |    |    | 49      |     | -2.0 | 98  |      |     |      |      |      |   |   |
|     | e     |    |    | 57      |     |      |     |      |     |      |      |      |   |   |
| AUC | P     | 15 | 09 | 18.7    |     | -0.2 | 100 | 1.44 | 316 |      |      |      |   |   |
| GNZ | iP    | 15 | 09 | 21.2    | D   | 0.2  | 100 | 1.74 | 116 |      |      |      |   |   |
|     | eS    |    |    | 54.7    |     | -0.9 | 100 |      |     |      |      |      |   |   |
| TRZ | P     | 15 | 09 | 22.9    |     | 1.8  | 99  | 1.76 | 160 |      | 4.8  |      |   |   |
| TNZ | P     | 15 | 09 | 22.8    |     | 1.2  | 100 | 1.82 | 225 |      | 3.7* | 3.9* |   |   |
|     | S     |    |    | 57.5    |     | 0.7  | 100 |      |     |      |      |      |   |   |
| ECZ | P     | 15 | 09 | 23.0    |     | -0.0 | 100 | 2.01 | 85  |      |      |      |   |   |
| ONE | eP    | 15 | 09 | 27.0    |     | -0.4 | 100 | 2.51 | 327 |      |      |      |   |   |
| MNG | P     | 15 | 09 | 30.0    |     | 0.3  | 100 | 2.74 | 189 |      |      |      |   |   |
| WEL | eP    | 15 | 09 | 37.0    |     | -0.4 | 100 | 3.52 | 196 | 5.2  |      |      |   |   |
|     | e     |    |    | 10 24.0 |     |      |     |      |     |      |      |      |   |   |
|     | S     |    |    | 26.4    |     | 1.1  | 100 |      |     |      |      |      |   |   |
| COB | P     | 15 | 09 | 42.2    |     | -1.4 | 99  | 4.08 | 218 |      | 4.5* | 4.0* |   |   |
|     | S     |    |    | 10 35.2 |     | -1.0 | 100 |      |     |      |      |      |   |   |
| KAI | eS    | 15 | 11 | 10      |     | -2.6 |     | 5.82 | 216 | 4.0* |      |      |   |   |
| GPZ | eP    | 15 | 10 | 09.5    |     | -0.6 |     | 6.34 | 203 | 4.5* |      |      |   |   |
|     | S     |    |    | 11 21.0 |     | -2.8 |     |      |     |      |      |      |   |   |

AMPLITUDES: KRP 2.8 1.5 WNZ 0.4 WTZ 12  
TUA 7.2 5.6 TRZ 2.0 TNZ 0.6 1.5  
WEL 3.6 COB 4.7 5.0 KAI 0.7  
GPZ 3.3

APR 25 19<sup>h</sup>42<sup>m</sup>41<sup>s</sup>.8 44°.12s 168°.69E 12 km M = 3.4  
± 1.3 0.07 0.04 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MSZ | P*    | 19 | 42 | 55.8    |     | -0.4 | 100 | 0.78 | 225 |     | 3.3 | 3.1 |   |   |
|     | eS*   |    |    | 43 05.7 |     | -1.0 | 100 |      |     |     |     |     |   |   |
| MJZ |       |    |    |         |     |      |     | 1.30 | 85  |     | 3.1 | 3.1 |   |   |
| ROX | P*    | 19 | 43 | 07.8    |     | 0.5  | 100 | 1.43 | 162 |     | 3.4 | 3.7 |   |   |
|     | S*    |    |    | 25.0    |     | -1.3 | 99  |      |     |     |     |     |   |   |
| MNW | P*    | 19 | 43 | 14.0    |     | -0.1 | 100 | 1.83 | 204 |     | 3.9 | 3.6 |   |   |
|     | S*    |    |    | 40      |     | 1.9  | 98  |      |     |     |     |     |   |   |
| OMZ | eP*   | 19 | 43 | 15.0    |     | 0.4  | 100 | 1.85 | 122 |     | 3.3 | 3.4 |   |   |
|     | S*    |    |    | 39      |     | -0.0 | 100 |      |     |     |     |     |   |   |
| GPZ | eS*   | 19 | 44 | 16      |     | 5.8  |     | 2.90 | 83  | 3.4 |     |     |   |   |

AMPLITUDES: MSZ 4.5 5.6 MJZ 1.3 2.2 ROX 0.7 3.7  
MNW 2.0 2.5 OMZ 0.3 0.9 GPZ 0.2

APR 26 15<sup>h</sup>22<sup>m</sup>23<sup>s</sup>.6 38°.10s 178°.18E 33 km M = 3.6  
± 1.5 0.05 0.10 R S.E. of RES. 1.4



| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| GNZ         | P*    | 15  | 22 | 33.7 |     | -1.3 | 100 | 0.56 | 193 |     |     |     |   |   |
|             | S*    |     |    | 43.8 |     | 0.5  | 100 |      |     |     |     |     |   |   |
| WIZ         | P*    | 15  | 22 | 40.0 |     | -1.3 | 100 | 0.94 | 277 |     | 3.9 |     |   |   |
|             | i     |     |    | 43.1 |     |      |     |      |     |     |     |     |   |   |
|             | eS*   |     |    | 54.2 |     | -0.2 | 100 |      |     |     |     |     |   |   |
| TUA         |       |     |    |      |     |      |     | 1.07 | 229 |     | 3.7 | 3.9 |   |   |
| TRZ         | eP*   | 15  | 22 | 55.2 |     | -0.4 | 100 | 1.80 | 216 |     | 3.4 | 3.6 |   |   |
|             | e     |     | 23 | 01.5 |     |      |     |      |     |     |     |     |   |   |
|             | eS*   |     |    | 18.8 |     | -0.7 | 100 |      |     |     |     |     |   |   |
| KRP         | ePn   | 15  | 22 | 56.5 |     | 0.7  | 100 | 2.10 | 274 |     | 3.6 |     |   |   |
|             | iP*   |     | 23 | 00.8 |     | 0.1  | 100 |      |     |     |     |     |   |   |
| CNZ         | e     | 15  | 23 | 11.0 |     |      |     | 2.34 | 241 |     |     |     |   |   |
| MNG         | eP*   | 15  | 23 | 23.5 |     | 2.8  | 97  | 3.28 | 219 |     | 3.1 | 3.5 |   |   |
|             | e     |     |    | 37.2 |     |      |     |      |     |     |     |     |   |   |
|             | Sn    |     |    | 48.5 |     | 0.3  | 100 |      |     |     |     |     |   |   |
| WEL         | eSn   | 15  | 24 | 07   |     | -1.9 | 99  | 4.13 | 219 |     |     |     |   |   |
| COB         | eSn   | 15  | 24 | 35   |     | 1.4  | 100 | 5.17 | 233 |     |     |     |   |   |
| AMPLITUDES: |       | WIZ |    | 8.5  | TUA | 1.4  | 2.3 | TRZ  |     | 0.3 | 0.7 |     |   |   |
|             |       | KRP |    | 0.5  | MNG | 0.2  | 0.7 |      |     |     |     |     |   |   |

APR 26 16<sup>h</sup>44<sup>m</sup>24<sup>s</sup>.1 38°.34s 175°.76E 210 km 77/ 227  
 $\pm 1.8$  0.08 0.13 16 S.E. of RES. 1.9 M = 3.8

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|------|------|------|---|---|
| KRP         | P     | 16  | 44 | 52.4  | D   | 0.1  | 100 | 0.45 | 337 |      | 3.6* |      |   |   |
| WIZ         | P     | 16  | 44 | 54.5  |     | -0.7 | 100 | 1.03 | 70  |      | 3.5  | 3.7  |   |   |
|             | S     |     | 45 | 17.8  |     | -1.6 | 100 |      |     |      |      |      |   |   |
| TRZ         | eP    | 16  | 45 | 00.5  |     | 1.9  | 100 | 1.47 | 146 |      | 3.9  | 3.9  |   |   |
|             | eS    |     |    | 27.8  |     | 2.4  | 99  |      |     |      |      |      |   |   |
| GNZ         | P     | 16  | 45 | 02.5  |     | 0.8  | 100 | 1.80 | 100 |      | 3.6  | 3.9  |   |   |
|             | S     |     |    | 29.0  |     | -1.8 | 100 |      |     |      |      |      |   |   |
| MNG         | P     | 16  | 45 | 08.2  |     | 1.5  | 100 | 2.29 | 185 |      | 3.7  | 4.2  |   |   |
|             | S     |     |    | 39    |     | -0.6 | 100 |      |     |      |      |      |   |   |
| WEL         | S     | 16  | 45 | 55    |     | 0.2  | 100 | 3.04 | 194 | 4.1  |      |      |   |   |
| COB         | eP    | 16  | 45 | 23    |     | 1.0  | 100 | 3.60 | 219 |      | 3.3* | 3.2* |   |   |
|             | S     |     |    | 46 07 |     | 0.3  | 100 |      |     |      |      |      |   |   |
| GPZ         | eS    | 16  | 46 | 54    |     | -3.4 | 98  | 5.85 | 203 | 3.4* |      |      |   |   |
| AMPLITUDES: |       | KRP |    | 3.8   | WIZ | 0.7  | 1.2 | TRZ  |     | 0.5  | 1.0  |      |   |   |
|             |       | GNZ |    | 0.5   | 1.8 | MNG  | 1.4 | 5.0  | WEL | 0.4  |      |      |   |   |
|             |       | COB |    | 0.3   | 1.0 | GPZ  | 0.3 |      |     |      |      |      |   |   |

APR 26 16<sup>h</sup>52<sup>m</sup>42<sup>s</sup>.6 45°.13s 166°.69E 33 km 77/ 228  
 $\pm 2.2$  0.07 0.18 R S.E. of RES. 1.5 M = 3.5

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MNW         | P     | 16  | 52 | 58.8    |     | 0.0  | 100 | 0.93 | 135 |     |     |     |   |   |
|             | S     |     |    | 53 09.5 |     | -1.3 | 100 |      |     |     |     |     |   |   |
| MSZ         | eP    | 16  | 52 | 59.0    |     | -0.6 | 100 | 0.99 | 63  |     | 3.2 | 3.2 |   |   |
|             | i     |     | 53 | 04.8    |     |      |     |      |     |     |     |     |   |   |
|             | eS    |     |    | 11.5    |     | -0.8 | 100 |      |     |     |     |     |   |   |
|             | i     |     |    | 14.3    |     |      |     |      |     |     |     |     |   |   |
| ROX         | P     | 16  | 53 | 13.8    |     | 1.8  | 99  | 1.89 | 102 |     | 3.9 | 3.5 |   |   |
|             | e     |     |    | 19.0    |     |      |     |      |     |     |     |     |   |   |
|             | S     |     |    | 35.0    |     | 0.9  | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: |       | MSZ |    | 2.3     | 4.6 | ROX  |     | 1.4  | 1.2 |     |     |     |   |   |

APR 27 09<sup>h</sup>15<sup>m</sup>27<sup>s</sup>.4 38°.52s 175°.91E 171 km 77/ 229  
 ± 1.6 0.07 0.07 13 S.E. of RES. 1.5 M = 4.0

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W | P    | W    | S    |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|------|---|------|------|------|
| KRP         | P     | 09  | 15 | 52.3    |     | 0.3  | 100 | 0.66 | 333 |      |   |      | 2.8* | 2.6* |
|             | S     |     |    | 16 10.7 |     | -0.3 | 100 |      |     |      |   |      |      |      |
| WTZ         | P     | 09  | 15 | 53.5    |     | -0.8 | 100 | 1.00 | 58  |      |   | 3.8  | 3.7  |      |
|             | S     |     |    | 16 14.5 |     | -0.5 | 100 |      |     |      |   |      |      |      |
| TUA         |       |     |    |         |     |      |     | 1.01 | 107 |      |   | 4.1  | 4.3  |      |
| TRZ         | P     | 09  | 15 | 59.0    |     | 2.5  | 98  | 1.25 | 146 |      |   |      |      |      |
| TNZ         | P     | 09  | 15 | 59.8    |     | 2.2  | 99  | 1.38 | 240 |      |   | 3.3* |      |      |
| GNZ         | P     | 09  | 16 | 00.9    |     | 0.5  | 100 | 1.66 | 95  |      |   | 4.2  | 4.0  |      |
|             | S     |     |    | 25.1    |     | -0.9 | 100 |      |     |      |   |      |      |      |
| WEL         | eP    | 09  | 16 | 15      |     | 0.0  | 100 | 2.91 | 197 | 3.9  |   |      |      |      |
|             | eS    |     |    | 51      |     | -0.7 | 100 |      |     |      |   |      |      |      |
| COB         | eP    | 09  | 16 | 21      |     | -2.2 | 99  | 3.55 | 223 |      |   | 3.2* | 3.5* |      |
|             | S     |     |    | 17 06.0 |     | -0.1 | 100 |      |     |      |   |      |      |      |
| KAI         | eS    | 09  | 17 | 41      |     | -5.3 |     | 5.28 | 219 | 3.4* |   |      |      |      |
| GPZ         | eS    | 09  | 17 | 53.0    |     | -4.1 |     | 5.74 | 204 | 3.9* |   |      |      |      |
| AMPLITUDES: |       | KRP |    | 0.7     | 0.5 | WTZ  |     | 1.9  | 1.8 | TUA  |   | 1.6  | 2.6  |      |
|             |       | TNZ |    | 0.4     |     | GNZ  |     | 2.8  | 2.8 | WEL  |   | 0.3  |      |      |
|             |       | COB |    | 0.3     | 1.8 | KAI  | 0.2 |      |     | GPZ  |   | 0.9  |      |      |

APR 28 10<sup>h</sup>40<sup>m</sup>55<sup>s</sup>.3 37°.88s 176°.76E 102 km 77/ 230  
 ± 0.5 0.03 0.02 3 S.E. of RES. 0.5 M = 3.5

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W   | S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|---|------|-----|---|
| WTZ         | P     | 10  | 41 | 10.0 |     | -0.1 | 100 | 0.21 | 121 |     |   |      |     |   |
|             | eS    |     |    | 21.2 |     | 0.0  | 100 |      |     |     |   |      |     |   |
| KRP         | P     | 10  | 41 | 16.0 |     | 0.3  | 100 | 0.97 | 267 |     |   | 3.1* |     |   |
|             | e     |     |    | 32.0 |     |      |     |      |     |     |   |      |     |   |
| TUA         |       |     |    |      |     |      |     | 0.98 | 162 |     |   | 3.5  | 3.6 |   |
| GNZ         | eP    | 10  | 41 | 18.5 |     | -0.5 | 99  | 1.26 | 128 |     |   | 3.3  | 3.5 |   |
|             | S     |     |    | 37.5 |     | 0.4  | 100 |      |     |     |   |      |     |   |
| CNZ         | P     | 10  | 41 | 24.3 |     | 0.6  | 99  | 1.63 | 215 |     |   |      |     |   |
|             | eS    |     |    | 44.8 |     | -0.2 | 100 |      |     |     |   |      |     |   |
| TRZ         | P     | 10  | 41 | 26.8 |     | 2.5  |     | 1.67 | 178 |     |   | 3.5  | 3.6 |   |
|             | e     |     |    | 55.0 |     |      |     |      |     |     |   |      |     |   |
| TNZ         | eP    | 10  | 41 | 32.0 |     | -0.2 | 100 | 2.28 | 234 |     |   | 3.3* |     |   |
| MNG         |       |     |    |      |     |      |     | 2.92 | 200 |     |   | 3.4  | 3.4 |   |
| WEL         | eS    | 10  | 42 | 28   |     | -7.4 |     | 3.73 | 204 | 3.8 |   |      |     |   |
| AMPLITUDES: |       | WTZ |    | 3.7  | 1.6 | KRP  |     | 1.6  |     | TUA |   | 0.7  | 1.0 |   |
|             |       | GNZ |    | 0.8  | 2.3 | TRZ  |     | 0.3  | 0.8 | TNZ |   | 0.3  |     |   |
|             |       | MNG |    | 0.6  | 0.8 | WEL  | 0.2 |      |     |     |   |      |     |   |

APR 28 16<sup>h</sup>57<sup>m</sup>14<sup>s</sup>.0 36°.90s 177°.09E 182 km 77/ 231  
 ± 0.7 0.04 0.06 4 S.E. of RES. 0.4 M = 3.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WTZ | eP    | 16 | 57 | 42.5    |     | -0.2 | 100 | 1.09 | 184 |     |   | 3.1 |     |   |
|     | eS    |    |    | 58 05   |     | 0.1  | 100 |      |     |     |   |     |     |   |
|     | e     |    |    | 08      |     |      |     |      |     |     |   |     |     |   |
| GNZ | iP    | 16 | 57 | 50.6    |     | 0.3  | 100 | 1.90 | 157 |     |   | 4.2 | 3.7 |   |
|     | S     |    |    | 58 18.4 |     | -0.1 | 100 |      |     |     |   |     |     |   |
| TRZ | eS    | 16 | 58 | 34.0    |     | -0.0 | 100 | 2.66 | 184 |     |   |     |     |   |

|             |                                                    |         |          |      |       |                  |     |         |     |     |   |   |     |     |
|-------------|----------------------------------------------------|---------|----------|------|-------|------------------|-----|---------|-----|-----|---|---|-----|-----|
| MNG         |                                                    |         |          |      |       | 3.92 198         |     | 3.8 3.7 |     |     |   |   |     |     |
| AMPLITUDES: |                                                    | WTZ     | 0.3      |      | GNZ   | 2.3 1.3 MNG      |     | 0.8 0.7 |     |     |   |   |     |     |
|             |                                                    | 77/ 232 |          |      |       |                  |     |         |     |     |   |   |     |     |
| APR 28      | 22 <sup>h</sup> 21 <sup>m</sup> 58 <sup>s</sup> .0 | 44°.58S | 167°.52E |      | 12 km | M = 4.1          |     |         |     |     |   |   |     |     |
|             | ± 1.3                                              | 0.04    | 0.11     |      | R     | S.E. of RES. 1.3 |     |         |     |     |   |   |     |     |
| STN         | PHASE                                              | H       | M        | S    | DIR   | RES              | WT  | DIST    | AZ  | W-A | W | P | W   | S   |
| MSZ         | P*                                                 | 22      | 22       | 03.7 |       | -0.5             | 100 | 0.30    | 108 |     |   |   |     |     |
| MNW         | P*                                                 | 22      | 22       | 20.2 |       | 0.5              | 100 | 1.21    | 177 |     |   |   |     |     |
|             | S*                                                 |         |          | 36.0 |       | 0.3              | 100 |         |     |     |   |   |     |     |
| ROX         | P*                                                 | 22      | 22       | 25.7 |       | -0.1             | 100 | 1.57    | 126 |     |   |   |     |     |
| MJZ         |                                                    |         |          |      |       |                  |     | 2.20    | 75  |     |   |   | 4.1 | 4.1 |
| OMZ         | P*                                                 | 22      | 22       | 39.0 |       | -2.3             | 98  | 2.47    | 103 |     |   |   | 4.4 |     |
|             | eSn                                                |         | 23       | 08   |       | 1.3              | 100 |         |     |     |   |   |     |     |
|             | e                                                  |         |          | 16   |       |                  |     |         |     |     |   |   |     |     |
| GPZ         | eP*                                                | 22      | 23       | 07   |       | 3.0              |     | 3.80    | 78  | 3.8 |   |   |     |     |
|             | e                                                  |         |          | 12   |       |                  |     |         |     |     |   |   |     |     |
|             | eS*                                                |         |          | 59   |       | 5.5              |     |         |     |     |   |   |     |     |
| COB         | ePn                                                | 22      | 23       | 14   |       | -0.3             | 100 | 5.19    | 50  |     |   |   | 4.6 | 3.8 |
|             | eSn                                                |         | 24       | 13   |       | 1.0              | 100 |         |     |     |   |   |     |     |
| AMPLITUDES: |                                                    | MJZ     | 4.6 8.8  |      | OMZ   | 2.5              |     | GPZ     | 0.3 |     |   |   |     |     |
|             |                                                    | COB     | 0.8 0.5  |      |       |                  |     |         |     |     |   |   |     |     |

|             |                                                    |         |          |       |                  |      |     |      |     |     |    |   |     |         |  |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|----|---|-----|---------|--|
|             |                                                    |         |          |       |                  |      |     |      |     |     |    |   |     | 77/ 233 |  |
| APR 29      | 20 <sup>h</sup> 06 <sup>m</sup> 55 <sup>s</sup> .8 | 45°.04S | 166°.64E | 12 km | M = 4.3          |      |     |      |     |     |    |   |     |         |  |
|             | ± 1.0                                              | 0.03    | 0.09     | R     | S.E. of RES. 1.0 |      |     |      |     |     |    |   |     |         |  |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W  | P | W   | S       |  |
| MSZ         | P*                                                 | 20      | 07       | 12.6  | D                | -1.0 | 100 | 0.98 | 69  |     |    |   | 4.2 |         |  |
| MNW         | iP*!                                               | 20      | 07       | 14.2  | S                | -0.1 | 100 | 1.02 | 138 | 4.3 |    |   |     |         |  |
|             | S*                                                 |         |          | 27.0  |                  | -0.9 | 100 |      |     |     |    |   |     |         |  |
| ROX         | Pn                                                 | 20      | 07       | 28.3  | U                | 0.5  | 100 | 1.94 | 104 |     |    |   |     |         |  |
| MJZ         |                                                    |         |          |       |                  |      |     | 2.93 | 70  |     |    |   | 4.3 | 4.4     |  |
| OMZ         | Pn                                                 | 20      | 07       | 43.7  |                  | 1.0  | 100 | 3.03 | 92  |     |    |   | 4.4 | 4.2     |  |
|             | i                                                  |         |          | 44.2  |                  |      |     |      |     |     |    |   |     |         |  |
|             | eS*                                                |         | 08       | 29    |                  | 0.7  | 100 |      |     |     |    |   |     |         |  |
| KAI         | Pg                                                 | 20      | 08       | 21    |                  | -1.1 | 100 | 4.27 | 56  | 4.3 |    |   |     |         |  |
|             | e                                                  |         | 09       | 26.5  |                  |      |     |      |     |     |    |   |     |         |  |
| GPZ         | ePn                                                | 20      | 08       | 04    |                  | 1.2  | 99  | 4.51 | 75  | 4.3 |    |   |     |         |  |
|             | e                                                  |         | 09       | 02    |                  |      |     |      |     |     |    |   |     |         |  |
| COB         | ePn                                                | 20      | 08       | 22.3  |                  | -0.3 | 100 | 5.96 | 51  |     |    |   | 4.5 | 4.1     |  |
|             | e                                                  |         | 09       | 22    |                  |      |     |      |     |     |    |   |     |         |  |
|             | e                                                  |         |          | 43    |                  |      |     |      |     |     |    |   |     |         |  |
| AMPLITUDES: |                                                    | MSZ     | 23       |       | MNW              | 11   |     | MJZ  | 4.3 |     | 10 |   |     |         |  |
|             |                                                    | OMZ     | 1.7 2.1  |       | KAI              | 0.4  |     | GPZ  | 0.6 |     |    |   |     |         |  |
|             |                                                    | COB     | 0.5 0.7  |       |                  |      |     |      |     |     |    |   |     |         |  |

|        |                                                    |    |         |         |          |      |        |      |                  |     |         |     |     |   |
|--------|----------------------------------------------------|----|---------|---------|----------|------|--------|------|------------------|-----|---------|-----|-----|---|
|        |                                                    |    |         |         |          |      |        |      |                  |     | 77/ 234 |     |     |   |
| APR 29 | 20 <sup>h</sup> 57 <sup>m</sup> 46 <sup>s</sup> .6 |    | 36°.03s |         | 179°.45E |      | 174 km |      | M = 4.8          |     |         |     |     |   |
|        | ± 1.6                                              |    | 0.11    |         | 0.14     |      | 24     |      | S.E. of RES. 1.7 |     |         |     |     |   |
| STN    | PHASE                                              | H  | M       | S       | DIR      | RES  | WT     | DIST | AZ               | W-A | W       | P   | W   | S |
| ECZ    | P                                                  | 20 | 58      | 21.8    |          | 0.3  | 100    | 1.81 | 203              |     |         |     |     |   |
| WTZ    | P                                                  | 20 | 58      | 31.9    |          | -0.7 | 100    | 2.77 | 225              |     |         | 5.0 | 4.9 |   |
|        | eS                                                 |    |         | 59 05   |          | -3.1 | 96     |      |                  |     |         |     |     |   |
| GNZ    | P                                                  | 20 | 58      | 33.3    |          | -0.2 | 100    | 2.84 | 203              |     |         | 4.9 | 4.7 |   |
|        | S                                                  |    |         | 59 12.0 |          | 2.2  | 99     |      |                  |     |         |     |     |   |
| TUA    |                                                    |    |         |         |          |      |        | 3.32 | 213              |     |         | 4.8 | 4.9 |   |



|             |    |             |             |             |           |
|-------------|----|-------------|-------------|-------------|-----------|
| KRP         | P  | 20 58 44.2  | 0.3 100     | 3.66 238    | 3.9* 3.4* |
|             | eS | 59 29       | 1.0 100     |             |           |
| AUC         | P  | 20 58 46.9  | 0.4 100     | 3.86 256    |           |
| TRZ         | e  | 20 59 58    |             | 4.09 210    |           |
| ONE         | P  | 20 58 50    | -0.1 100    | 4.14 272    | 3.3*      |
| GSZ         | e  | 20 59 01.7  |             | 4.46 222    |           |
|             | e  | 21 00 06    |             |             |           |
| TNZ         | e  | 20 59 10    |             | 5.11 230    | 4.0* 4.0* |
|             | e  | 21 00 22    |             |             |           |
| MNG         |    |             |             | 5.54 213    | 4.7       |
| CIZ         | e  | 20 59 55    |             | 8.49 160    |           |
|             | eS | 21 01 21    | -0.4 100    |             |           |
| AMPLITUDES: |    | WTZ 7.2 7.8 | GNZ 6.0 6.5 | TUA 1.5 2.2 |           |
|             |    | KRP 3.6 1.3 | ONE 0.3     | TNZ 0.7 0.9 |           |
|             |    | MNG 3.0     | CIZ 0.4 1.3 |             |           |

APR 29 21<sup>h</sup>23<sup>m</sup>24<sup>s</sup>.9 44°.48s 169°.47E 12 km M = 3.7  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| MJZ |       |    |    |         |     |      |     | 0.87 | 56  |     | 3.4 | 3.5 |
| ROX | iP*   | 21 | 23 | 43.0    | U   | -0.1 | 100 | 1.00 | 186 |     |     |     |
|     | S*    |    |    | 57.2    |     | 0.7  | 100 |      |     |     |     |     |
| MSZ | iP*   | 21 | 23 | 44.6    | D   | -0.6 | 100 | 1.13 | 260 |     | 3.6 | 4.1 |
|     | e     |    |    | 51      |     |      |     |      |     |     |     |     |
|     | eS*   |    |    | 59      |     | -1.2 | 100 |      |     |     |     |     |
| OMZ | P*    | 21 | 23 | 44.9    |     | -1.4 | 99  | 1.19 | 120 |     | 3.3 | 3.4 |
|     | Pn    |    |    | 45.8    |     | -0.8 | 100 |      |     |     |     |     |
|     | S*    |    |    | 24 01.5 |     | -0.6 | 100 |      |     |     |     |     |
| MNW | Pn    | 21 | 23 | 55.9    |     | 0.4  | 100 | 1.84 | 225 | 3.5 | 4.0 | 3.9 |
|     | P*    |    |    | 58      |     | 0.5  | 100 |      |     |     |     |     |
|     | S*    |    |    | 24 23   |     | 1.2  | 100 |      |     |     |     |     |
| GPZ | S*    | 21 | 24 | 40      |     | 0.9  | 100 | 2.42 | 72  | 3.8 |     |     |
| COB | ePg   | 21 | 24 | 49      |     | 0.0  | 100 | 4.16 | 36  |     |     | 3.6 |
|     | eSn   |    |    | 25 16.5 |     | 2.3  | 98  |      |     |     |     |     |
|     | eS*   |    |    | 30      |     | -1.3 | 100 |      |     |     |     |     |

AMPLITUDES: MJZ 6.5 12 MSZ 5.0 25 OMZ 0.9 2.3  
 MNW 0.5 2.7 4.8 GPZ 0.7 COB 0.5

APR 30 02<sup>h</sup>21<sup>m</sup>46<sup>s</sup>.8 39°.14s 174°.99E 12 km M = 3.7  
 ± 0.5 0.03 0.03 R S.E. of RES. 1.7

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| TNZ | P*    | 02 | 21 | 56.1  |     | 0.0  | 100 | 0.48 | 264 |     |     | 3.3 |
|     | eSg   |    |    | 22 05 |     | 1.7  | 100 |      |     |     |     |     |
| GSZ | iP*   | 02 | 21 | 54.9  | U   | -1.2 | 100 | 0.49 | 106 |     |     |     |
|     | eS*   |    |    | 22 01 |     | -1.8 | 100 |      |     |     |     |     |
| WNZ | Pg    | 02 | 22 | 07.3  |     | 0.1  | 100 | 1.01 | 60  |     | 3.9 | 3.8 |
|     | e     |    |    | 26    |     |      |     |      |     |     |     |     |
| KRP | P*    | 02 | 22 | 09.5  |     | -0.4 | 100 | 1.29 | 20  |     | 3.7 | 4.3 |
|     | eS*   |    |    | 27    |     | -0.1 | 100 |      |     |     |     |     |
| TRZ | eSg   | 02 | 22 | 39    |     | 2.4  | 99  | 1.48 | 107 |     |     | 3.8 |
| MNG |       |    |    |       |     |      |     | 1.52 | 166 |     | 3.5 | 3.4 |
| WEL | ePn   | 02 | 22 | 23.5  |     | 1.9  | 100 | 2.15 | 185 | 3.7 |     |     |
|     | eSn   |    |    | 49    |     | 1.2  | 100 |      |     |     |     |     |
| COB | Pn    | 02 | 22 | 26.5  |     | -1.3 | 100 | 2.60 | 221 |     | 3.5 | 3.4 |
|     | eS*   |    |    | 23 04 |     | -2.5 | 99  |      |     |     |     |     |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TNZ | 3.6 | WNZ | 0.3 | 0.3 | KRP | 1.6 | 5.0 |
|             | TRZ | 0.6 | MNG | 2.2 | 2.3 | WEL | 0.4 |     |
|             | COB | 0.3 | 0.7 |     |     |     |     |     |

APR 30 17<sup>h</sup>38<sup>m</sup>05<sup>s</sup>.1 44°.23S 168°.51E 12 km M = 3.7  
 ± 0.5 0.03 0.03 R S.E. of RES. 0.9

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MSZ | P*?   | 17 | 38 | 16.1  |     | -0.6 | 100 | 0.61 | 224 |     | 3.0 | 3.2 |   |   |
|     | iPg   |    |    | 16.8  |     | -0.8 | 100 |      |     |     |     |     |   |   |
|     | eS*   |    |    | 25    |     | -0.0 | 100 |      |     |     |     |     |   |   |
| ROX | Pn    | 17 | 38 | 29.3  |     | -0.0 | 100 | 1.38 | 155 |     | 4.2 | 4.1 |   |   |
|     | eSn   |    |    | 46    |     | -1.4 | 99  |      |     |     |     |     |   |   |
| MJZ |       |    |    |       |     |      |     | 1.43 | 81  |     | 3.6 | 3.6 |   |   |
| MNW | Pn    | 17 | 38 | 34.6  |     | 1.2  | 99  | 1.67 | 202 | 3.6 | 4.2 | 3.8 |   |   |
|     | eS*   |    |    | 58    |     | 1.1  | 99  |      |     |     |     |     |   |   |
| OMZ | iPn   | 17 | 38 | 36.9  | U   | 0.2  | 100 | 1.92 | 117 |     | 4.4 | 3.8 |   |   |
|     | eSn   |    |    | 39 01 |     | 0.6  | 100 |      |     |     |     |     |   |   |
| KAI | e     | 17 | 39 | 25    |     |      |     | 2.72 | 52  |     |     |     |   |   |
| GPZ | e     | 17 | 39 | 42    |     |      |     | 3.03 | 81  | 3.6 |     |     |   |   |
| COB | ePn   | 17 | 39 | 11    |     | -0.0 | 100 | 4.43 | 46  |     |     | 3.5 |   |   |
|     | e     |    |    | 40 08 |     |      |     |      |     |     |     |     |   |   |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | MSZ | 4.0 | 11  | ROX | 4.7 | 9.5 | MJZ | 3.8 | 6.5 |
|             | MNW | 0.7 | 4.8 | 4.7 | OMZ | 3.6 | 2.2 | GPZ | 0.3 |
|             | COB |     | 0.3 |     |     |     |     |     |     |

APR 30 18<sup>h</sup>33<sup>m</sup>50<sup>s</sup>.9 37°.88S 177°.68E 12 km M = 4.8  
 ± 0.4 0.03 0.04 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|---|-----|---|
| WTZ | iPn   | 18 | 34 | 01.1    | D   | -0.4 | 100 | 0.56 | 259 |     |     |   |     |   |
| ECZ | iP*   | 18 | 34 | 03.9    |     | -0.3 | 100 | 0.71 | 75  |     |     |   |     |   |
| GNZ | iP*   | 18 | 34 | 07.4    | NE  | 1.5  | 99  | 0.81 | 160 |     |     |   |     |   |
| TUA |       |    |    |         |     |      |     | 1.02 | 204 |     |     |   | 4.6 |   |
| KRP | iPn   | 18 | 34 | 17.1    | DE  | -2.4 | 98  | 1.69 | 268 |     | 4.7 |   |     |   |
|     | ePg   |    |    | 25      |     | -0.1 | 100 |      |     |     |     |   |     |   |
| TRZ | Pn    | 18 | 34 | 21.0    |     | 0.0  | 100 | 1.80 | 202 |     |     |   |     |   |
|     | eSn   |    |    | 45      |     | 1.5  | 99  |      |     |     |     |   |     |   |
| AUC | P*    | 18 | 34 | 34.3    |     | -0.8 | 100 | 2.53 | 293 |     |     |   |     |   |
| TNZ | ePn   | 18 | 34 | 37      |     | 1.1  | 100 | 2.90 | 242 |     | 5.1 |   |     |   |
| CAZ | Pn    | 18 | 34 | 40.0    |     | -0.4 | 100 | 3.22 | 200 |     |     |   |     |   |
|     | e     |    |    | 35 04   |     |      |     |      |     |     |     |   |     |   |
|     | e     |    |    | 56      |     |      |     |      |     |     |     |   |     |   |
| ONE | Pn    | 18 | 34 | 44.2    |     | 1.6  | 99  | 3.39 | 307 | 4.8 |     |   |     |   |
|     | e     |    |    | 35 11.3 |     |      |     |      |     |     |     |   |     |   |
|     | eS*   |    |    | 34.5    |     | 0.4  | 100 |      |     |     |     |   |     |   |
|     | e     |    |    | 50      |     |      |     |      |     |     |     |   |     |   |
| WEL | eSn   | 18 | 35 | 37      |     | -1.3 | 100 | 4.08 | 213 | 4.5 |     |   |     |   |
| CRZ |       |    |    |         |     |      |     | 5.31 | 309 |     |     |   | 4.9 |   |
| CIZ | ePn   | 18 | 35 | 38      |     | -0.4 | 100 | 7.48 | 146 |     |     |   |     |   |
|     | eSn   |    |    | 36 59   |     | -0.9 | 100 |      |     |     |     |   |     |   |

|             |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TUA | 14  | KRP | 8.8 | TNZ | 1.5 |
|             | ONE | 0.8 | WEL | 0.8 | CRZ | 0.4 |

FELT: Opotiki (35) MM V, Cape Runaway and Waihou Bay (28)  
 MM IV

APR 30 21<sup>h</sup>57<sup>m</sup>44<sup>s</sup>.1 37°.70s 177°.57E 12 km 77/ 239  
 ± 1.4 0.09 0.06 R S.E. of RES. 2.0 M = 3.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WIZ | P*    | 21 | 57 | 54.9    |     | 0.5  | 100 | 0.54 | 238 |     | 3.2 |     |
|     | iPg   |    |    | 56.0    |     | 0.9  | 100 |      |     |     |     |     |
| ECZ | eP*   | 21 | 57 | 56      |     | -2.5 | 99  | 0.77 | 89  |     | 3.5 | 3.5 |
|     | eSg   |    |    | 58 12.5 |     | 2.0  | 99  |      |     |     |     |     |
| GNZ | iP*   | 21 | 58 | 01.2    | U   | -1.2 | 100 | 1.01 | 159 |     | 3.8 | 3.1 |
|     | eS*   |    |    | 16      |     | 0.2  | 100 |      |     |     |     |     |

AMPLITUDES: WIZ 5.5 ECZ 1.2 1.5 GNZ 4.7 1.7

MAY 02 08<sup>h</sup>24<sup>m</sup>19<sup>s</sup>.1 38°.29s 175°.80E 165 km 77/ 240  
 ± 1.1 0.05 0.07 7 S.E. of RES. 0.9 M = 3.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|-----|
| KRP | iP    | 08 | 24 | 41.8    | D   | -0.3 | 100 | 0.42 | 331 |     | 3.4* |     |
|     | S     |    |    | 59.9    |     | 0.2  | 100 |      |     |     |      |     |
| WIZ | P     | 08 | 24 | 45.3    |     | -0.1 | 100 | 0.99 | 72  |     | 3.1  |     |
| TRZ | P     | 08 | 24 | 49.3    |     | -0.8 | 100 | 1.49 | 148 |     | 3.6  | 4.1 |
|     | e     |    |    | 25 12.5 |     |      |     |      |     |     |      |     |
|     | S     |    |    | 14.8    |     | 0.9  | 99  |      |     |     |      |     |
| GNZ | iP    | 08 | 24 | 53.2    | U   | 0.1  | 100 | 1.78 | 102 |     | 3.8  | 3.6 |
|     | i     |    |    | 53.8    |     |      |     |      |     |     |      |     |
|     | S     |    |    | 25 18.6 |     | -0.7 | 100 |      |     |     |      |     |
| ECZ | eP    | 08 | 24 | 59.5    |     | 1.0  | 99  | 2.26 | 75  |     | 3.9  |     |
| MNG |       |    |    |         |     |      |     | 2.34 | 186 |     |      | 3.6 |

AMPLITUDES: KRP 3.0 WIZ 0.4 TRZ 0.3 2.0  
 GNZ 1.1 1.0 ECZ 0.4 MNG 1.5

MAY 02 20<sup>h</sup>45<sup>m</sup>11<sup>s</sup>.2 37°.06s 177°.49E 12 km 77/ 241  
 ± 1.6 0.08 0.07 R S.E. of RES. 1.3 M = 3.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WIZ | P*    | 20 | 45 | 29.4 |     | -0.2 | 100 | 1.01 | 203 |     | 3.8 | 3.4 |
|     | eSg   |    |    | 46.5 |     | 1.2  | 100 |      |     |     |     |     |
| ECZ | P*    | 20 | 45 | 30.7 |     | 0.3  | 100 | 1.06 | 127 |     | 3.5 | 3.6 |
|     | ePg   |    |    | 34.1 |     | 1.4  | 99  |      |     |     |     |     |
|     | e     |    |    | 55   |     |      |     |      |     |     |     |     |
|     | e     |    |    | 59   |     |      |     |      |     |     |     |     |
| GNZ | ePg   | 20 | 45 | 43   |     | -1.4 | 99  | 1.64 | 165 |     |     | 4.0 |
|     | e     |    |    | 53.4 |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 59   |     | -1.0 | 100 |      |     |     |     |     |
| TUA |       |    |    |      |     |      |     | 1.77 | 189 |     | 3.8 | 3.9 |
| GSZ | Pn    | 20 | 45 | 53   |     | -0.2 | 100 | 2.67 | 213 |     |     |     |
| MNG |       |    |    |      |     |      |     | 3.89 | 203 |     | 4.2 | 4.0 |

AMPLITUDES: WIZ 5.9 2.0 ECZ 0.6 0.8 GNZ 3.9  
 TUA 0.6 0.8 MNG 1.6 1.4

MAY 03 16<sup>h</sup>14<sup>m</sup>52<sup>s</sup>.5 37°.82s 176°.20E 311 km 77/ 242  
 ± 0.9 0.04 0.08 6 S.E. of RES. 1.5 M = 5.1

| STN | PHASE | H  | M  | S    | DIR | RES | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------|-----|-----|-----|------|-----|-----|------|-----|
| KRP | iP    | 16 | 15 | 33.1 | UNW | 0.5 | 100 | 0.53 | 259 |     | 4.4* |     |



|             |    |            |         |      |     |      |     |           |
|-------------|----|------------|---------|------|-----|------|-----|-----------|
|             | eS | 16 05      |         | 1.0  | 100 |      |     |           |
| WTZ         | iP | 16 15 32.0 | U       | -0.7 | 100 | 0.65 | 105 | 4.9 4.8   |
|             | e  | 37.0       |         |      |     |      |     |           |
|             | eS | 16 02      |         | -2.5 | 99  |      |     |           |
| WNZ         | P  | 16 15 34.2 |         | 0.8  | 100 | 0.81 | 185 | 5.0 4.9   |
|             | eS | 16 07      |         | 1.5  | 100 |      |     |           |
| TUA         |    |            |         |      |     | 1.23 | 143 | 5.3 5.1   |
| AUC         | P  | 16 15 36.8 |         | -0.1 | 100 | 1.48 | 310 |           |
|             | e  | 16 19      |         |      |     |      |     |           |
|             | e  | 34         |         |      |     |      |     |           |
| GSZ         | iP | 16 15 38.4 | D       | 1.2  | 100 | 1.53 | 198 |           |
|             | eS | 16 11      |         | -0.9 | 100 |      |     |           |
| GNZ         | iP | 16 15 38.1 | UE      | 0.1  | 100 | 1.66 | 120 | 5.1 5.2   |
|             | eS | 16 13      |         | -0.4 | 100 |      |     |           |
| TRZ         | iP | 16 15 40.2 | U       | 1.2  | 100 | 1.80 | 164 | 5.3 4.9   |
|             | eS | 16 13      |         | -2.1 | 99  |      |     |           |
| ECZ         | iP | 16 15 39.0 | D       | -0.4 | 100 | 1.86 | 87  |           |
|             | e  | 16 07      |         |      |     |      |     |           |
| TNZ         | P  | 16 15 42.1 | U       | 1.8  | 99  | 1.97 | 226 | 4.2* 3.5* |
|             | e  | 16 27      |         |      |     |      |     |           |
| ONE         | eP | 16 15 45   |         | 0.1  | 100 | 2.52 | 324 | 3.2*      |
|             | eS | 16 25      |         | -0.7 | 100 |      |     |           |
| CAZ         | iP | 16 15 51.9 | U       | 1.8  | 99  | 3.08 | 180 |           |
|             | e  | 16 40.5    |         |      |     |      |     |           |
| WEL         | eP | 16 15 56   |         | 0.2  | 100 | 3.64 | 197 | 5.0       |
|             | eS | 16 47      |         | 1.7  | 100 |      |     |           |
| CIZ         | eS | 16 18 50   |         | 28.3 |     | 8.23 | 140 |           |
| MSZ         | eP | 16 17 01   |         | -1.2 | 100 | 9.26 | 220 | 4.1* 3.8* |
|             | eS | 18 42      |         | -2.6 | 99  |      |     |           |
| AMPLITUDES: |    | KRP        | 15      | WTZ  | 9.3 | 7.5  | WNZ | 0.6 0.4   |
|             |    | TUA        | 9.2 5.8 | GNZ  | 11  | 21   | TRZ | 6.8 5.0   |
|             |    | TNZ        | 2.0 0.5 | ONE  | 0.3 |      | WEL | 1.9       |
|             |    | MSZ        | 2.2 1.7 |      |     |      |     |           |

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MAY 04 11<sup>h</sup>37<sup>m</sup>21<sup>s</sup>.4 39°.87s 174°.04E 219 km M = 4.5  
 ± 0.8 0.06 0.08 8 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A       | W P W S   |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----------|-----------|
| TNZ | P     | 11 | 37 | 52.7 |     | 1.0  | 100 | 0.73 | 21  |           | 4.0* 3.8* |
|     | S     |    | 38 | 14.7 |     | -0.6 | 100 |      |     |           |           |
| MNG | iP!   | 11 | 37 | 57.2 |     | 1.5  | 100 | 1.33 | 125 |           |           |
| WEL | eP    | 11 | 38 | 00   |     | 2.8  | 99  | 1.52 | 159 | 4.5       |           |
|     | e     |    | 13 |      |     |      |     |      |     |           |           |
|     | eS    |    | 25 |      |     | 0.0  | 100 |      |     |           |           |
| COB | P     | 11 | 37 | 59.7 |     | 2.0  | 100 | 1.57 | 219 |           |           |
| WNZ | eP    | 11 | 38 | 03   |     | 1.1  | 100 | 2.02 | 53  |           |           |
| TRZ | iP    | 11 | 38 | 05   |     | 1.6  | 100 | 2.17 | 83  | 4.5       | 4.5       |
|     | eS    |    | 35 |      |     | -0.8 | 100 |      |     |           |           |
| KRP | iP    | 11 | 38 | 03.7 | D   | -0.6 | 100 | 2.27 | 32  | 3.3* 3.0* |           |
|     | e     |    | 40 |      |     |      |     |      |     |           |           |
| WTZ | iP    | 11 | 38 | 11.2 | U   | -1.0 | 100 | 2.97 | 52  | 4.4       | 4.1       |
|     | eS    |    | 50 |      |     | -1.5 | 100 |      |     |           |           |
| KAI | e     | 11 | 38 | 27   |     |      |     | 3.32 | 216 | 3.8*      |           |
|     | eS    |    | 57 |      |     | -1.7 | 100 |      |     |           |           |
| GNZ | P     | 11 | 38 | 16.9 |     | 0.6  | 100 | 3.33 | 70  | 4.9       | 4.6       |
|     | eS    |    | 56 |      |     | -2.8 | 99  |      |     |           |           |
| GPZ | P     | 11 | 38 | 25.8 |     | 1.8  | 100 | 3.97 | 195 | 4.7*      |           |
|     | S     |    | 39 | 11.0 |     | -1.7 | 100 |      |     |           |           |

## INSTRUMENTAL DATA

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|             |     |            |          |          |           |  |
|-------------|-----|------------|----------|----------|-----------|--|
| ECZ         | P   | 11 38 25.7 | -0.5 100 | 4.14 60  |           |  |
|             | eS  | 39 17      | 0.7 100  |          |           |  |
| MSZ         | P   | 11 38 58.0 | 0.4 100  | 6.61 221 | 3.3* 3.5* |  |
|             | eS  | 40 10      | -2.5 99  |          |           |  |
| CIZ         | eS  | 11 41 02   | 14.7     | 8.12 123 |           |  |
| AMPLITUDES: | TNZ | 1.9 1.7    | WEL 2.7  | TRZ      | 1.2 2.5   |  |
|             | KRP | 1.2 0.6    | WTZ      | 1.6 0.8  | KAI 0.8   |  |
|             | GNZ | 4.5 3.5    | GPZ 7.5  | MSZ      | 0.5 1.2   |  |

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MAY 05 02<sup>h</sup>20<sup>m</sup>05<sup>s</sup>.7 41°.26S 173°.74E 12 km M = 3.6  
 ± 0.5 0.04 0.06 R S.E. of RES. 1.7

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST    | AZ  | W-A | W P W S |
|-------------|-------|-----|----|-------|-----|------|-----|---------|-----|-----|---------|
| WEL         | P*    | 02  | 20 | 21.7  | D   | 1.5  | 100 | 0.77    | 93  | 3.6 |         |
|             | S*    |     |    | 31.7  |     | 1.1  | 100 |         |     |     |         |
| KKY         | P*    | 02  | 20 | 27.4  |     | 0.6  | 100 | 1.16    | 182 |     |         |
|             | S*    |     |    | 43.8  |     | 1.5  | 100 |         |     |     |         |
| MNG         | Pn    | 02  | 20 | 30.0  |     | -1.2 | 100 | 1.47    | 65  |     |         |
|             | P*    |     |    | 32.6  |     | 0.7  | 100 |         |     |     |         |
|             | ePg   |     |    | 36    |     | 0.6  | 100 |         |     |     |         |
|             | e     |     |    | 42    |     |      |     |         |     |     |         |
|             | eSn   |     |    | 47    |     | -3.3 | 98  |         |     |     |         |
| TNZ         | P*    | 02  | 20 | 43    |     | -0.2 | 100 | 2.12    | 14  |     | 3.6     |
|             | e     |     |    | 21 31 |     |      |     |         |     |     |         |
| KAI         | eSn   | 02  | 21 | 08    |     | 1.1  | 100 | 2.16    | 233 | 3.7 |         |
| GSZ         | eSn   | 02  | 21 | 13    |     | -0.5 | 100 | 2.43    | 36  |     |         |
| GPZ         | eSn   | 02  | 21 | 13    |     | -3.9 | 96  | 2.57    | 198 | 3.7 |         |
| KRP         | Pn    | 02  | 21 | 01    |     | 0.5  | 100 | 3.61    | 23  |     | 3.4 3.5 |
|             | eSn   |     |    | 43    |     | 1.2  | 100 |         |     |     |         |
| GSP         | e     | 02  | 21 | 12    |     |      |     | 3.98    | 222 |     |         |
|             | eSn   |     |    | 51    |     | 0.3  | 100 |         |     |     |         |
| GNZ         | e     | 02  | 21 | 51.5  |     |      |     | 4.20    | 53  |     | 4.0     |
| AMPLITUDES: | WEL   | 2.9 |    |       | TNZ |      |     | 0.4     | KAI | 0.4 |         |
|             | GPZ   | 0.5 |    |       | KRP |      |     | 0.3 0.4 | GNZ |     | 0.7     |

FELT: Fighting Bay (78) MM IV

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MAY 05 02<sup>h</sup>22<sup>m</sup>11<sup>s</sup>.1 45°.17S 167°.68E 113 km M = 3.5  
 ± 0.4 0.02 0.02 2 S.E. of RES. 0.4

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S   |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----------|
| MSZ         | iP    | 02  | 22 | 28.8  | U   | 0.2  | 100 | 0.52 | 19  |     | 3.0* 3.5* |
|             | eS    |     |    | 42    |     | -0.0 | 100 |      |     |     |           |
| MNW         | iP    | 02  | 22 | 29.2  | U   | -0.0 | 100 | 0.61 | 184 |     | 3.6* 3.5* |
|             | eS    |     |    | 43    |     | -0.1 | 100 |      |     |     |           |
| ROX         | iP    | 02  | 22 | 35.5  | D   | 0.6  | 98  | 1.20 | 106 |     | 3.6 3.5   |
|             | eS    |     |    | 53    |     | -0.0 | 100 |      |     |     |           |
| GSP         | P     | 02  | 22 | 43.7  |     | -0.5 | 99  | 1.96 | 59  |     |           |
|             | eS    |     |    | 23 09 |     | 0.1  | 100 |      |     |     |           |
| OMZ         | eS    | 02  | 23 | 16.5  |     | -0.1 | 100 | 2.29 | 89  |     | 3.3       |
| AMPLITUDES: | MSZ   | 2.0 | 10 |       | MNW | 4.5  | 7.0 | ROX  | 1.0 | 1.6 |           |
|             | OMZ   |     |    | 0.3   |     |      |     |      |     |     |           |

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MAY 05 04<sup>h</sup>59<sup>m</sup>38<sup>s</sup>.6 49°.63S 164°.84E 33 km M = 4.3  
 ± 1.4 0.11 0.25 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|-----|-----|
| MNW | iP    | 05 | 00 | 39.5 | U   | -1.1 | 100 | 4.28 | 27 |     | 4.8 | 4.3 |
|     | eS    |    | 01 | 28   |     | 0.6  | 100 |      |    |     |     |     |
| ROX | eS    | 05 | 01 | 47   |     | -1.1 | 100 | 5.15 | 38 |     |     | 4.3 |
| MSZ | eP    | 05 | 00 | 55   |     | -0.6 | 100 | 5.39 | 24 |     | 4.0 | 4.0 |
|     | eS    |    | 01 | 54   |     | 0.0  | 100 |      |    |     |     |     |
| OMZ | eP    | 05 | 01 | 06   |     | -0.1 | 100 | 6.16 | 44 |     |     |     |
| GSP | eP    | 05 | 01 | 13   |     | 1.6  | 99  | 6.54 | 35 |     |     |     |
|     | eS    |    | 02 | 22   |     | 0.2  | 100 |      |    |     |     |     |

AMPLITUDES: MNW 2.9 2.4 ROX 1.1 MSZ 0.5 0.8

MAY 05 07<sup>h</sup>22<sup>m</sup>57<sup>s</sup>.8 38°.59s 175°.97E 165 km M = 3.8  
 ± 1.1 0.05 0.05 8 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| KRP | iP    | 07 | 23 | 21.7 | DSE | -0.6 | 100 | 0.75 | 332 |     | 3.5* | 3.1* |
|     | eS    |    |    | 39   |     | -2.1 | 99  |      |     |     |      |      |
| GSZ | iP    | 07 | 23 | 23.4 | U   | 1.1  | 100 | 0.76 | 204 |     |      |      |
|     | eS    |    |    | 43   |     | 1.8  | 100 |      |     |     |      |      |
| TUA | P     | 07 | 23 | 25.2 |     | 1.5  | 100 | 0.94 | 104 |     | 3.6  | 4.1  |
|     | e     |    |    | 39   |     |      |     |      |     |     |      |      |
|     | eS    |    |    | 44   |     | 0.3  | 100 |      |     |     |      |      |
| WIZ | P     | 07 | 23 | 23.1 |     | -1.0 | 100 | 1.00 | 53  |     | 3.2  | 3.6  |
|     | eS    |    |    | 43   |     | -1.3 | 100 |      |     |     |      |      |
| TNZ | P     | 07 | 23 | 28.0 |     | 0.4  | 100 | 1.38 | 244 |     | 3.3* | 3.2* |
|     | eS    |    |    | 53   |     | 2.6  | 99  |      |     |     |      |      |
| GNZ | P     | 07 | 23 | 30.4 |     | 0.5  | 100 | 1.61 | 93  |     | 3.9  | 4.1  |
|     | e     |    |    | 46.5 |     |      |     |      |     |     |      |      |
|     | S     |    |    | 54.0 |     | -0.6 | 100 |      |     |     |      |      |
| MNG | P     | 07 | 23 | 35.5 |     | 0.6  | 100 | 2.06 | 190 |     |      | 4.0  |
|     | eS    |    | 24 | 02   |     | -1.4 | 100 |      |     |     |      |      |
| ECZ | P     | 07 | 23 | 36.9 |     | 0.2  | 100 | 2.21 | 67  |     | 4.0  | 4.0  |
|     | eS    |    | 24 | 08   |     | 1.4  | 100 |      |     |     |      |      |
| WEL | eP    | 07 | 23 | 44   |     | -0.5 | 100 | 2.85 | 199 | 3.9 |      |      |
|     | eS    |    | 24 | 18   |     | -2.4 | 99  |      |     |     |      |      |

AMPLITUDES: KRP 3.6 1.6 TUA 0.5 1.7 WIZ 0.5 1.2  
 TNZ 0.4 0.4 GNZ 1.7 4.2 MNG 5.0  
 ECZ 0.5 0.5 WEL 0.3

MAY 05 16<sup>h</sup>13<sup>m</sup>30<sup>s</sup>.9 38°.20s 176°.25E 162 km M = 3.6  
 ± 0.8 0.04 0.06 6 S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|-----|
| WIZ | iP    | 16 | 13 | 53.7 | D   | -0.6 | 100 | 0.62 | 70  |     | 3.1  | 3.3 |
|     | eS    |    | 14 | 11.5 |     | -0.9 | 100 |      |     |     |      |     |
| KRP | iP    | 16 | 13 | 55.0 | U   | 0.7  | 100 | 0.63 | 296 |     | 2.9* |     |
| TUA | P     | 16 | 13 | 57.0 |     | 0.6  | 100 | 0.93 | 131 |     | 3.3  | 3.6 |
|     | eS    |    | 14 | 17   |     | 1.1  | 99  |      |     |     |      |     |
| GNZ | iP    | 16 | 14 | 01.9 | U   | 0.7  | 100 | 1.47 | 108 |     | 3.3  | 3.7 |
|     | eS    |    |    | 24   |     | -0.6 | 100 |      |     |     |      |     |
| ECZ | P     | 16 | 14 | 05.7 |     | 0.0  | 100 | 1.89 | 75  |     | 3.8  |     |
| MNG | iP!   | 16 | 14 | 12.2 |     | -0.7 | 100 | 2.48 | 194 |     | 4.0  | 3.8 |
|     | eS    |    |    | 45   |     | -0.2 | 100 |      |     |     |      |     |

AMPLITUDES: WIZ 0.5 1.0 KRP 0.9 TUA 0.3 0.6  
 GNZ 0.5 2.0 ECZ 0.4 MNG 3.0 2.2



MAY 07 08<sup>h</sup>44<sup>m</sup>14<sup>s</sup>.1 37°.84s 177°.94E 12 km 77/ 249  
 ± 0.8 0.04 0.06 R S.E. of RES. 1.7 M = 4.4

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | P*    | 08  | 44 | 25.0    |     | 1.2  | 100 | 0.50 | 73  |     |     |     |
| WTZ         | iP*   | 08  | 44 | 30.2    | D   | 1.9  | 100 | 0.76 | 259 |     | 4.3 |     |
|             | eS*   |     |    | 39      |     | 0.3  | 100 |      |     |     |     |     |
| TUA         | iP*   | 08  | 44 | 36.7    | U   | 1.9  | 100 | 1.15 | 212 |     | 4.0 | 4.6 |
|             | i     |     |    | 46.0    |     |      |     |      |     |     |     |     |
|             | eSg   |     |    | 55.5    |     | 2.6  | 99  |      |     |     |     |     |
| WNZ         |       |     |    |         |     |      |     | 1.65 | 241 |     | 4.4 | 4.2 |
| KRP         | iPn   | 08  | 44 | 45.1    | DNE | -0.4 | 100 | 1.90 | 267 |     | 4.9 | 4.3 |
|             | eSn   |     |    | 45 09   |     | -0.1 | 100 |      |     |     |     |     |
| TRZ         | Pn    | 08  | 44 | 45.7    |     | -0.1 | 100 | 1.92 | 207 |     | 4.0 | 4.2 |
|             | Sn    |     |    | 45 06.8 |     | -2.8 | 99  |      |     |     |     |     |
| GSZ         | Pn    | 08  | 44 | 51.5    |     | 0.0  | 100 | 2.34 | 231 |     |     |     |
|             | eSn   |     |    | 45 20.5 |     | 0.9  | 100 |      |     |     |     |     |
| AUC         | eP*   | 08  | 45 | 00      |     | -1.4 | 100 | 2.70 | 290 |     |     |     |
| MNG         | Pn    | 08  | 45 | 02.3    |     | -3.2 | 98  | 3.37 | 214 |     | 4.2 | 4.3 |
|             | P*    |     |    | 14.0    |     | 1.3  | 100 |      |     |     |     |     |
|             | e     |     |    | 36.2    |     |      |     |      |     |     |     |     |
|             | eSn   |     |    | 43.5    |     | -0.9 | 100 |      |     |     |     |     |
| ONE         | ePn   | 08  | 45 | 08      |     | 0.2  | 100 | 3.54 | 305 | 4.4 |     |     |
|             | e     |     |    | 44      |     |      |     |      |     |     |     |     |
| WEL         | eSn   | 08  | 46 | 03.5    |     | -1.5 | 100 | 4.23 | 214 | 4.7 |     |     |
| CRZ         | ePn   | 08  | 45 | 32      |     | -2.0 |     | 5.45 | 307 |     | 4.7 |     |
|             | eSn   |     |    | 46 32   |     | -2.4 |     |      |     |     |     |     |
| CIZ         | ePn   | 08  | 46 | 01      |     | 0.5  |     | 7.40 | 147 |     |     |     |
|             | eSn   |     |    | 47 18   |     | -3.1 |     |      |     |     |     |     |
| AMPLITUDES: | WTZ   |     |    | 36      |     |      |     | 2.5  | 11  | WNZ | 0.5 | 0.5 |
|             | KRP   |     |    | 12      | 2.3 | TUA  |     | 1.0  | 2.3 | MNG | 2.5 | 4.3 |
|             | ONE   | 0.3 |    |         |     | TRZ  |     |      |     | CRZ | 0.3 |     |
|             | CIZ   |     |    |         | 1.2 | WEL  | 1.1 |      |     |     |     |     |

FELT: Rotorua (33) MM V

MAY 08 03<sup>h</sup>24<sup>m</sup>59<sup>s</sup>.5 38°.95s 177°.65E 33 km 77/ 250  
 ± 0.7 0.03 0.06 R S.E. of RES. 1.7 M = 3.2

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| TUA         | Pn    | 03 | 25 | 08.8  |     | 0.1  | 100 | 0.41 | 290 |     | 3.3 | 3.2 |
|             | Sn    |    |    | 15.4  |     | -0.0 | 100 |      |     |     |     |     |
|             | S*    |    |    | 16.5  |     | 1.1  | 100 |      |     |     |     |     |
| GNZ         | iPn   | 03 | 25 | 08.7  |     | -0.1 | 100 | 0.42 | 44  |     |     |     |
|             | e     |    |    | 12    |     |      |     |      |     |     |     |     |
|             | eSn   |    |    | 17    |     | 1.4  | 100 |      |     |     |     |     |
| TRZ         | Pn    | 03 | 25 | 15.2  |     | 0.1  | 100 | 0.88 | 227 |     | 3.2 | 3.0 |
|             | eS*   |    |    | 31    |     | 2.6  | 99  |      |     |     |     |     |
| WTZ         | iPn   | 03 | 25 | 16    |     | -2.0 | 100 | 1.10 | 331 |     | 3.1 | 3.7 |
|             | P*    |    |    | 21.3  |     | 1.6  | 100 |      |     |     |     |     |
|             | Sn    |    |    | 29.9  |     | -1.9 | 100 |      |     |     |     |     |
|             | eS*   |    |    | 35    |     | 0.5  | 100 |      |     |     |     |     |
| MNG         | Pn    | 03 | 25 | 33    |     | -2.3 | 99  | 2.36 | 224 |     | 3.0 | 3.2 |
|             | P*    |    |    | 42    |     | 1.0  | 100 |      |     |     |     |     |
|             | eSn   |    |    | 26 00 |     | -2.2 | 99  |      |     |     |     |     |
| AMPLITUDES: | TUA   |    |    | 3.7   | 3.1 | TRZ  |     | 0.9  | 0.7 | WTZ | 1.1 | 3.9 |

MNG 0.3 0.6

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MAY 09 11<sup>h</sup>28<sup>m</sup>09<sup>s</sup>.1 38°.72s 175°.53E 170 km M = 3.5  
 ± 1.4 0.05 0.07 10 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|-----|
| KRP | iP    | 11 | 28 | 35.1    | DS  | 0.6  | 100 | 0.79 | 1   |     | 3.3* |     |
|     | eS    |    |    | 54      |     | -0.1 | 100 |      |     |     |      |     |
| TNZ | S     | 11 | 28 | 57.5    |     | 0.6  | 100 | 1.01 | 242 |     | 3.1* |     |
| TRZ | P     | 11 | 28 | 40.0    |     | 1.4  | 100 | 1.30 | 130 |     | 3.5  | 3.5 |
|     | eS    |    |    | 29 04   |     | 2.6  | 98  |      |     |     |      |     |
| WTZ | iP    | 11 | 28 | 38.9    | D   | -0.3 | 100 | 1.36 | 58  |     | 3.3  | 3.3 |
|     | eS    |    |    | 29 00   |     | -2.3 | 99  |      |     |     |      |     |
| MNG | P     | 11 | 28 | 45.2    |     | 0.5  | 100 | 1.90 | 181 |     | 3.3  | 3.7 |
|     | S     |    |    | 29 10.5 |     | -1.7 | 100 |      |     |     |      |     |
| GNZ | iP    | 11 | 28 | 46.0    | U   | 0.7  | 100 | 1.95 | 89  |     | 3.7  | 3.6 |
|     | S     |    |    | 29 12.5 |     | -0.8 | 100 |      |     |     |      |     |
| WEL | eP    | 11 | 28 | 53      |     | -0.4 | 100 | 2.64 | 193 | 3.8 |      |     |
|     | eS    |    |    | 29 26   |     | -1.3 | 100 |      |     |     |      |     |

AMPLITUDES: KRP 2.1 TNZ 0.3 TRZ 0.3 0.6  
 WTZ 0.4 0.5 MNG 0.8 2.5 GNZ 0.7 0.9  
 WEL 0.3

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MAY 10 19<sup>h</sup>57<sup>m</sup>19<sup>s</sup>.7 34°.00s 178°.59W 230 km M = 4.6  
 ± 2.7 0.13 0.23 48 S.E. of RES. 2.5

| STN | PHASE | H  | M  | S          | DIR | RES  | WT  | DIST  | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------------|-----|------|-----|-------|-----|-----|------|-----|
| WTZ | e?    | 19 | 58 | 27.8       |     |      |     | 5.35  | 221 |     | 4.6  | 4.5 |
|     | eS    |    |    | 59 43      |     | 0.4  | 100 |       |     |     |      |     |
| GNZ | eP    | 19 | 58 | 37.5       |     | -2.8 | 99  | 5.38  | 210 |     | 4.5  | 4.4 |
|     | eS    |    |    | 59 44      |     | 0.8  | 100 |       |     |     |      |     |
| TUA | P     | 19 | 58 | 46.0       |     | -0.9 | 100 | 5.90  | 214 |     | 5.1  | 4.7 |
|     | e     |    |    | 20 00 06   |     |      |     |       |     |     |      |     |
| ONE | e     |    |    | 19 58 59   |     |      |     | 6.07  | 251 |     |      |     |
| KRP | P     | 19 | 58 | 51.0       |     | 0.6  | 100 | 6.17  | 229 |     | 3.4* |     |
| CRZ | eP    | 19 | 59 | 07         |     | 2.8  | 99  | 7.25  | 264 |     |      |     |
| MNG | eP    | 19 | 59 | 13         |     | -2.3 | 100 | 8.13  | 214 |     | 4.1  | 4.3 |
|     | eS    |    |    | 20 00 47.5 |     | 1.6  | 100 |       |     |     |      |     |
| WEL | eS    | 20 | 01 | 03         |     | -2.5 | 100 | 8.98  | 214 | 4.7 |      |     |
| CIZ | eS    | 20 | 01 | 32.5       |     | 2.0  | 100 | 10.07 | 172 |     |      |     |

AMPLITUDES: WTZ 1.0 0.8 GNZ 0.8 1.0 TUA 1.2 0.4  
 KRP 0.6 MNG 0.4 0.7 WEL 0.2  
 CIZ 0.5

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MAY 10 23<sup>h</sup>56<sup>m</sup>19<sup>s</sup>.6 44°.89s 167°.81E 90 km M = 4.4  
 ± 2.2 0.09 0.18 25 S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | P     | 23 | 56 | 33.3 | U   | 0.3  | 100 | 0.22 | 19  |     |     |     |
| MNW | iP    | 23 | 56 | 36.7 | U   | -1.8 | 100 | 0.90 | 189 |     |     |     |
| ROX | iP    | 23 | 56 | 43.1 |     | 0.9  | 100 | 1.22 | 119 |     |     |     |
| OMZ | Pn    | 23 | 56 | 56.0 |     | 0.8  | 100 | 2.21 | 96  |     |     |     |
| KAI | e     | 23 | 57 | 19   |     |      |     | 3.52 | 49  | 4.5 |     |     |
|     | e     |    |    | 49   |     |      |     |      |     |     |     |     |
|     | eS    |    |    | 55   |     | 0.9  | 100 |      |     |     |     |     |
| GPZ | eP    | 23 | 57 | 18   |     | 2.6  | 99  | 3.67 | 73  | 4.5 |     |     |

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FELT: From Westport (79) to Timaru (118). Maximum intensity MM  
IV in central Canterbury

MAY 11 03<sup>h</sup>24<sup>m</sup>10<sup>s</sup>.2 43°.27S 171°.74E 33 km M = 4.2  
± 0.4 0.03 0.05 R S.E. of RES. 1.6

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| GPZ         | iPn   | 03  | 24 | 22    | s   | -2.5 | 99  | 0.78 | 123 |     |     |     |     |   |
| KAI         | Pn    | 03  | 24 | 24.0  |     | -0.4 | 100 | 0.78 | 342 |     |     |     |     |   |
|             | Sn    |     |    | 32.0  |     | -2.9 | 99  |      |     |     |     |     |     |   |
|             | S*    |     |    | 37.8  |     | 1.6  | 100 |      |     |     |     |     |     |   |
| KKY         | iPn   | 03  | 24 | 36.2  |     | -0.3 | 100 | 1.66 | 60  |     |     |     |     |   |
|             | P*    |     |    | 38.4  |     | -1.6 | 100 |      |     |     |     |     |     |   |
|             | e     |     |    | 42    |     |      |     |      |     |     |     |     |     |   |
|             | eSn   |     |    | 58.8  |     | 2.5  | 99  |      |     |     |     |     |     |   |
| OMZ         | Pn    | 03  | 24 | 38.3  |     | -1.4 | 100 | 1.90 | 198 |     |     |     |     |   |
|             | eP*   |     |    | 45    |     | 1.1  | 100 |      |     |     |     |     |     |   |
|             | eS*   |     | 25 | 09    |     | 0.0  | 100 |      |     |     |     |     |     |   |
| COB         | Pn    | 03  | 24 | 44.9  |     | -0.3 | 100 | 2.30 | 19  |     |     | 4.5 | 4.0 |   |
|             | e     |     |    | 53.9  |     |      |     |      |     |     |     |     |     |   |
|             | e     |     | 25 | 16.6  |     |      |     |      |     |     |     |     |     |   |
|             | eS*   |     |    | 22    |     | 0.9  | 100 |      |     |     |     |     |     |   |
| ROX         | P*    | 03  | 25 | 00.3  |     | 0.9  | 100 | 2.81 | 217 |     |     | 4.3 | 4.4 |   |
|             | e     |     |    | 32    |     |      |     |      |     |     |     |     |     |   |
|             | eS*   |     |    | 37    |     | 0.9  | 100 |      |     |     |     |     |     |   |
| WEL         | P*    | 03  | 25 | 03.5  |     | 1.0  | 100 | 3.00 | 50  | 3.9 |     |     |     |   |
|             | e     |     |    | 35    |     |      |     |      |     |     |     |     |     |   |
| MSZ         | ePn   | 03  | 24 | 55    |     | -1.0 | 100 | 3.10 | 242 |     |     | 4.5 | 4.3 |   |
|             | e     |     |    | 25 07 |     |      |     |      |     |     |     |     |     |   |
|             | e     |     |    | 52    |     |      |     |      |     |     |     |     |     |   |
| MNW         | Pn    | 03  | 25 | 08.0  |     | 1.4  | 100 | 3.88 | 228 | 3.9 | 4.1 | 4.1 |     |   |
|             | e     |     |    | 24    |     |      |     |      |     |     |     |     |     |   |
| AMPLITUDES: |       | COB |    | 3.4   | 3.7 | ROX  |     | 1.6  | 4.2 | WEL | 0.4 |     |     |   |
|             |       | MSZ |    | 4.7   | 5.8 | MNW  | 0.3 | 0.8  | 1.8 |     |     |     |     |   |

MAY 11 03<sup>h</sup>28<sup>m</sup>30<sup>s</sup>.5 43°.28S 171°.88E 33 km M = 3.7  
± 0.5 0.03 0.06 R S.E. of RES. 2.1

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| GPZ | Pn    | 03 | 28 | 41.9  |     | -1.7 | 100 | 0.69 | 127 | 3.7 |   |     |     |   |
|     | Sn    |    |    | 52.0  |     | -1.2 | 100 |      |     |     |   |     |     |   |
| KAI | Pn    | 03 | 28 | 42    |     | -3.3 | 99  | 0.83 | 335 | 3.5 |   |     |     |   |
|     | S*    |    |    | 56.8  |     | -1.0 | 100 |      |     |     |   |     |     |   |
| KKY | ePn   | 03 | 28 | 54    |     | -1.7 | 100 | 1.58 | 58  |     |   |     |     |   |
| OMZ | Pn    | 03 | 29 | 03.1  |     | 2.8  | 99  | 1.93 | 201 |     |   | 3.8 |     |   |
|     | eP*   |    |    | 08    |     | 3.4  | 99  |      |     |     |   |     |     |   |
|     | eS*   |    |    | 30    |     | -0.1 | 100 |      |     |     |   |     |     |   |
| COB | Pn    | 03 | 29 | 04.3  |     | -0.9 | 100 | 2.28 | 16  |     |   | 3.7 | 3.2 |   |
|     | eP*   |    |    | 13    |     | 2.3  | 100 |      |     |     |   |     |     |   |
|     | eSn   |    |    | 33    |     | 1.7  | 100 |      |     |     |   |     |     |   |
|     | eS*   |    |    | 42    |     | 1.3  | 100 |      |     |     |   |     |     |   |
| ROX | P*    | 03 | 29 | 19    |     | -1.6 | 100 | 2.86 | 219 |     |   | 3.9 | 3.7 |   |
|     | e     |    |    | 54    |     |      |     |      |     |     |   |     |     |   |
| MSZ | P*    | 03 | 29 | 26.0  |     | -0.0 | 100 | 3.19 | 243 |     |   | 3.8 | 3.5 |   |
|     | eS*   |    |    | 30 07 |     | -0.6 | 100 |      |     |     |   |     |     |   |
| MNW | e     | 03 | 29 | 47.5  |     |      |     | 3.94 | 229 |     |   | 3.8 |     |   |

AMPLITUDES: GPZ 7.0 KAI 1.8 OMZ 1.0  
 COB 0.6 0.6 ROX 0.5 0.9 MSZ 1.0 0.8  
 MNW 0.4

MAY 11 11<sup>h</sup>05<sup>m</sup>35<sup>s</sup>.9 41°.15S 174°.67E 12 km M = 3.3  
 ± 0.5 0.02 0.04 R S.E. of RES. 1.3

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| WEL         | iPg   | 11  | 05 | 39.2  | DSW | -0.5 | 100 | 0.15 | 150 |     |     |     |
|             | eSg   |     |    | 42.5  |     | 0.2  | 100 |      |     |     |     |     |
| MNG         | P*    | 11  | 05 | 50.8  |     | -0.2 | 100 | 0.82 | 49  |     |     |     |
|             | eS*   |     |    | 06 02 |     | -0.1 | 100 |      |     |     |     |     |
| COB         | ePn   | 11  | 06 | 01.5  |     | 0.1  | 100 | 1.47 | 272 |     | 3.0 | 2.8 |
|             | eS*   |     |    | 22    |     | 0.6  | 100 |      |     |     |     |     |
| TNZ         | ePg?  | 11  | 06 | 15    |     | -0.9 | 100 | 1.98 | 354 |     |     | 3.4 |
|             | eSg   |     |    | 41    |     | -1.6 | 99  |      |     |     |     |     |
| KRP         | eS*   | 11  | 07 | 19    |     | 2.6  | 96  | 3.29 | 12  |     |     | 3.9 |
| AMPLITUDES: | WEL   | 6.5 |    |       | COB | 0.3  | 0.6 | TNZ  |     |     | 0.3 |     |
|             | KRP   |     |    |       | 0.3 |      |     |      |     |     |     |     |

FELT: Eastbourne (68) MM IV

MAY 11 13<sup>h</sup>55<sup>m</sup>26<sup>s</sup>.6 35°.27S 178°.86E 191 km M = 4.3  
 ± 0.8 0.06 0.11 19 S.E. of RES. 0.7

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|
| ECZ         |       |    |    |       |     |      |     | 2.43 | 186 |     | 4.0  | 4.0 |
| WTZ         | P     | 13 | 56 | 18.0  |     | 0.5  | 100 | 3.10 | 208 |     | 4.7  | 4.1 |
|             | i     |    |    | 18.3  |     |      |     |      |     |     |      |     |
|             | eS    |    |    | 56.5  |     | -0.3 | 100 |      |     |     |      |     |
| GNZ         | iP    | 13 | 56 | 22.0  | U   | 0.3  | 100 | 3.44 | 191 |     | 4.5  | 4.4 |
|             | eS    |    |    | 57 04 |     | -0.1 | 100 |      |     |     |      |     |
| ONE         | eP    | 13 | 56 | 24.5  |     | -0.5 | 100 | 3.71 | 261 |     |      |     |
| KRP         | P     | 13 | 56 | 26.8  |     | 1.0  | 99  | 3.77 | 224 |     | 2.9* |     |
| TUA         | eP    | 13 | 56 | 26    |     | -0.1 | 100 | 3.79 | 201 |     |      | 4.3 |
|             | eS    |    |    | 57 12 |     | -0.0 | 100 |      |     |     |      |     |
| TRZ         | eP    | 13 | 56 | 35    |     | -1.1 | 98  | 4.58 | 200 |     |      | 4.4 |
|             | eS    |    |    | 57 30 |     | 0.2  | 100 |      |     |     |      |     |
| AMPLITUDES: | ECZ   |    |    |       | 0.4 | 0.4  | WTZ | 3.2  | 0.8 | GNZ | 1.8  | 2.4 |
|             | KRP   |    |    |       | 0.3 |      | TUA |      | 0.4 | TRZ |      | 0.7 |

MAY 11 19<sup>h</sup>17<sup>m</sup>21<sup>s</sup>.7 36°.06S 177°.90E 165 km M = 3.9  
 ± 3.2 0.17 0.26 31 S.E. of RES. 2.1

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|
| ECZ         |       |    |    |       |     |      |     | 1.71 | 163 |     | 3.8  | 3.8 |
| WTZ         | P     | 19 | 17 | 59.2  |     | 0.5  | 100 | 2.05 | 201 |     | 3.7  | 3.8 |
|             | eS    |    |    | 18 26 |     | -1.3 | 100 |      |     |     |      |     |
| GNZ         | iP    | 19 | 18 | 03.4  | US  | -1.7 | 99  | 2.58 | 178 |     | 4.4  | 4.3 |
|             | eS    |    |    | 40    |     | 1.6  | 100 |      |     |     |      |     |
| KRP         | P     | 19 | 18 | 07.0  |     | 1.0  | 100 | 2.65 | 225 |     | 2.7* |     |
| MNG         | e?    | 19 | 18 | 18    |     |      |     | 4.93 | 202 |     | 3.9  | 3.6 |
|             | eS    |    |    | 19 32 |     | -0.3 | 100 |      |     |     |      |     |
| AMPLITUDES: | ECZ   |    |    |       | 0.5 | 0.5  | WTZ | 0.7  | 1.0 | GNZ | 2.5  | 3.4 |
|             | KRP   |    |    |       | 0.3 |      | MNG | 0.7  | 0.4 |     |      |     |

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MAY 12 00<sup>h</sup>12<sup>m</sup>39<sup>s</sup>.0 34°.88s 179°.94w 254 km M = 4.7  
 ± 1.0 0.05 0.08 14 S.E. of RES. 1.2

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|------|------|------|
| ECZ         | P     | 00  | 13 | 32.8 |     | 0.0  | 100 | 3.07 | 203 |      | 4.7  | 4.8  |
|             | e     |     | 14 | 13.5 |     |      |     |      |     |      |      |      |
|             | e     |     |    | 31   |     |      |     |      |     |      |      |      |
| WITZ        | P     | 00  | 13 | 42.0 |     | -1.1 | 100 | 3.97 | 218 |      | 4.8  | 4.6  |
|             | e     |     |    | 43   |     |      |     |      |     |      |      |      |
|             | eS    |     | 14 | 34   |     | 1.0  | 100 |      |     |      |      |      |
| GNZ         | P     | 00  | 13 | 45.1 |     | 0.5  | 100 | 4.10 | 203 |      | 4.7  | 4.6  |
|             | eS    |     | 14 | 33   |     | -2.8 | 91  |      |     |      |      |      |
| TUA         | eP    | 00  | 13 | 51   |     | 0.8  | 100 | 4.56 | 210 |      | 4.7  | 4.8  |
|             | eS    |     | 14 | 47   |     | 1.3  | 100 |      |     |      |      |      |
| ONE         | eP    | 00  | 13 | 52   |     | -0.4 | 100 | 4.74 | 258 | 3.6* |      |      |
| KRP         | P     | 00  | 13 | 54.0 |     | 1.6  | 99  | 4.75 | 229 |      | 3.6* |      |
|             | e     |     | 14 | 26.5 |     |      |     |      |     |      |      |      |
|             | eS    |     |    | 50   |     | 0.3  | 100 |      |     |      |      |      |
| CRZ         | P     | 00  | 14 | 09.0 |     | -0.1 | 100 | 6.10 | 272 |      | 3.8* | 3.8* |
|             | eS    |     | 15 | 19   |     | -0.6 | 100 |      |     |      |      |      |
| MNG         | eP    | 00  | 14 | 17   |     | -0.6 | 100 | 6.79 | 211 |      | 4.5  | 4.9  |
|             | e     |     |    | 21.3 |     |      |     |      |     |      |      |      |
|             | e     |     |    | 34   |     |      |     |      |     |      |      |      |
|             | e     |     | 16 | 08   |     |      |     |      |     |      |      |      |
| WEL         | eS    | 00  | 15 | 54   |     | -0.3 | 100 | 7.64 | 212 | 4.7  |      |      |
|             | e     |     | 16 | 30   |     |      |     |      |     |      |      |      |
| CIZ         | e     | 00  | 14 | 58   |     |      |     | 9.44 | 165 |      |      |      |
|             | eS    |     | 16 | 35   |     | -0.1 | 100 |      |     |      |      |      |
| AMPLITUDES: |       | ECZ |    | 1.1  | 1.6 | WITZ |     | 2.3  | 1.5 | GNZ  | 1.8  | 2.3  |
|             |       | TUA |    | 0.6  | 0.9 | ONE  | 0.5 |      |     | KRP  | 1.2  |      |
|             |       | CRZ |    | 0.5  | 0.5 | MNG  |     | 1.3  | 3.7 | WEL  | 0.3  |      |
|             |       | CIZ |    | 0.3  | 0.4 |      |     |      |     |      |      |      |

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MAY 12 00<sup>h</sup>48<sup>m</sup>10<sup>s</sup>.2 34°.57s 179°.69w 33 km M = 4.4  
 ± 1.1 0.05 0.07 R S.E. of RES. 1.1

| STN  | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ  | Pn    | 00 | 49 | 02.0 |     | 1.4  | 99  | 3.43 | 204 |     | 4.5 | 4.5 |
|      | e     |    |    | 42.8 |     |      |     |      |     |     |     |     |
|      | e     |    |    | 51.0 |     |      |     |      |     |     |     |     |
| WITZ | ePn?  | 00 | 49 | 12   |     | -1.0 | 100 | 4.34 | 217 |     |     | 4.1 |
|      | eSn   |    | 50 | 02   |     | 1.5  | 99  |      |     |     |     |     |
| GNZ  | Pn    | 00 | 49 | 14.5 |     | -0.2 | 100 | 4.46 | 204 |     | 4.2 | 4.0 |
|      | eSn   |    | 50 | 02   |     | -1.5 | 99  |      |     |     |     |     |
| ONE  | ePn   | 00 | 49 | 22   |     | -0.3 | 100 | 5.02 | 254 | 4.8 |     |     |
| KRP  | Pn    | 00 | 49 | 24.0 |     | 0.5  | 100 | 5.11 | 228 |     | 4.7 | 4.8 |
|      | e     |    |    | 34.1 |     |      |     |      |     |     |     |     |
|      | e     |    | 50 | 27   |     |      |     |      |     |     |     |     |
| CRZ  | ePn   | 00 | 49 | 39.0 |     | -0.8 | 100 | 6.31 | 269 |     | 5.0 |     |
|      | eSn   |    | 50 | 48   |     | 0.3  | 100 |      |     |     |     |     |
| MNG  | ePn?  | 00 | 49 | 51   |     | -0.4 | 100 | 7.15 | 211 |     | 3.9 | 4.1 |
|      | e     |    |    | 59.5 |     |      |     |      |     |     |     |     |
|      | eSn   |    | 51 | 07   |     | -1.1 | 100 |      |     |     |     |     |
|      | e     |    |    | 38.5 |     |      |     |      |     |     |     |     |
| CIZ  | e?    | 00 | 50 | 14   |     |      |     | 9.68 | 166 |     |     |     |
|      | eSn   |    | 52 | 09   |     | 0.1  | 100 |      |     |     |     |     |



AMPLITUDES: ECZ 0.6 0.7 WTZ 0.6 GNZ 0.6 0.7  
 ONE 0.2 KRP 0.5 0.4 CRZ 0.3  
 MNG 0.3 0.6 CIZ 0.4

MAY 12 04<sup>h</sup>01<sup>m</sup>06<sup>s</sup>.7 45°.42S 166°.80E 12 km 77/ 263  
 ± 1.4 0.04 0.09 R S.E. of RES. 1.6 M = 3.5

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MNW         | iP*   | 04  | 01 | 19.0  | U   | -0.5 | 100 | 0.68 | 123 | 3.5 |     |     |
|             | eS*   |     |    | 29    |     | 0.2  | 100 |      |     |     |     |     |
| MSZ         | iP*   | 04  | 01 | 24.8  | D   | -1.7 | 100 | 1.09 | 47  |     | 3.6 | 3.6 |
|             | Pg    |     |    | 29.2  |     | 0.3  | 100 |      |     |     |     |     |
|             | eS*   |     |    | 42    |     | 0.9  | 100 |      |     |     |     |     |
| ROX         | ePn   | 04  | 01 | 36    |     | -0.5 | 100 | 1.78 | 93  |     | 3.6 | 3.7 |
|             | eSn   |     |    | 02 01 |     | 2.2  | 99  |      |     |     |     |     |
| OMZ         | eSg   | 04  | 02 | 44    |     | -1.5 | 100 | 2.93 | 85  |     |     | 3.5 |
| MJZ         | ePn   | 04  | 01 | 54    |     | 1.1  | 100 | 2.98 | 63  |     | 3.5 | 3.3 |
|             | eP*   |     |    | 57    |     | -1.8 | 100 |      |     |     |     |     |
|             | e     |     |    | 02 03 |     |      |     |      |     |     |     |     |
|             | eSn   |     |    | 30    |     | 2.2  | 99  |      |     |     |     |     |
|             | eSg   |     |    | 46    |     | -1.2 | 100 |      |     |     |     |     |
| COB         | e(Sn) | 04  | 03 | 51    |     | 7.7  |     | 6.13 | 47  |     |     | 3.7 |
| AMPLITUDES: | MNW   | 3.3 |    |       |     | MSZ  | 4.7 | 9.3  | ROX | 0.7 | 2.2 |     |
|             | OMZ   |     |    |       | 0.4 | MJZ  | 0.6 | 0.7  | COB |     | 0.3 |     |

MAY 12 16<sup>h</sup>42<sup>m</sup>25<sup>s</sup>.4 44°.52S 168°.24E 12 km 77/ 264  
 ± 0.9 0.07 0.09 R S.E. of RES. 2.0 M = 4.9

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|-------|-----|-----|-----|-----|
| MSZ | iP*   | 16 | 42 | 29.7    | D   | -1.6 | 100 | 0.28  | 237 |     |     |     |
| ROX | iP*!  | 16 | 42 | 48.3    |     | 0.8  | 100 | 1.22  | 142 |     |     |     |
| MNW | iP*   | 16 | 42 | 49.3    | D   | -0.1 | 100 | 1.34  | 199 |     |     |     |
| MJZ | Pn    | 16 | 42 | 54.9    |     | 1.0  | 100 | 1.68  | 72  |     |     |     |
|     | eS*   |    |    | 43 19   |     | 1.5  | 100 |       |     |     |     |     |
| OMZ | iPn   | 16 | 43 | 00.4    | U   | 2.5  | 99  | 1.98  | 107 |     |     |     |
| KAI | ePn   | 16 | 43 | 12.5    |     | 0.1  | 100 | 3.04  | 50  | 5.4 |     |     |
|     | e     |    |    | 22      |     |      |     |       |     |     |     |     |
|     | eS*   |    |    | 44 00   |     | 1.7  | 100 |       |     |     |     |     |
| GPZ | ePn   | 16 | 43 | 15      |     | -0.6 | 100 | 3.28  | 77  | 5.2 |     |     |
|     | ePg   |    |    | 29      |     | -2.6 | 99  |       |     |     |     |     |
|     | e     |    |    | 50      |     |      |     |       |     |     |     |     |
|     | eSg   |    |    | 44 12.5 |     | -3.3 | 99  |       |     |     |     |     |
| KKY | Pn    | 16 | 43 | 33.6    |     | 1.5  | 100 | 4.49  | 64  |     |     |     |
|     | e     |    |    | 51.4    |     |      |     |       |     |     |     |     |
| COB | Pn    | 16 | 43 | 33.3    |     | -2.6 | 99  | 4.76  | 45  |     |     |     |
| WEL | Pn    | 16 | 43 | 52      |     | 2.2  | 100 | 5.78  | 58  | 4.6 |     |     |
|     | eSn   |    |    | 44 53   |     | -0.7 | 100 |       |     |     |     |     |
|     | e     |    |    | 45 48   |     |      |     |       |     |     |     |     |
| MNG | Pn    | 16 | 44 | 00.0    |     | -1.2 |     | 6.61  | 56  |     | 5.2 | 5.1 |
|     | e     |    |    | 04      |     |      |     |       |     |     |     |     |
|     | eSn   |    |    | 45 17   |     | 3.3  |     |       |     |     |     |     |
| KRP | ePn   | 16 | 44 | 27      |     | -1.0 |     | 8.59  | 42  |     | 4.7 | 4.8 |
|     | eSn   |    |    | 45 58   |     | -2.9 |     |       |     |     |     |     |
| GNZ | eSn   | 16 | 46 | 16      |     | -4.4 |     | 9.39  | 55  |     |     | 4.7 |
| CRZ | ePn   | 16 | 44 | 53      |     | -3.1 |     | 10.65 | 20  |     | 5.0 | 4.8 |
|     | eSn   |    |    | 46 47   |     | -3.5 |     |       |     |     |     |     |
| CIZ | ePn   | 16 | 45 | 05      |     | 5.0  |     | 10.93 | 92  |     |     |     |



MAY 13 05<sup>h</sup>57<sup>m</sup>34<sup>s</sup>.2 44°.43S 168°.20E 12 km 77/ 267  
 ± 0.2 0.02 0.02 R S.E. of RES. 0.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | Pg    | 05 | 57 | 41.0 |     | 0.1  | 100 | 0.31 | 220 |     | 2.1 | 2.5 |
|     | Sg    |    |    | 45.3 |     | -0.1 | 100 |      |     |     |     |     |
| MNW | Pg    | 05 | 58 | 02.5 |     | -0.3 | 99  | 1.41 | 197 | 2.6 | 3.0 | 2.9 |
|     | Sg    |    |    | 22   |     | 0.1  | 100 |      |     |     |     |     |
| MJZ | Pg    | 05 | 58 | 08.5 |     | 0.1  | 100 | 1.69 | 76  |     |     |     |
|     | Sg    |    |    | 31   |     | -0.2 | 100 |      |     |     |     |     |

AMPLITUDES: MSZ 1.7 8.5 MNW 0.1 0.5 0.9

FELT: The Branches (122)

MAY 13 10<sup>h</sup>53<sup>m</sup>18<sup>s</sup>.0 40°.41S 175°.18E 33 km 77/ 268  
 ± 0.2 0.01 0.02 R S.E. of RES. 0.7

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MNG | iP*   | 10 | 53 | 24.9  |     | -0.9 | 100 | 0.31 | 132 |     |     |     |
| WEL | P*    | 10 | 53 | 34.8  |     | -0.6 | 100 | 0.93 | 200 | 3.6 |     |     |
|     | S*    |    |    | 48    |     | -0.1 | 100 |      |     |     |     |     |
| CAZ | Pn    | 10 | 53 | 34    |     | -0.3 | 100 | 0.94 | 122 |     |     |     |
|     | P*    |    |    | 36    |     | 0.5  | 100 |      |     |     |     |     |
|     | eS*   |    |    | 49    |     | 0.6  | 100 |      |     |     |     |     |
| GSZ | iPn   | 10 | 53 | 36.9  |     | -0.8 |     | 1.18 | 16  |     |     |     |
|     | Sn    |    |    | 53.5  |     | 1.2  |     |      |     |     |     |     |
| CNZ | iPn   | 10 | 53 | 38.3  |     | -0.3 | 100 | 1.25 | 13  |     |     |     |
|     | S*    |    |    | 56    |     | -1.5 | 97  |      |     |     |     |     |
| TNZ | Pn    | 10 | 53 | 41.3  |     | 0.9  | 99  | 1.38 | 333 |     | 3.8 | 4.0 |
|     | eS*   |    |    | 54 02 |     | 0.7  | 100 |      |     |     |     |     |
| TRZ | Pn    | 10 | 53 | 43    |     | 0.6  | 100 | 1.53 | 56  |     | 3.5 | 3.6 |
|     | S*    |    |    | 54 06 |     | 0.2  | 100 |      |     |     |     |     |
| COB | Pn    | 10 | 53 | 49    |     | 0.4  | 100 | 1.98 | 249 |     | 3.5 | 3.7 |
|     | S*    |    |    | 54 19 |     | -0.2 | 100 |      |     |     |     |     |
| TUA | eP*   | 10 | 53 | 55    |     | -2.0 |     | 2.21 | 44  |     | 3.9 |     |
| KRP | Pn    | 10 | 53 | 55    |     | -0.8 |     | 2.50 | 6   |     |     |     |
|     | Sn    |    |    | 54 25 |     | 0.8  |     |      |     |     |     |     |
|     | eS*   |    |    | 38    |     | 3.1  |     |      |     |     |     |     |
| WTZ | eP*   | 10 | 54 | 08    |     | 0.9  |     | 2.81 | 31  |     | 3.6 | 3.4 |
|     | Sn    |    |    | 30    |     | -1.4 |     |      |     |     |     |     |
| GNZ | eP*   | 10 | 54 | 11    |     | 3.6  |     | 2.83 | 52  |     |     | 3.6 |
|     | Sn    |    |    | 29    |     | -2.8 |     |      |     |     |     |     |
| KAI |       |    |    |       |     |      |     | 3.54 | 232 | 3.5 |     |     |
| GPZ | Sn    | 10 | 54 | 53    |     | -2.0 |     | 3.79 | 209 | 3.8 |     |     |
| MJZ | Sn    | 10 | 55 | 24    |     | -0.2 |     | 5.00 | 223 |     |     |     |
| MSZ | Sn    | 10 | 56 | 08    |     | -0.6 |     | 6.85 | 229 |     |     | 3.7 |

AMPLITUDES: WEL 2.1 TNZ 1.2 2.4 TRZ 0.5 1.1  
 COB 0.5 TUA 0.5 WTZ 0.4 0.2  
 GNZ 0.6 KAI 0.1 GPZ 0.3  
 MSZ 0.3

MAY 14 04<sup>h</sup>12<sup>m</sup>07<sup>s</sup>.1 34°.55S 178°.22W 33 km 77/ 269  
 ± 1.0 0.06 0.10 R S.E. of RES. 0.5

| STN | PHASE | H  | M  | S  | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|----|-----|------|-----|------|-----|-----|-----|-----|
| GNZ | Sn    | 04 | 14 | 15 |     | -0.3 | 100 | 5.08 | 215 |     |     | 4.4 |

|             |     |            |      |     |       |     |     |     |     |
|-------------|-----|------------|------|-----|-------|-----|-----|-----|-----|
| WTZ         | Pn  | 04 13 21   | -0.3 | 100 | 5.17  | 227 | 4.0 | 4.3 |     |
|             | Sn  | 14 16.5    | -0.9 | 97  |       |     |     |     |     |
| TUA         | Sn  | 04 14 29   | 0.1  | 100 | 5.65  | 220 | 4.7 |     |     |
|             | Pn  | 04 13 33.5 | 0.0  | 100 | 6.07  | 234 |     |     |     |
| KRP         | Sn  | 14 39      | 0.1  | 100 |       |     |     |     |     |
|             |     |            |      |     |       |     |     |     |     |
| TRZ         | Sn  | 04 14 48   | 1.6  |     | 6.38  | 217 | 3.8 | 4.4 |     |
| MNG         | ePn | 04 13 55   | -2.9 |     | 7.86  | 218 |     |     |     |
|             | Sn  | 15 16.5    | -5.4 |     |       |     |     | 4.1 |     |
| WEL         | Sn  | 04 15 37   | -5.5 |     | 8.71  | 217 | 4.3 |     |     |
| CIZ         | eSn | 04 15 58   | -3.0 |     | 9.49  | 173 |     |     |     |
| COB         | Sn  | 04 16 02.5 | -3.4 |     | 9.68  | 225 | 4.3 | 4.0 |     |
| GPZ         | Sn  | 04 16 44   | -7.0 |     | 11.56 | 215 |     |     |     |
| AMPLITUDES: |     |            | GNZ  | 1.3 | WTZ   | 0.4 | 0.7 | TUA | 0.6 |
|             |     |            | TRZ  | 0.4 | MNG   | 0.2 | 0.5 | WEL |     |
|             |     |            | COB  | 0.2 | GPZ   | 0.1 |     |     |     |

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MAY 14 10<sup>h</sup>55<sup>m</sup>23<sup>s</sup>.1 33°.29s 178°.18W 12 km M = 4.3  
 ± 1.6 0.08 0.19 R S.E. of RES. 1.1

| STN         | PHASE | H  | M   | S     | DIR | RES   | WT  | DIST  | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|----|-----|-------|-----|-------|-----|-------|-----|-----|-----|-----|-----|---|
| WTZ         | Pn    | 10 | 56  | 50.5  |     | -1.6  | 99  | 6.12  | 219 |     | 4.5 | 4.2 |     |   |
|             | eSn   |    |     | 57 59 |     | -0.5  | 100 |       |     |     |     |     |     |   |
| GNZ         | Pn    | 10 | 56  | 53    |     | 0.2   | 100 | 6.17  | 209 |     | 4.5 | 4.2 |     |   |
|             | Sn    |    |     | 58 00 |     | -0.7  | 100 |       |     |     |     |     |     |   |
| ONE         | ePn   | 10 | 56  | 59    |     | -0.2  | 100 | 6.64  | 246 |     |     |     |     |   |
|             | e     |    |     | 57 09 |     |       |     |       |     |     |     |     |     |   |
| TUA         | Pn    | 10 | 57  | 00    |     | 0.2   | 100 | 6.69  | 213 |     | 4.6 | 4.4 |     |   |
|             | Sn    |    |     | 58 14 |     | 0.9   | 100 |       |     |     |     |     |     |   |
| KRP         | ePn   | 10 | 57  | 04    |     | 1.2   | 99  | 6.90  | 226 |     |     |     |     |   |
|             | e     |    |     | 29    |     |       |     |       |     |     |     |     |     |   |
|             | e     |    |     | 40.5  |     |       |     |       |     |     |     |     |     |   |
| TRZ         | ePn   | 10 | 57  | 10    |     | -0.1  |     | 7.44  | 211 |     | 4.1 | 4.3 |     |   |
|             | Sn    |    |     | 58 32 |     | 0.7   |     |       |     |     |     |     |     |   |
| MNG         | ePn   | 10 | 57  | 26    |     | -4.1  |     | 8.90  | 213 |     | 3.9 | 4.2 |     |   |
|             | P*    |    |     | 55    |     | -1.2  |     |       |     |     |     |     |     |   |
|             | Sn    |    |     | 59 03 |     | -3.4  |     |       |     |     |     |     |     |   |
| WEL         | Sn    | 10 | 59  | 19    |     | -8.1  |     | 9.76  | 213 |     |     |     |     |   |
| COB         | Sn    | 10 | 59  | 42    |     | -6.0  |     | 10.64 | 220 |     |     |     | 3.7 |   |
| CIZ         | Sn    | 10 | 59  | 44    |     | -6.3  |     | 10.73 | 174 |     |     |     |     |   |
| GPZ         | Sn    | 11 | 00  | 26    |     | -10.0 |     | 12.64 | 212 |     |     |     |     |   |
| AMPLITUDES: |       |    | WTZ | 0.8   | 0.4 | GNZ   | 0.7 | 0.6   | TUA | 0.3 | 0.2 |     |     |   |
|             |       |    | TRZ | 0.1   | 0.2 | MNG   | 0.2 | 0.5   | COB |     | 0.1 |     |     |   |

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MAY 14 12<sup>h</sup>35<sup>m</sup>47<sup>s</sup>.6 33°.29s 178°.35W 12 km M = 4.0  
 ± 1.8 0.20 0.35 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| WTZ | Pn    | 12 | 37 | 15.5  |     | 0.1  | 100 | 6.03 | 218 |     | 4.0 | 4.1 |     |   |
|     | Sn    |    |    | 38 21 |     | -0.9 | 100 |      |     |     |     |     |     |   |
| GNZ | Pn    | 12 | 37 | 15.5  |     | -0.9 | 100 | 6.10 | 208 |     | 4.1 | 4.2 |     |   |
|     | Sn    |    |    | 38 23 |     | -0.6 | 100 |      |     |     |     |     |     |   |
| TUA | ePn   | 12 | 37 | 24    |     | 0.7  | 100 | 6.61 | 212 |     | 4.1 | 4.1 |     |   |
|     | eSn   |    |    | 38 37 |     | 1.3  | 99  |      |     |     |     |     |     |   |
| TRZ | ePn   | 12 | 37 | 35    |     | 1.4  |     | 7.36 | 211 |     |     |     | 4.0 |   |
|     | Sn    |    |    | 38 53 |     | -1.0 |     |      |     |     |     |     |     |   |
| MNG | ePn   | 12 | 37 | 55    |     | 1.4  |     | 8.83 | 212 |     | 3.6 | 4.0 |     |   |
|     | Sn    |    |    | 39 24 |     | -5.1 |     |      |     |     |     |     |     |   |



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|             |     |            |         |       |         |     |         |
|-------------|-----|------------|---------|-------|---------|-----|---------|
| COB         | eSn | 12 40 05.5 | -4.8    | 10.54 | 220     |     |         |
| CIZ         | Sn  | 12 40 08   | -7.2    | 10.75 | 173     |     |         |
| GPZ         | Sn  | 12 40 49   | -9.7    | 12.55 | 212     |     |         |
| AMPLITUDES: |     | WTZ        | 0.3 0.3 | GNZ   | 0.3 0.5 | TUA | 0.1 0.1 |
|             |     | TRZ        | 0.1     | MNG   | 0.1 0.3 |     |         |

MAY 14 19<sup>h</sup>37<sup>m</sup>42<sup>s</sup>.7 37°.20S 177°.50E 128 km 77/ 272  
M = 3.8  
± 0.7 0.04 0.05 6 S.E. of RES. 0.8

| STN         | PHASE | H   | M   | S       | DIR | RES   | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|-----|---------|-----|-------|-----|-------|-----|------|------|------|
| WTZ         | iP    | 19  | 38  | 04.6    | D   | 0.1   | 100 | 0.88  | 207 |      | 3.8  | 3.7  |
|             | S     |     |     | 21      |     | -0.2  | 100 |       |     |      |      |      |
| GNZ         | P     | 19  | 38  | 11.3    | D   | 0.3   | 100 | 1.50  | 164 |      | 3.3  | 4.0  |
|             | S     |     |     | 33      |     | 0.2   | 100 |       |     |      |      |      |
| TUA         | eP    | 19  | 38  | 12.5    |     | -0.1  | 100 | 1.63  | 190 |      | 3.7  | 4.0  |
|             | S     |     |     | 36      |     | 0.7   | 100 |       |     |      |      |      |
| KRP         | iP    | 19  | 38  | 13.6    | D   | -0.0  | 100 | 1.72  | 244 |      |      |      |
|             | S     |     |     | 36      |     | -1.0  | 99  |       |     |      |      |      |
| AUC         | P     | 19  | 38  | 20.5    |     | 0.9   | 100 | 2.20  | 278 |      |      |      |
| TRZ         | P     | 19  | 38  | 21      |     | -1.3  | 98  | 2.41  | 193 |      | 3.8  | 4.0  |
|             | S     |     |     | 52      |     | -0.2  | 100 |       |     |      |      |      |
| CNZ         | P     | 19  | 38  | 23.7    |     | -0.1  | 100 | 2.53  | 217 |      |      |      |
|             | S     |     |     | 56      |     | 1.1   | 99  |       |     |      |      |      |
| MNG         | P     | 19  | 38  | 36.5    |     | -3.8  |     | 3.76  | 204 |      | 3.7  | 4.1  |
|             | S     |     |     | 39 18   |     | -6.2  |     |       |     |      |      |      |
| CAZ         | P     | 19  | 38  | 38      |     | -3.3  |     | 3.83  | 195 |      |      |      |
|             | S     |     |     | 39 22.5 |     | -3.4  |     |       |     |      |      |      |
| WEL         | S     | 19  | 39  | 37      |     | -7.4  |     | 4.61  | 207 | 3.9  |      |      |
| COB         | P     | 19  | 38  | 56.5    |     | -5.3  |     | 5.37  | 222 |      | 3.4* | 3.0* |
|             | S     |     |     | 39 56   |     | -7.1  |     |       |     |      |      |      |
| GPZ         | S     | 19  | 40  | 42.5    |     | -11.6 |     | 7.48  | 208 | 3.0* |      |      |
| CIZ         | eS    | 19  | 41  | 11      |     | 1.3   |     | 8.13  | 148 |      |      |      |
| MJZ         | S     | 19  | 41  | 10      |     | -12.2 |     | 8.64  | 216 |      |      | 2.4* |
| MSZ         | S     | 19  | 41  | 54      |     | -10.3 |     | 10.40 | 221 |      |      | 2.9* |
| AMPLITUDES: |       | WTZ | 2.9 | 3.0     | GNZ | 0.5   | 4.7 | TUA   |     |      | 0.5  | 1.0  |
|             |       | TRZ | 0.3 | 1.0     | MNG | 0.7   | 2.0 | WEL   | 0.1 |      |      |      |
|             |       | COB | 0.3 | 0.4     | GPZ | 0.1   |     | MJZ   |     |      |      | 0.1  |
|             |       | MSZ |     | 0.2     |     |       |     |       |     |      |      |      |

MAY 15 01<sup>h</sup>07<sup>m</sup>40<sup>s</sup>.8 37°.60S 176°.35E 289 km 77/ 273  
M = 3.8  
± 3.5 0.17 0.17 21 S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|
| WTZ | e     | 01 | 08 | 22      |     |      |     | 0.63 | 127 |     |      | 3.1  |
|     | S     |    |    | 47.5    |     | -0.7 | 100 |      |     |     |      |      |
| KRP | e     | 01 | 08 | 24      |     |      |     | 0.72 | 243 |     |      |      |
| TUA | S     | 01 | 08 | 54      |     | -0.4 | 100 | 1.36 | 153 |     | 3.9  |      |
| GNZ | S     | 01 | 09 | 00      |     | 1.8  | 99  | 1.68 | 129 |     | 4.0  | 3.4  |
| CNZ | P     | 01 | 08 | 24.5    |     | -0.1 | 100 | 1.72 | 201 |     |      |      |
|     | S     |    |    | 09 00   |     | 1.2  | 100 |      |     |     |      |      |
| ECZ | S     | 01 | 08 | 59      |     | -0.1 | 100 | 1.75 | 94  |     | 3.7  |      |
| TRZ | S     | 01 | 09 | 01      |     | -1.4 | 99  | 1.98 | 169 |     | 3.9  |      |
| MNG | iP    | 01 | 08 | 34.1    | U   | -2.9 |     | 3.09 | 192 |     | 4.0  | 4.2  |
|     | S     |    |    | 09 14.5 |     | -6.4 |     |      |     |     |      |      |
| WEL | S     | 01 | 09 | 30      |     | -6.1 |     | 3.88 | 198 | 3.7 |      |      |
| COB | P     | 01 | 08 | 46.5    |     | -5.8 |     | 4.47 | 218 |     | 3.2* | 2.6* |
|     | S     |    |    | 09 39   |     | -9.2 |     |      |     |     |      |      |



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|     |   |    |    |    |      |      |     |      |      |
|-----|---|----|----|----|------|------|-----|------|------|
| MSZ | P | 13 | 33 | 23 | -0.6 | 4.79 | 224 | 3.9* | 3.0* |
|     | S |    | 34 | 16 | -4.0 |      |     |      |      |
| ROX | S | 13 | 34 | 17 | -3.1 | 4.79 | 209 |      | 3.3* |
| GNZ | P | 13 | 33 | 25 | -0.8 | 4.97 | 59  | 4.1  | 4.3  |
|     | S |    | 34 | 23 | -1.2 |      |     |      |      |
| MNW | P | 13 | 33 | 35 | -0.7 | 5.73 | 217 | 3.6* | 3.3* |
|     | S |    | 34 | 40 | -1.7 |      |     |      |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | COB | 3.5 | 2.0 | KAI | 2.0 | WEL | 0.7 |     |     |
|             | MNG | 3.5 | 6.0 | GPZ | 0.6 | MJZ |     | 1.5 | 1.5 |
|             | TRZ | 0.1 | 0.6 | OMZ |     | 0.3 | TUA |     | 0.3 |
|             | WTZ | 0.1 | 0.4 | MSZ | 2.3 | 0.6 | ROX |     | 0.7 |
|             | GNZ | 0.4 | 0.9 | MNW | 0.7 | 0.8 |     |     |     |

MAY 17 13<sup>h</sup>48<sup>m</sup>18<sup>s</sup>.1 37°.35s 176°.63E 302 km 77/ 276  
 ± 1.7 0.18 0.11 12 S.E. of RES. 1.5 M = 4.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|------|-----|------|
| WTZ | P     | 13 | 48 | 56.0  | U   | -1.5 | 100 | 0.69 | 156 |      | 4.2 | 3.9  |
|     | S     |    | 49 | 26    |     | -2.5 | 98  |      |     |      |     |      |
| KRP | P     | 13 | 48 | 59.9  |     | 0.9  | 100 | 1.03 | 236 |      |     |      |
|     | S     |    | 49 | 32    |     | 1.0  | 100 |      |     |      |     |      |
| TUA | P     | 13 | 49 | 02    |     | 0.2  | 100 | 1.51 | 164 |      | 4.2 | 4.2  |
|     | S     |    |    | 36    |     | 0.3  | 100 |      |     |      |     |      |
| ECZ | P     | 13 | 49 | 01.6  |     | -0.4 | 100 | 1.57 | 103 |      | 5.1 | 5.0  |
|     | S     |    |    | 38    |     | 1.6  | 99  |      |     |      |     |      |
| GNZ | iP    | 13 | 49 | 03.2  | U   | 0.2  | 100 | 1.70 | 140 |      | 4.8 | 4.5  |
|     | S     |    |    | 38    |     | 0.0  | 100 |      |     |      |     |      |
| CNZ | P     | 13 | 49 | 08    |     | 2.5  |     | 2.03 | 204 |      |     |      |
| TRZ | P     | 13 | 49 | 08.7  |     | 1.7  |     | 2.20 | 176 |      | 4.2 | 4.4  |
|     | eS    |    |    | 49.5  |     | 4.4  |     |      |     |      |     |      |
| MNG | P     | 13 | 49 | 19.8  | D   | 1.6  |     | 3.38 | 195 |      | 4.2 | 4.4  |
|     | S     |    |    | 50 09 |     | 3.8  |     |      |     |      |     |      |
| WEL | S     | 13 | 50 | 23    |     | 2.2  |     | 4.18 | 200 | 3.8  |     |      |
| COB | S     | 13 | 50 | 37    |     | 3.7  |     | 4.81 | 218 |      |     | 3.0* |
| GPZ | S     | 13 | 51 | 25    |     | 4.0  |     | 7.03 | 204 | 3.3* |     |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WTZ | 2.0 | 1.1 | TUA | 0.7 | 0.6 | ECZ | 5.0 | 4.0 |
|             | GNZ | 5.5 | 4.4 | TRZ | 0.4 | 1.6 | MNG | 1.7 | 3.9 |
|             | WEL | 0.1 |     | COB | 0.4 |     | GPZ | 0.2 |     |

MAY 18 02<sup>h</sup>25<sup>m</sup>41<sup>s</sup>.7 38°.54s 176°.38E 12 km 77/ 277  
 ± 0.4 0.02 0.02 R S.E. of RES. 1.1 M = 3.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WNZ | Pg    | 02 | 25 | 48.1 |     | 1.1  | 99  | 0.23 | 247 |     |     |     |
| TUA | iPg   | 02 | 25 | 55.1 | U   | -0.1 | 100 | 0.66 | 114 |     | 4.0 | 3.9 |
|     | Sg    |    | 26 | 04.5 |     | 0.2  | 100 |      |     |     |     |     |
| WTZ | iPg   | 02 | 25 | 55.5 | D   | -1.1 | 99  | 0.73 | 41  |     |     |     |
|     | Sg    |    | 26 | 07.5 |     | 0.9  | 100 |      |     |     |     |     |
| KRP | Pg    | 02 | 25 | 59   |     | -1.1 | 100 | 0.90 | 312 |     |     |     |
|     | Sg    |    | 26 | 13   |     | 0.6  | 100 |      |     |     |     |     |
| CNZ | Pg    | 02 | 25 | 59.9 |     | -0.7 | 100 | 0.93 | 224 |     |     |     |
| TRZ | Pg    | 02 | 26 | 03   |     | -0.4 |     | 1.07 | 161 |     | 3.6 | 3.6 |
|     | Sg    |    |    | 22   |     | 4.1  |     |      |     |     |     |     |
| GNZ | Pg    | 02 | 26 | 08   |     | 0.1  |     | 1.30 | 95  |     | 3.8 | 3.8 |
|     | Sg    |    |    | 29.5 |     | 4.1  |     |      |     |     |     |     |
| ECZ | ePg   | 02 | 26 | 20   |     | -0.3 |     | 1.91 | 64  |     | 4.0 |     |
| MNG | P*    | 02 | 26 | 20   |     | -0.3 |     | 2.20 | 198 |     | 4.0 | 3.7 |



|             |     |          |      |         |     |         |
|-------------|-----|----------|------|---------|-----|---------|
|             | Pg  | 24       | -2.0 |         |     |         |
|             | Sg  | 55       | -0.6 |         |     |         |
| COB         | eP* | 02 26 45 | -2.6 | 3.79    | 227 | 3.8 3.0 |
|             | Pg  | 52       | -6.4 |         |     |         |
|             | Sg  | 27 43    | -6.5 |         |     |         |
| AMPLITUDES: | WNZ | 2.5      | TUA  | 6.0 5.9 | TRZ | 1.1 1.5 |
|             | GNZ | 2.5 4.5  | ECZ  | 0.4     | MNG | 3.0 1.5 |
|             | COB | 0.2 0.1  |      |         |     |         |

MAY 18 04<sup>h</sup>11<sup>m</sup>50<sup>s</sup>.2 37°.58S 175°.93E 12 km M = 4.6  
 ± 0.3 0.03 0.03 R S.E. of RES. 1.1

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT      | DIST | AZ  | W-A | W P     | W S |
|-------------|-------|-----|----|---------|-----|------|---------|------|-----|-----|---------|-----|
| KRP         | iP*   | 04  | 11 | 59.1    | USW | -0.1 | 100     | 0.46 | 223 |     |         |     |
| WTZ         | iP*   | 04  | 12 | 06.8    | U   | -0.3 | 100     | 0.93 | 116 |     |         |     |
|             | eSg   |     |    | 21      |     | -0.6 | 100     |      |     |     |         |     |
| WNZ         | Pg    | 04  | 12 | 10.8    | D   | -0.8 | 100     | 1.05 | 173 |     | 4.7     | 4.5 |
|             | e     |     |    | 30      |     |      |         |      |     |     |         |     |
| AUC         | iP*   | 04  | 12 | 11.0    | U   | -0.3 | 100     | 1.17 | 308 |     |         |     |
| TUA         | Pg    | 04  | 12 | 20      |     | -1.6 | 99      | 1.56 | 142 |     | 4.3     |     |
| CNZ         | P*    | 04  | 12 | 20.5    |     | 1.1  | 100     | 1.65 | 191 |     |         |     |
|             | e     |     |    | 53      |     |      |         |      |     |     |         |     |
| GSZ         | P*    | 04  | 12 | 21.6    |     | 1.0  |         | 1.71 | 189 |     |         |     |
|             | Pg    |     |    | 23      |     | -1.8 |         |      |     |     |         |     |
| GNZ         | P*    | 04  | 12 | 24.5    |     | -0.3 | 100     | 1.96 | 123 |     | 4.9     |     |
|             | Pg    |     |    | 32      |     | 2.2  | 97      |      |     |     |         |     |
| ECZ         | P*    | 04  | 12 | 27      |     | 0.2  | 100     | 2.08 | 94  |     | 4.7     |     |
| ONE         | Pn    | 04  | 12 | 26.5    |     | 0.7  | 100     | 2.20 | 325 | 4.5 |         |     |
|             | P*    |     |    | 30      |     | 1.0  | 100     |      |     |     |         |     |
|             | Pg    |     |    | 34.5    |     | -0.3 | 100     |      |     |     |         |     |
|             | Sg    |     |    | 13 03.5 |     | -1.0 | 100     |      |     |     |         |     |
| MNG         | Pn    | 04  | 12 | 40.5    |     | 3.2  |         | 3.05 | 186 |     | 5.2     | 5.3 |
|             | P*    |     |    | 47      |     | 3.6  |         |      |     |     |         |     |
|             | Sg    |     |    | 13 41   |     | 8.0  |         |      |     |     |         |     |
| WEL         | P*    | 04  | 12 | 59      |     | 2.7  |         | 3.81 | 193 | 4.9 |         |     |
|             | Sg    |     |    | 14 01   |     | 2.6  |         |      |     |     |         |     |
| CRZ         | Pn    | 04  | 12 | 54.5    |     | 2.8  |         | 4.11 | 319 |     | 4.1     | 4.1 |
|             | P*    |     |    | 13 07.5 |     | 6.1  |         |      |     |     |         |     |
| COB         | Pn    | 04  | 12 | 55      |     | 0.8  |         | 4.29 | 214 |     | 5.0     | 4.3 |
|             | Sg    |     |    | 14 14   |     | -0.7 |         |      |     |     |         |     |
| MIJZ        | Pn    | 04  | 13 | 44      |     | 4.2  |         | 7.62 | 211 |     | 4.5     |     |
|             | P*    |     |    | 14 12.5 |     | 11.0 |         |      |     |     |         |     |
| MSZ         | ePn   | 04  | 14 | 05      |     | 2.2  |         | 9.31 | 218 |     | 4.6     |     |
| AMPLITUDES: | WNZ   |     |    | 1.6 1.3 | TUA |      | 1.2     |      |     | GNZ | 7.5     |     |
|             | ECZ   |     |    | 1.0     | ONE | 3.3  |         |      |     | MNG | 7.0 7.1 |     |
|             | WEL   | 0.3 |    |         | CRZ |      | 0.3 0.3 |      |     | COB | 1.7 1.0 |     |
|             | MIJZ  |     |    | 0.5     | MSZ |      | 0.4     |      |     |     |         |     |

FELT: Northern Waikato to Tauranga (21,24,25,26) MM IV

MAY 18 13<sup>h</sup>39<sup>m</sup>42<sup>s</sup>.9 37°.52S 175°.90E 12 km M = 3.6  
 ± 1.4 0.07 0.04 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| KRP | P*    | 13 | 39 | 52.5 | USW | -0.0 | 100 | 0.49 | 216 |     |     |     |
|     | S*    |    |    | 58.5 |     | -0.9 | 100 |      |     |     |     |     |
| WTZ | eP*   | 13 | 40 | 01   |     | 0.2  | 100 | 0.98 | 118 |     | 3.2 | 3.5 |



| 77/ 280                                                                                  |       |    |    |         |     |      |     |      |     |     |     |     |  |
|------------------------------------------------------------------------------------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|--|
| MAY 18 16 <sup>h</sup> 35 <sup>m</sup> 31 <sup>s</sup> .4 37°.53s 175°.91E 12 km M = 4.2 |       |    |    |         |     |      |     |      |     |     |     |     |  |
| ± 0.3 0.02 0.03 R S.E. of RES. 1.4                                                       |       |    |    |         |     |      |     |      |     |     |     |     |  |
| STN                                                                                      | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |  |
| KRP                                                                                      | P*    | 16 | 35 | 40.5    | NE  | -0.5 | 100 | 0.49 | 217 |     |     |     |  |
|                                                                                          | eS*   |    |    | 46.5    |     | -1.4 | 100 |      |     |     |     |     |  |
| WTZ                                                                                      | P*    | 16 | 35 | 47.9    | U   | -1.2 | 100 | 0.97 | 118 |     | 3.9 | 4.4 |  |
|                                                                                          | Pg    |    |    | 49.5    |     | -1.6 | 100 |      |     |     |     |     |  |
|                                                                                          | Sg    |    |    | 36 02   |     | -2.2 | 99  |      |     |     |     |     |  |
| WNZ                                                                                      | Pg    | 16 | 35 | 52      |     | -2.0 | 99  | 1.12 | 172 |     | 4.2 | 4.1 |  |
|                                                                                          | Sg    |    |    | 36 11   |     | 1.9  | 99  |      |     |     |     |     |  |
| AUC                                                                                      | iPg   | 16 | 35 | 53.5    | U   | -0.8 | 100 | 1.13 | 306 |     |     |     |  |
|                                                                                          | e     |    |    | 36 14.5 |     |      |     |      |     |     |     |     |  |
| TUA                                                                                      | P*    | 16 | 36 | 01      |     | 0.9  | 100 | 1.61 | 143 |     | 3.7 |     |  |
|                                                                                          | Pg    |    |    | 05      |     | 1.0  | 100 |      |     |     |     |     |  |
| CNZ                                                                                      | P*    | 16 | 36 | 01.5    |     | -0.0 | 100 | 1.69 | 190 |     |     |     |  |
|                                                                                          | Sg    |    |    | 29      |     | 0.4  | 100 |      |     |     |     |     |  |
|                                                                                          | i     |    |    | 35.5    |     |      |     |      |     |     |     |     |  |
| GNZ                                                                                      | P*    | 16 | 36 | 08.5    |     | 1.7  | 100 | 2.01 | 124 |     | 4.1 |     |  |
|                                                                                          | Pg    |    |    | 14      |     | 2.0  | 99  |      |     |     |     |     |  |
| ONE                                                                                      | ePn   | 16 | 36 | 07      |     | 0.7  | 100 | 2.15 | 324 | 4.0 |     |     |  |
|                                                                                          | P*    |    |    | 10.5    |     | 1.2  | 100 |      |     |     |     |     |  |
|                                                                                          | Pg    |    |    | 15      |     | 0.1  | 100 |      |     |     |     |     |  |
|                                                                                          | S*    |    |    | 37      |     | -0.5 | 100 |      |     |     |     |     |  |
|                                                                                          | Sg    |    |    | 44      |     | 0.1  | 100 |      |     |     |     |     |  |
| MNG                                                                                      | ePn   | 16 | 36 | 21      |     | 1.7  |     | 3.10 | 186 |     | 4.8 | 4.7 |  |
|                                                                                          | P*    |    |    | 28      |     | 2.4  |     |      |     |     |     |     |  |
|                                                                                          | Sg    |    |    | 37 22   |     | 5.9  |     |      |     |     |     |     |  |
| WEL                                                                                      | P*    | 16 | 36 | 40.5    |     | 2.1  |     | 3.86 | 193 | 4.4 |     |     |  |
|                                                                                          | Sg    |    |    | 37 42   |     | 0.6  |     |      |     |     |     |     |  |
| COB                                                                                      | Pn    | 16 | 36 | 37      |     | 1.0  |     | 4.33 | 214 |     | 4.3 |     |  |
|                                                                                          | eP*   |    |    | 50.5    |     | 4.0  |     |      |     |     |     |     |  |
| MJZ                                                                                      | ePn   | 16 | 37 | 27.5    |     | 5.9  |     | 7.67 | 211 |     |     |     |  |
| AMPLITUDES: WTZ 4.5 8.0 WNZ 0.5 0.5 TUA 0.3                                              |       |    |    |         |     |      |     |      |     |     |     |     |  |
| GNZ 1.3 ONE 1.0 MNG 2.7 1.6                                                              |       |    |    |         |     |      |     |      |     |     |     |     |  |
| WEL 0.1 COB 0.4                                                                          |       |    |    |         |     |      |     |      |     |     |     |     |  |
| FELT: Waihi Beach (21), Tauranga (26) MM IV                                              |       |    |    |         |     |      |     |      |     |     |     |     |  |

FELT: Waihi Beach (21), Tauranga (26) MM IV

MAY 18 20<sup>h</sup>50<sup>m</sup>29<sup>s</sup>.3 37°.47S 175°.87E 12 km M = 3.3  
 ± 2.1 0.09 0.08 R S.E. of RES. 1.3

|     |          |    |    |          |     |             |            |      |     |     |     |     |
|-----|----------|----|----|----------|-----|-------------|------------|------|-----|-----|-----|-----|
| STN | PHASE    | H  | M  | S        | DIR | RES         | WT         | DIST | AZ  | W-A | W P | W S |
| WTZ | P*<br>Pg | 20 | 50 | 49<br>50 |     | 1.0<br>-0.1 | 100<br>100 | 1.03 | 120 |     | 3.2 | 3.4 |

|             |    |     |         |      |     |      |     |     |  |
|-------------|----|-----|---------|------|-----|------|-----|-----|--|
|             | Sg | 51  | 03.5    | -0.5 | 100 |      |     |     |  |
| CNZ         | Pg | 20  | 51 03.5 | -1.1 | 99  | 1.75 | 188 |     |  |
|             | Sg |     | 29      | 0.8  | 100 |      |     |     |  |
| MNG         | P* | 20  | 51 29   | 4.6  |     | 3.16 | 185 | 3.4 |  |
| AMPLITUDES: |    | WTZ | 0.7 0.8 | MNG  | 0.1 |      |     |     |  |

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MAY 19 06<sup>h</sup>32<sup>m</sup>14<sup>s</sup>.7 43°.34s 171°.75E 12 km M = 3.5  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.2

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A     | W P W S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|---------|---------|
| GPZ         | iPg   | 06  | 32  | 29.5  |     | -0.3 | 100 | 0.74 | 119 | 3.7     |         |
|             | Sg    |     |     | 40    |     | 0.0  | 100 |      |     |         |         |
| KAI         | Pg    | 06  | 32  | 31    |     | -1.0 | 100 | 0.85 | 343 | 2.2     |         |
|             | Sg    |     |     | 44    |     | 0.4  | 100 |      |     |         |         |
| MJZ         | Pg    | 06  | 32  | 37.3  | D   | -0.4 | 100 | 1.13 | 235 |         | 3.4 3.6 |
|             | Sg    |     |     | 54    |     | 0.9  | 100 |      |     |         |         |
| KKY         | ePg   | 06  | 32  | 50    |     | 0.9  | 100 | 1.70 | 58  |         |         |
|             | eS*   |     | 33  | 07    |     | -0.3 | 100 |      |     |         |         |
| OMZ         | Pg    | 06  | 32  | 52.5  |     | 0.7  | 100 | 1.84 | 199 |         | 3.7 3.7 |
|             | Sg    |     |     | 33 17 |     | 0.5  | 100 |      |     |         |         |
| COB         | Pn    | 06  | 32  | 52    |     | -0.5 | 100 | 2.37 | 18  |         | 3.7 3.2 |
|             | Pg    |     |     | 33 01 |     | -1.6 | 99  |      |     |         |         |
|             | eSn   |     |     | 23    |     | 2.0  | 99  |      |     |         |         |
|             | S*    |     |     | 28    |     | 0.7  | 100 |      |     |         |         |
| ROX         | eSg   | 06  | 33  | 47    |     | -0.6 | 100 | 2.75 | 218 |         | 3.6     |
| WEL         | Sn    | 06  | 33  | 36    |     | -1.1 | 100 | 3.04 | 49  | 3.4     |         |
| MSZ         | Pn    | 06  | 33  | 04    |     | 1.9  | 99  | 3.07 | 243 |         | 3.9 3.6 |
|             | Pg    |     |     | 14    |     | -2.8 | 96  |      |     |         |         |
|             | eSg   |     |     | 59    |     | 0.8  | 100 |      |     |         |         |
| MNW         | ePg   | 06  | 33  | 30.5  |     | -1.7 |     | 3.83 | 229 |         | 3.7 3.6 |
|             | eSn   |     | 34  | 02    |     | 5.8  |     |      |     |         |         |
|             | Sg    |     |     | 22    |     | -1.8 |     |      |     |         |         |
| MNG         | Pn    | 06  | 33  | 16    |     | 2.7  |     | 3.90 | 47  |         | 3.5 3.4 |
|             | P*    |     |     | 25    |     | 2.7  |     |      |     |         |         |
|             | ePg   |     |     | 32    |     | -1.4 |     |      |     |         |         |
|             | Sn    |     | 34  | 01.5  |     | 3.9  |     |      |     |         |         |
| AMPLITUDES: |       | GPZ | 6.0 |       | KAI | 0.1  |     | MJZ  |     | 4.0 9.5 |         |
|             |       | OMZ | 0.9 | 1.8   | COB | 0.5  | 0.6 | ROX  |     | 0.8     |         |
|             |       | WEL | 0.1 |       | MSZ | 1.2  | 1.0 | MNW  |     | 0.3 0.5 |         |
|             |       | MNG | 0.4 | 0.4   |     |      |     |      |     |         |         |

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MAY 19 06<sup>h</sup>43<sup>m</sup>07<sup>s</sup>.2 43°.33s 171°.75E 12 km M = 3.8  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---------|
| GPZ | iPg   | 06 | 43 | 22.0  | s   | -0.5 | 100 | 0.75 | 119 | 3.8 |         |
|     | S*    |    |    | 31    |     | -0.3 | 100 |      |     |     |         |
|     | Sg    |    |    | 33    |     | 0.4  | 100 |      |     |     |         |
| KAI | Pg    | 06 | 43 | 23.5  |     | -1.0 | 100 | 0.85 | 343 | 3.8 |         |
|     | Sg    |    |    | 36    |     | 0.0  | 100 |      |     |     |         |
| MJZ | Pg    | 06 | 43 | 29.5  |     | -0.8 | 100 | 1.13 | 235 |     | 3.6 3.5 |
|     | Sg    |    |    | 48    |     | 2.3  | 99  |      |     |     |         |
| KKY | Pn    | 06 | 43 | 35.5  |     | -0.4 | 100 | 1.70 | 58  |     |         |
|     | Pg    |    |    | 42    |     | 0.4  | 100 |      |     |     |         |
|     | S*    |    |    | 44 00 |     | 0.2  | 100 |      |     |     |         |
| OMZ | Pg    | 06 | 43 | 45    |     | 0.6  | 100 | 1.84 | 199 |     | 4.0 3.7 |
|     | eSg   |    |    | 44 11 |     | 1.8  | 100 |      |     |     |         |

|             |     |            |          |          |             |             |
|-------------|-----|------------|----------|----------|-------------|-------------|
| COB         | Pn  | 06 43 44.7 | D        | -0.3 100 | 2.37 18     | 4.1 3.7     |
|             | Pg  | 53         |          | -2.0 99  |             |             |
|             | eSn | 44 17      |          | 3.6 96   |             |             |
|             | S*  | 21         |          | 1.3 100  |             |             |
| ROX         | Pg  | 06 44 02   | -1.0 100 | 2.76 218 | 4.0 3.8     |             |
|             | Sg  | 39         | -1.2 100 |          |             |             |
| WEL         | Sn  | 06 44 28   | -1.6 100 | 3.03 49  | 3.6         |             |
| MSZ         | Pn  | 06 43 56   | 1.3 100  | 3.07 243 | 4.2 3.8     |             |
|             | Pg  | 44 06      | -3.3 97  |          |             |             |
| MNW         | eSg | 51         | 0.3 100  | 3.83 229 | 3.5 3.9 3.6 |             |
|             | eP* | 06 44 10   | -3.8     |          |             |             |
|             | Pg  | 24         | -0.7     |          |             |             |
|             | Sn  | 53         | 4.3      |          |             |             |
| MNG         | Sg  | 45 14.5    | -1.9     | 3.89 47  | 3.9 3.7     |             |
|             | Pn  | 06 44 08.5 | 2.7      |          |             |             |
|             | Pg  | 27         | 1.1      |          |             |             |
| KRP         | Sn  | 52         | 1.9      | 6.13 29  |             |             |
|             | Pn  | 06 44 37   | 0.6      |          |             |             |
|             | eSn | 45 48      | 4.1      |          |             |             |
| AMPLITUDES: | GPZ | 7.5        | KAI      | 3.5      | MJZ         | 5.5 8.0     |
|             | OMZ | 1.8 1.9    | COB      | 1.3 1.9  | ROX         | 0.7 1.1     |
|             | WEL | 0.1        | MSZ      | 2.2 1.6  | MNW         | 0.1 0.5 0.6 |
|             | MNG | 1.0 0.8    |          |          |             |             |

MAY 19 10<sup>h</sup> 58<sup>m</sup> 53<sup>s</sup>.1 37°.54s 175°.97E 12 km 77/ 284  
 ± 0.5 0.03 0.04 R S.E. of RES. 2.0 M = 3.8

| STN         | PHASE | H       | M    | S | DIR | RES      | WT | DIST | AZ  | W-A | W P | W S |
|-------------|-------|---------|------|---|-----|----------|----|------|-----|-----|-----|-----|
| KRP         | iP*   | 10 59   | 01.0 |   | USW | -2.1 100 |    | 0.51 | 222 |     |     |     |
|             | S*    |         | 07   |   |     | -3.2 99  |    |      |     |     |     |     |
| WTZ         | P*    | 10 59   | 09.5 |   |     | -0.5 100 |    | 0.92 | 119 |     | 3.6 | 3.6 |
|             | Pg    |         | 10.2 |   |     | -1.6 100 |    |      |     |     |     |     |
|             | Sg    |         | 23.5 |   |     | -0.8 100 |    |      |     |     |     |     |
| WNZ         |       |         |      |   |     |          |    | 1.10 | 175 |     | 3.8 |     |
| AUC         | Pg    | 10 59   | 14.5 |   |     | -2.3 100 |    | 1.17 | 305 |     |     |     |
|             | Sg    |         | 33   |   |     | 0.3 100  |    |      |     |     |     |     |
| TUA         | ePg   | 10 59   | 26   |   |     | 1.0 100  |    | 1.57 | 144 |     | 3.2 |     |
| CNZ         | P*    | 10 59   | 22   |   |     | -1.1 100 |    | 1.69 | 191 |     |     |     |
|             | Sg    |         | 55   |   |     | 4.8 94   |    |      |     |     |     |     |
| GNZ         | Pg    | 10 59   | 34   |   |     | 1.2 100  |    | 1.96 | 125 |     | 3.8 |     |
| TNZ         | ePn   | 10 59   | 25.5 |   |     | -1.3 100 |    | 2.07 | 217 |     | 3.9 | 3.9 |
|             | P*    |         | 30   |   |     | 0.5 100  |    |      |     |     |     |     |
|             | Pg    |         | 33.5 |   |     | -1.4 100 |    |      |     |     |     |     |
|             | eSn   |         | 52   |   |     | -0.1 100 |    |      |     |     |     |     |
|             | eSg   | 11 00   | 04   |   |     | 1.2 100  |    |      |     |     |     |     |
| ONE         | P*    | 10 59   | 34   |   |     | 2.4 100  |    | 2.19 | 323 | 3.7 |     |     |
|             | Pg    |         | 40   |   |     | 2.7 99   |    |      |     |     |     |     |
|             | S*    | 11 00   | 00.5 |   |     | 0.2 100  |    |      |     |     |     |     |
|             | Sg    |         | 06   |   |     | -0.8 100 |    |      |     |     |     |     |
| MNG         | Pn    | 10 59   | 43.5 |   |     | 2.6      |    | 3.10 | 187 |     | 4.3 | 4.5 |
|             | P*    |         | 49   |   |     | 1.8      |    |      |     |     |     |     |
|             | Sg    | 11 00   | 36   |   |     | -1.5     |    |      |     |     |     |     |
| COB         | Pn    | 11 00   | 01   |   |     | 3.1      |    | 4.35 | 214 |     | 4.1 |     |
|             | P*    |         | 14   |   |     | 5.6      |    |      |     |     |     |     |
| AMPLITUDES: | WTZ   | 2.1 1.6 |      |   | WNZ | 0.2      |    | TUA  | 0.1 |     |     |     |
|             | GNZ   | 0.6     |      |   | TNZ | 0.4 0.4  |    | ONE  | 0.5 |     |     |     |
|             | MNG   | 0.8 1.0 |      |   | COB | 0.2      |    |      |     |     |     |     |

FELT: Waihi Beach (21) MM IV

MAY 19 20<sup>h</sup>19<sup>m</sup>22<sup>s</sup>.7 38°.85s 175°.11E 194 km 77/ 285  
 ± 0.9 0.04 0.06 6 S.E. of RES. 1.0 M = 4.2

| STN  | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|------|-------|----|----|------|-----|------|-----|------|-----|------|-----------|
| CNZ  | iP    | 20 | 19 | 49.9 |     | 0.7  | 100 | 0.49 | 136 |      |           |
|      | S     |    | 20 | 10.5 |     | 1.0  | 100 |      |     |      |           |
| TNZ  | P     | 20 | 19 | 50   |     | 0.1  | 100 | 0.67 | 239 |      | 3.1*      |
| KRP  | P     | 20 | 19 | 52.5 |     | 0.7  | 100 | 0.98 | 20  |      |           |
|      | S     |    | 20 | 13.3 |     | -1.0 | 100 |      |     |      |           |
| TRZ  | P     | 20 | 19 | 56.5 |     | 0.4  | 100 | 1.50 | 118 |      | 4.0 4.4   |
|      | S     |    | 20 | 23   |     | 1.1  | 99  |      |     |      |           |
| TUA  | P     | 20 | 19 | 57   |     | 0.0  | 100 | 1.59 | 89  |      | 4.0 4.3   |
|      | S     |    | 20 | 23   |     | -0.4 | 100 |      |     |      |           |
| WTZ  | iP    | 20 | 19 | 57.4 | D   | -0.7 | 100 | 1.71 | 60  |      | 4.2 4.0   |
|      | S     |    | 20 | 25   |     | -0.4 | 100 |      |     |      |           |
| MNG  | P     | 20 | 19 | 58.9 |     | 0.0  | 100 | 1.79 | 171 |      |           |
|      | eS    |    | 20 | 25   |     | -1.8 | 98  |      |     |      |           |
| GNZ  | iP    | 20 | 20 | 03.9 | D   | -0.3 |     | 2.29 | 86  |      | 4.6 4.4   |
|      | S     |    |    | 34   |     | -2.2 |     |      |     |      |           |
| WEL  | P     | 20 | 20 | 03.5 |     | -2.5 |     | 2.45 | 186 |      | 4.0 3.8   |
|      | S     |    |    | 36   |     | -3.4 |     |      |     |      |           |
| COB  | iP    | 20 | 20 | 07.8 | D   | -3.4 |     | 2.89 | 218 |      | 4.1* 3.7* |
|      | S     |    |    | 43.5 |     | -5.1 |     |      |     |      |           |
| ECZ  | P     | 20 | 20 | 11   |     | -0.8 |     | 2.94 | 68  |      | 4.4 4.0   |
|      | eS    |    |    | 49   |     | -0.7 |     |      |     |      |           |
| KAI  | S     | 20 | 21 | 21   |     | -6.3 |     | 4.63 | 216 | 3.5* |           |
| GPZ  | eP    | 20 | 20 | 35.5 |     | -4.6 |     | 5.19 | 200 | 4.1* |           |
|      | S     |    | 21 | 32   |     | -8.1 |     |      |     |      |           |
| MIJZ | P     | 20 | 20 | 48.5 |     | -4.8 |     | 6.21 | 213 |      | 3.2* 3.5* |
|      | S     |    | 21 | 56   |     | -7.9 |     |      |     |      |           |
| MSZ  | S     | 20 | 22 | 35   |     | -9.2 |     | 7.92 | 220 |      | 3.2* 3.1* |

|             |     |         |      |         |     |         |
|-------------|-----|---------|------|---------|-----|---------|
| AMPLITUDES: | TNZ | 0.3     | TRZ  | 0.7 3.7 | TUA | 0.7 1.5 |
|             | WTZ | 2.1 1.5 | GNZ  | 4.1 4.0 | WEL | 0.8 1.2 |
|             | COB | 2.6 3.5 | ECZ  | 0.8 0.3 | KAI | 0.3     |
|             | GPZ | 1.6     | MIJZ | 0.5 1.6 | MSZ | 0.3 0.4 |

MAY 20 03<sup>h</sup>52<sup>m</sup>56<sup>s</sup>.5 38°.28s 176°.12E 158 km 77/ 286  
 ± 0.6 0.03 0.03 4 S.E. of RES. 0.5 M = 4.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| WNZ | P     | 03 | 53 | 18.0 | U   | -0.3 | 100 | 0.35 | 182 |     | 4.3     |
| KRP | iP    | 03 | 53 | 19.8 | UNW | 0.5  | 100 | 0.58 | 307 |     |         |
|     | S     |    |    | 37   |     | 0.2  | 100 |      |     |     |         |
| WTZ | iP    | 03 | 53 | 20.1 | U   | -0.1 | 100 | 0.75 | 67  |     | 3.9 3.9 |
|     | S     |    |    | 38   |     | -0.6 | 99  |      |     |     |         |
| TUA | P     | 03 | 53 | 22.0 | U   | 0.2  | 100 | 0.96 | 124 |     | 4.2 4.6 |
|     | S     |    |    | 42   |     | 0.6  | 99  |      |     |     |         |
| CNZ | iP    | 03 | 53 | 22.0 |     | -0.3 | 100 | 1.03 | 206 |     |         |
| GSZ | S     | 03 | 53 | 43   |     | -0.2 | 100 | 1.08 | 202 |     |         |
| TRZ | iP    | 03 | 53 | 26.0 |     | 0.2  |     | 1.39 | 157 |     | 4.4 4.4 |
|     | eS    |    |    | 48   |     | -0.2 |     |      |     |     |         |
| GNZ | P     | 03 | 53 | 27.4 |     | 0.0  |     | 1.54 | 104 |     | 4.2 4.3 |
|     | S     |    |    | 50   |     | -1.1 |     |      |     |     |         |
| ECZ | P     | 03 | 53 | 35   |     | 2.5  |     | 2.01 | 74  |     | 3.9 4.0 |
|     | S     |    | 54 | 03   |     | 2.8  |     |      |     |     |         |



|             |     |            |       |      |     |             |
|-------------|-----|------------|-------|------|-----|-------------|
| MNG         | iP  | 03 53 35.6 | -1.5  | 2.39 | 192 |             |
|             | S   | 54 04      | -4.3  |      |     |             |
| WEL         | P   | 03 53 44   | -3.1  | 3.19 | 199 | 4.7         |
|             | S   | 54 20      | -6.0  |      |     |             |
| COB         | P   | 03 53 51   | -4.7  | 3.83 | 222 | 3.3* 3.6*   |
|             | S   | 54 36      | -5.1  |      |     |             |
| KAI         | S   | 03 55 13.5 | -8.4  | 5.56 | 219 | 3.4*        |
| GPZ         | S   | 03 55 23   | -9.7  | 6.02 | 205 | 4.1*        |
| MJZ         | P   | 03 54 35   | -4.2  | 7.13 | 215 | 2.6* 3.3*   |
|             | S   | 55 48.5    | -10.7 |      |     |             |
| OMZ         | S   | 03 56 05   | -11.0 | 7.83 | 208 | 3.3*        |
| CIZ         | eS  | 03 56 13   | -5.1  | 7.92 | 138 |             |
| MSZ         | S   | 03 56 29.5 | -11.3 | 8.87 | 221 | 2.7* 3.2*   |
| AMPLITUDES: |     |            |       |      |     |             |
|             | WNZ | 0.6        | WTZ   | 3.2  | 3.7 | TUA 2.5 5.8 |
|             | TRZ | 2.5 5.0    | GNZ   | 3.2  | 7.0 | ECZ 0.5 0.6 |
|             | WEL | 1.8        | COB   | 0.3  | 2.3 | KAI 0.2     |
|             | GPZ | 1.5        | MJZ   | 0.1  | 0.9 | OMZ 0.3     |
|             | CIZ | 0.3        | MSZ   | 0.1  | 0.5 |             |

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MAY 20 21<sup>h</sup>30<sup>m</sup>23<sup>s</sup>.8 40°.89S 172°.37E 12 km M = 3.7  
 ± 0.5 0.03 0.04 R S.E. of RES. 1.5

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| COB         | iPg   | 21  | 30  | 30.1 |     | -0.9 | 100 | 0.34 | 126 |     |     |     |   |   |
| KAI         | P*    | 21  | 30  | 55   |     | -0.5 | 100 | 1.79 | 203 | 4.0 |     |     |   |   |
|             | ePg   |     | 31  | 01   |     | 1.0  | 100 |      |     |     |     |     |   |   |
|             | Sn    |     |     | 14   |     | -2.2 | 99  |      |     |     |     |     |   |   |
|             | eS*   |     |     | 19   |     | -0.1 | 100 |      |     |     |     |     |   |   |
| KKY         | P*    | 21  | 30  | 55.5 |     | -0.6 | 100 | 1.83 | 148 |     |     |     |   |   |
|             | S*    |     | 31  | 18.5 |     | -1.7 | 100 |      |     |     |     |     |   |   |
| WEL         | ePn   | 21  | 30  | 55   |     | 0.3  | 100 | 1.85 | 103 |     | 3.5 | 3.1 |   |   |
|             | P*    |     |     | 58   |     | 1.3  | 100 |      |     |     |     |     |   |   |
|             | S*    |     | 31  | 21   |     | -0.1 | 100 |      |     |     |     |     |   |   |
|             | Sg    |     |     | 25   |     | -1.4 | 100 |      |     |     |     |     |   |   |
| MNG         | P*    | 21  | 31  | 07   |     | 1.4  | 100 | 2.38 | 85  |     | 4.0 | 4.1 |   |   |
|             | S*    |     |     | 39   |     | 2.2  | 99  |      |     |     |     |     |   |   |
| GPZ         | Sn    | 21  | 31  | 40.5 |     | -0.3 | 100 | 2.82 | 176 | 3.6 |     |     |   |   |
| CNZ         | S*    | 21  | 31  | 57   |     | 2.6  | 99  | 2.97 | 56  |     |     |     |   |   |
| MJZ         | Pn    | 21  | 31  | 15.5 |     | -0.3 | 100 | 3.40 | 204 |     | 3.9 | 3.7 |   |   |
|             | Sn    |     |     | 56   |     | 1.0  | 100 |      |     |     |     |     |   |   |
|             | S*    |     | 32  | 09   |     | 1.4  | 100 |      |     |     |     |     |   |   |
|             | Sg    |     |     | 20   |     | 1.4  | 100 |      |     |     |     |     |   |   |
| KRP         | Pn    | 21  | 31  | 20.5 |     | -1.3 | 100 | 3.84 | 41  |     |     |     |   |   |
|             | P*    |     |     | 28   |     | -2.6 | 99  |      |     |     |     |     |   |   |
|             | S*    |     | 32  | 20   |     | -0.7 | 100 |      |     |     |     |     |   |   |
| OMZ         | eP*   | 21  | 31  | 42   |     | 3.3  |     | 4.32 | 194 |     | 3.5 |     |   |   |
| MSZ         | Pn    | 21  | 31  | 35   |     | -2.6 |     | 5.00 | 219 |     | 3.8 | 3.7 |   |   |
|             | Sn    |     | 32  | 33   |     | -0.5 |     |      |     |     |     |     |   |   |
| AMPLITUDES: |       |     |     |      |     |      |     |      |     |     |     |     |   |   |
|             | KAI   | 1.3 |     |      |     | WEL  | 0.6 | 0.6  | MNG |     | 3.4 | 5.0 |   |   |
|             | GPZ   | 0.3 |     |      |     | MJZ  | 1.4 | 1.3  | OMZ |     | 0.1 |     |   |   |
|             | MSZ   |     | 0.4 | 0.5  |     |      |     |      |     |     |     |     |   |   |

FELT: Karamea (74) MM IV

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MAY 21 04<sup>h</sup>54<sup>m</sup>07<sup>s</sup>.7 44°.98S 167°.30E 12 km M = 3.9  
 ± 0.4 0.01 0.03 R S.E. of RES. 0.3

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST    | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|-------|-----|------|-----|---------|-----|-----|-----|-----|
| MSZ         | P*    | 04  | 54  | 17.8  |     | -0.2 | 100 | 0.54    | 55  |     | 3.9 | 3.7 |
|             | S*    |     |     | 25.5  |     | 0.0  | 100 |         |     |     |     |     |
| MNW         | iP*   | 04  | 54  | 23.4  |     | 0.3  | 99  | 0.83    | 165 | 3.8 |     |     |
|             | S*    |     |     | 34    |     | -0.3 | 99  |         |     |     |     |     |
| ROX         | iPn   | 04  | 54  | 33.9  |     | 0.1  | 100 | 1.51    | 110 |     | 4.3 | 3.9 |
|             | Sn    |     |     | 53.5  |     | 0.1  | 100 |         |     |     |     |     |
| MJZ         | Pn    | 04  | 54  | 47.5  |     | 0.5  |     | 2.47    | 67  |     | 4.0 | 3.9 |
|             | P*    |     |     | 50    |     | -1.1 |     |         |     |     |     |     |
|             | Sn    |     | 55  | 17.5  |     | 0.9  |     |         |     |     |     |     |
|             | S*    |     |     | 23    |     | -0.6 |     |         |     |     |     |     |
| OMZ         | Pn    | 04  | 54  | 48    |     | -0.2 |     | 2.56    | 93  |     | 4.0 | 3.8 |
|             | P*    |     |     | 52.5  |     | -0.2 |     |         |     |     |     |     |
|             | ePg   |     | 55  | 01.5  |     | 1.9  |     |         |     |     |     |     |
|             | Sn    |     |     | 18    |     | -0.7 |     |         |     |     |     |     |
|             | S*    |     |     | 23.5  |     | -2.8 |     |         |     |     |     |     |
| KAI         |       |     |     |       |     |      |     | 3.86    | 52  | 3.6 |     |     |
| GPZ         | P*    | 04  | 55  | 20    |     | 2.1  |     | 4.04    | 73  | 3.7 |     |     |
|             | ePg   |     |     | 32    |     | 2.5  |     |         |     |     |     |     |
|             | S*    |     |     | 56 10 |     | -0.6 |     |         |     |     |     |     |
| COB         | Pn    | 04  | 55  | 30.5  |     | 1.3  |     | 5.57    | 48  |     | 4.0 | 3.8 |
|             | Sn    |     |     | 56 35 |     | 4.1  |     |         |     |     |     |     |
| AMPLITUDES: |       | MSZ |     | 40    | 42  | MNW  | 5.0 |         | ROX |     | 5.0 | 5.0 |
|             |       | MJZ |     | 2.8   | 4.1 | OMZ  |     | 0.9 1.0 | KAI | 0.1 |     |     |
|             |       | GPZ | 0.2 |       |     | COB  |     | 0.2 0.4 |     |     |     |     |

MAY 21 05<sup>h</sup>44<sup>m</sup>00<sup>s</sup>.6 36°.83s 177°.74E 12 km M = 4.4  
 ± 0.7 0.04 0.03 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | ePg   | 05 | 44 | 24    |     | 1.5  | 99  | 1.08 | 143 |     |     |     |
| WTZ | iPn   | 05 | 44 | 24.0  | D   | 0.1  | 100 | 1.30 | 207 |     |     |     |
| GNZ | iPn   | 05 | 44 | 30.2  | U   | -0.9 | 100 | 1.83 | 173 |     | 4.6 |     |
|     | Pg    |    |    | 38    |     | 0.4  | 100 |      |     |     |     |     |
|     | Sn    |    |    | 53    |     | -0.9 | 100 |      |     |     |     |     |
|     | ePn   | 05 | 44 | 33    |     | -0.8 | 100 | 2.03 | 193 |     | 4.3 | 4.8 |
| TUA | P*    |    |    | 36    |     | -0.4 | 100 |      |     |     |     |     |
|     | S*    |    | 45 | 03    |     | -0.1 | 100 |      |     |     |     |     |
|     | iPn   | 05 | 44 | 34.7  | DE  | 0.3  | 100 | 2.07 | 237 |     |     |     |
| KRP | Pg    |    |    | 40.5  |     | -2.0 | 98  |      |     |     |     |     |
|     | Sn    |    |    | 59.5  |     | -0.2 | 100 |      |     |     |     |     |
|     | Sg    |    | 45 | 10.5  |     | 0.1  | 100 |      |     |     |     |     |
|     | P*    | 05 | 44 | 39.5  |     | -0.2 | 100 | 2.22 | 215 |     | 4.2 | 4.3 |
| WNZ | eSg   |    | 45 | 17    |     | 1.5  | 99  |      |     |     |     |     |
| AUC | Pn    | 05 | 44 | 40    | D   | 1.4  | 99  | 2.38 | 268 |     |     |     |
| TRZ | Pn    | 05 | 44 | 42    |     | -2.6 |     | 2.82 | 195 |     | 4.4 | 4.7 |
|     | P*    |    |    | 45    |     | -4.8 |     |      |     |     |     |     |
|     | Pg    |    |    | 54    |     | -3.6 |     |      |     |     |     |     |
|     | Sn    |    | 45 | 12    |     | -5.7 |     |      |     |     |     |     |
|     | S*    |    |    | 17    |     | -9.7 |     |      |     |     |     |     |
|     | Pn    | 05 | 44 | 47.5  |     | 1.3  |     | 2.93 | 216 |     |     |     |
| CNZ | S*    |    |    | 45 32 |     | 1.8  |     |      |     |     |     |     |
|     | Pn    | 05 | 44 | 58    |     | -5.1 |     | 4.18 | 204 |     | 4.4 | 4.8 |
| MNG | P*    |    | 45 | 09    |     | -4.1 |     |      |     |     |     |     |
|     | Sn    |    |    | 47.5  |     | -2.9 |     |      |     |     |     |     |
| WEL | ePn   | 05 | 45 | 14.5  |     | -0.1 |     | 5.02 | 207 | 4.5 |     |     |
|     | P*    |    |    | 22    |     | -5.4 |     |      |     |     |     |     |

|             |     |            |       |       |     |     |         |
|-------------|-----|------------|-------|-------|-----|-----|---------|
|             | Sn  | 46 04      | -6.6  |       |     |     |         |
|             | S*  | 26.5       | -6.2  |       |     |     |         |
| COB         | Pn  | 05 45 20.5 | -4.4  | 5.78  | 221 | 4.2 | 4.3     |
|             | Sn  | 46 25      | -3.7  |       |     |     |         |
| KAI         | eSn | 05 47 07   | -3.2  | 7.50  | 219 | 4.1 |         |
| GPZ         | eP* | 05 46 08   | -8.4  | 7.89  | 208 | 4.7 |         |
|             | Sn  | 47 10.5    | -9.1  |       |     |     |         |
| CIZ         | Pn  | 05 45 59   | -1.0  | 8.34  | 150 |     |         |
|             | Sn  | 47 28      | -2.5  |       |     |     |         |
| MJZ         | Pn  | 05 46 03.5 | -6.2  | 9.05  | 216 | 4.5 | 4.4     |
|             | Sn  | 47 37      | -10.5 |       |     |     |         |
| OMZ         | Sn  | 05 47 56   | -7.5  | 9.72  | 210 |     | 3.9     |
| MSZ         | Pn  | 05 46 31   | -2.7  | 10.81 | 220 |     | 4.4     |
|             | Sn  | 48 21      | -8.8  |       |     |     |         |
| AMPLITUDES: | GNZ | 10         | TUA   | 1.5   | 5.5 | WNZ | 0.2 0.3 |
|             | TRZ | 1.2 4.1    | MNG   | 2.6   | 7.5 | WEL | 0.5     |
|             | COB | 0.3 1.3    | KAI   | 0.1   |     | GPZ | 0.5     |
|             | CIZ | 0.3 1.1    | MJZ   | 0.7   | 0.9 | OMZ | 0.1     |
|             | MSZ | 0.5        |       |       |     |     |         |

MAY 22 03<sup>h</sup>48<sup>m</sup>52<sup>s</sup>.5 32°.46S 179°.10W 12 km M = 4.7  
 ± 3.4 0.10 0.34 R S.E. of RES. 1.9 77/ 290

| STN | PHASE | H     | M    | S | DIR | RES   | WT  | DIST  | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|-------|-----|-------|-----|-----|-----|-----|
| ECZ | P*    | 03 50 | 28   |   |     | -0.8  | 100 | 5.57  | 200 |     | 4.8 | 4.8 |
| WIZ | Pn    | 03 50 | 23.5 |   |     | -1.6  | 100 | 6.38  | 209 |     | 4.6 | 4.7 |
|     | Sn    | 51    | 35.5 |   |     | 0.3   | 100 |       |     |     |     |     |
| GNZ | Sn    | 03 51 | 40   |   |     | -0.6  | 100 | 6.61  | 200 |     | 4.4 | 4.8 |
| KRP | Pn    | 03 50 | 37   |   |     | 3.4   | 97  | 7.00  | 217 |     |     |     |
| TUA | Sn    | 03 51 | 50   |   |     | -1.0  | 100 | 7.04  | 205 |     |     | 4.6 |
| CRZ | Pn    | 03 50 | 34.5 |   |     | -1.1  | 100 | 7.15  | 252 |     | 4.9 |     |
| TRZ | Sn    | 03 52 | 10.5 |   |     | 0.7   | 100 | 7.82  | 204 |     |     | 5.1 |
| MNG | Pn    | 03 50 | 56   |   |     | -8.1  |     | 9.24  | 207 |     | 4.5 |     |
|     | Sn    | 52    | 37.5 |   |     | -6.4  |     |       |     |     |     |     |
| WEL | Sn    | 03 52 | 55   |   |     | -9.4  |     | 10.09 | 207 | 5.0 |     |     |
| COB | Sn    | 03 53 | 10   |   |     | -11.9 |     | 10.82 | 215 |     | 4.3 | 4.7 |
| CIZ | Sn    | 03 53 | 50   |   |     | 8.0   |     | 11.65 | 171 |     |     |     |
| KAI | eSn   | 03 53 | 47   |   |     | -16.7 |     | 12.56 | 214 | 4.6 |     |     |
| GPZ | Sn    | 03 53 | 59   |   |     | -14.5 |     | 12.97 | 208 | 5.0 |     |     |
| MJZ | Sn    | 03 54 | 24   |   |     | -17.4 |     | 14.13 | 212 |     |     | 4.5 |
| MSZ | ePn   | 03 52 | 20.5 |   |     | -13.9 |     | 15.86 | 216 |     | 4.7 | 4.5 |
|     | eSn   | 55    | 01   |   |     | -21.8 |     |       |     |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 0.4 | 0.5 | WTZ | 0.9 | 1.2 | GNZ | 0.5 | 2.0 |
|             | TUA |     | 0.3 | CRZ | 0.1 |     | TRZ |     | 1.2 |
|             | MNG | 0.7 |     | WEL | 0.4 |     | COB | 0.1 | 0.9 |
|             | CIZ | 0.2 | KAI | 0.1 |     |     | GPZ | 0.4 |     |
|             | MJZ | 0.5 | MSZ | 0.3 | 0.3 |     |     |     |     |

MAY 22 04<sup>h</sup>05<sup>m</sup>58<sup>s</sup>.1 36°.90S 176°.91E 302 km M = 4.7  
 ± 0.9 0.06 0.08 7 S.E. of RES. 1.2 77/ 291

| STN | PHASE | H     | M     | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|-------|---|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP    | 04 06 | 38.3  |   | U   | -0.9 | 100 | 1.08 | 177 |     | 4.4 | 4.3 |
|     | S     |       | 07 09 |   |     | -2.4 | 97  |      |     |     |     |     |
| KRP | P     | 04 06 | 42.0  |   | U   | 0.3  | 100 | 1.50 | 227 |     |     |     |
|     | S     |       | 07 17 |   |     | 1.4  | 99  |      |     |     |     |     |
| ECZ | P     | 04 06 | 41.9  |   |     | 0.0  | 100 | 1.52 | 122 |     |     |     |



|             |     |            |     |      |     |       |     |      |      |
|-------------|-----|------------|-----|------|-----|-------|-----|------|------|
|             | S   | 07 18      |     | 2.1  | 98  |       |     |      |      |
| TUA         | P   | 04 06 44.5 |     | -0.1 | 100 | 1.92  | 174 | 4.8  | 4.7  |
|             | S   | 07 21      |     | 0.2  | 100 |       |     |      |      |
| GNZ         | iP  | 04 06 45.1 | D   | 0.3  | 100 | 1.95  | 154 |      |      |
|             | S   | 07 20      |     | -1.4 | 99  |       |     |      |      |
| CNZ         | P   | 04 06 51   |     | 1.1  | 100 | 2.54  | 205 |      |      |
|             | S   | 07 37.5    |     | 7.2  | 0   |       |     |      |      |
| TRZ         | P   | 04 06 51   |     | 0.1  | 100 | 2.65  | 182 | 4.9  | 4.9  |
|             | S   | 07 32      |     | -0.2 | 100 |       |     |      |      |
| MNG         | P   | 04 07 03.0 | U   | -0.5 | 100 | 3.88  | 196 |      |      |
|             | eS  | 55         |     | 0.3  | 100 |       |     |      |      |
| CRZ         | P   | 04 07 07   |     | -0.5 | 100 | 4.24  | 304 |      |      |
| WEL         | S   | 04 08 09   |     | -2.0 |     | 4.69  | 200 | 4.7  |      |
| COB         | P   | 04 07 20   |     | 0.3  |     | 5.30  | 217 | 3.3* | 3.5* |
|             | S   | 08 22      |     | -1.7 |     |       |     |      |      |
| KAI         | S   | 04 09 05   |     | 3.7  |     | 7.05  | 215 | 3.2* |      |
| GPZ         | S   | 04 09 09.5 |     | -2.6 |     | 7.53  | 204 | 3.6* |      |
| MJZ         | S   | 04 09 33   |     | -3.0 |     | 8.62  | 213 |      | 3.2* |
| CIZ         | S   | 04 10 04   |     | 27.9 |     | 8.62  | 147 |      |      |
| MSZ         | eS  | 04 10 11.5 |     | -2.6 |     | 10.33 | 219 |      | 3.2* |
| AMPLITUDES: |     |            |     |      |     |       |     |      |      |
|             | WTZ | 2.7        | 2.2 | TUA  | 2.0 | 1.6   | TRZ | 1.9  | 3.7  |
|             | WEL | 0.7        |     | COB  | 0.2 | 1.1   | KAI | 0.1  |      |
|             | GPZ | 0.4        |     | MJZ  |     | 0.6   | CIZ |      | 0.1  |
|             | MSZ |            | 0.4 |      |     |       |     |      |      |

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MAY 22 14<sup>h</sup>28<sup>m</sup>03<sup>s</sup>.0 42°.59s 172°.75E 12 km M = 3.9  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---------|
| KKY | iP*   | 14 | 28 | 16.5    | U   | 0.1  | 100 | 0.72 | 76  |     |         |
|     | Pg    |    |    | 17.5    |     | -0.1 | 100 |      |     |     |         |
|     | Sg    |    |    | 28.5    |     | 1.1  | 100 |      |     |     |         |
| KAI | Pg    | 14 | 28 | 22      |     | -1.2 | 100 | 1.00 | 273 | 3.8 |         |
|     | Sg    |    |    | 37.5    |     | 0.8  | 100 |      |     |     |         |
| GPZ | P*    | 14 | 28 | 23      |     | -0.1 | 100 | 1.11 | 184 | 3.9 |         |
|     | Sg    |    |    | 39      |     | -1.5 | 100 |      |     |     |         |
| COB | iP*   | 14 | 28 | 29.3    | U   | -0.5 | 100 | 1.50 | 359 |     |         |
|     | S*    |    |    | 49      |     | -0.7 | 100 |      |     |     |         |
| WEL | P*    | 14 | 28 | 39      |     | 0.8  | 100 | 1.99 | 50  | 3.8 |         |
|     | Sg    |    |    | 29 10.5 |     | 0.3  | 100 |      |     |     |         |
|     | e     |    |    | 25      |     |      |     |      |     |     |         |
| MJZ | Pn    | 14 | 28 | 38.5    |     | 0.3  | 100 | 2.18 | 229 |     | 3.9 3.5 |
|     | Pg    |    |    | 44      |     | -3.0 | 96  |      |     |     |         |
|     | Sn    |    |    | 29 06   |     | 1.3  | 100 |      |     |     |         |
|     | Sg    |    |    | 19      |     | 2.6  | 98  |      |     |     |         |
| OMZ | Pn    | 14 | 28 | 46      |     | -0.9 | 100 | 2.82 | 208 |     | 4.0 3.9 |
|     | Pg    |    |    | 59      |     | -0.9 | 100 |      |     |     |         |
|     | Sg    |    |    | 29 39.5 |     | 1.6  | 100 |      |     |     |         |
| MNG | Pn    | 14 | 28 | 46      |     | -1.3 | 100 | 2.84 | 47  |     | 4.3 3.9 |
|     | Sg    |    |    | 29 39.5 |     | 0.7  | 100 |      |     |     |         |
| ROX | ePg   | 14 | 29 | 19      |     | -0.9 |     | 3.80 | 219 |     | 4.1 3.7 |
|     | Sg    |    |    | 30 10   |     | -1.1 |     |      |     |     |         |
| CNZ | P*    | 14 | 29 | 12.5    |     | 0.1  |     | 4.00 | 33  |     |         |
|     | Sg    |    |    | 30 24   |     | 6.3  |     |      |     |     |         |
| MSZ | ePn   | 14 | 29 | 01      |     | -3.2 |     | 4.09 | 238 |     | 4.1 3.8 |
|     | P*    |    |    | 11      |     | -2.8 |     |      |     |     |         |
|     | eSn   |    |    | 50      |     | -0.4 |     |      |     |     |         |
| TRZ | P*    | 14 | 29 | 17      |     | -0.9 |     | 4.32 | 47  |     | 3.7     |



|             |     |     |      |      |      |     |     |      |     |     |     |     |  |
|-------------|-----|-----|------|------|------|-----|-----|------|-----|-----|-----|-----|--|
| MNW         | Pg  |     | 25.5 | -4.9 |      |     |     |      |     |     |     |     |  |
|             | Pg  | 14  | 29   | 36.5 | -5.1 |     |     | 4.88 | 227 | 4.4 | 3.9 | 3.8 |  |
| TUA         | Sn  |     | 30   | 12   | 2.3  |     |     |      |     |     |     |     |  |
|             | P*  | 14  | 29   | 33   | 2.7  |     |     | 5.05 | 43  |     | 3.9 |     |  |
| KRP         | Pn  | 14  | 29   | 19   | 0.5  |     |     | 5.13 | 25  |     |     |     |  |
|             | Pg  |     |      | 41   | -5.6 |     |     |      |     |     |     |     |  |
| GNZ         | Sn  |     | 30   | 17   | 1.4  |     |     |      |     |     |     |     |  |
|             | Pg  | 14  | 29   | 53   | -3.7 |     |     | 5.62 | 47  |     | 4.2 | 4.1 |  |
|             | Sn  |     | 30   | 27   | -0.6 |     |     |      |     |     |     |     |  |
| AMPLITUDES: |     |     |      |      |      |     |     |      |     |     |     |     |  |
|             | KAI | 2.5 |      |      |      | GPZ | 4.2 |      |     | WEL | 0.6 |     |  |
|             | MJZ | 3.3 | 2.4  |      |      | OMZ | 0.8 | 1.2  |     | MNG | 5.0 | 2.3 |  |
|             | ROX | 0.5 | 0.5  |      |      | MSZ | 1.2 | 0.9  |     | TRZ | 0.1 |     |  |
|             | MNW | 0.5 | 0.3  | 0.5  |      | TUA | 0.1 |      |     | GNZ | 0.4 | 0.5 |  |

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MAY 22 14<sup>h</sup>33<sup>m</sup>11<sup>s</sup>.6 42°.61s 172°.79E 12 km M = 3.0  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.3

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| KKY         | P*    | 14  | 33  | 24.5    |     | -0.1 | 100 | 0.69 | 75  |     |     |     |   |   |
|             | Pg    |     |     | 26      |     | 0.2  | 100 |      |     |     |     |     |   |   |
|             | S*    |     |     | 35.5    |     | 1.4  | 100 |      |     |     |     |     |   |   |
|             | Sg    |     |     | 36.8    |     | 1.5  | 100 |      |     |     |     |     |   |   |
| KAI         | S*    | 14  | 33  | 45.5    |     | 1.6  | 100 | 1.03 | 274 | 3.2 |     |     |   |   |
| GPZ         | P*    | 14  | 33  | 31      |     | -0.5 | 100 | 1.10 | 185 | 3.0 |     |     |   |   |
|             | S*    |     |     | 46      |     | -0.1 | 100 |      |     |     |     |     |   |   |
| COB         | Pn    | 14  | 33  | 37      |     | -0.8 | 100 | 1.52 | 358 |     | 3.3 | 2.9 |   |   |
|             | Sn    |     |     | 57      |     | -0.4 | 100 |      |     |     |     |     |   |   |
| MJZ         | Pn    | 14  | 33  | 46      |     | -0.9 | 100 | 2.19 | 230 |     | 2.9 | 2.8 |   |   |
|             | Sn    |     |     | 34 14.5 |     | 1.0  | 100 |      |     |     |     |     |   |   |
|             | Sg    |     |     | 27      |     | 1.6  | 99  |      |     |     |     |     |   |   |
| OMZ         | Pg    | 14  | 34  | 06      |     | -2.5 | 98  | 2.82 | 208 |     | 3.1 |     |   |   |
| MNG         | ePn   | 14  | 33  | 54      |     | -1.8 | 99  | 2.83 | 46  |     | 3.1 | 3.0 |   |   |
|             | P*    |     |     | 34 01   |     | -0.1 | 100 |      |     |     |     |     |   |   |
|             | Sg    |     |     | 47      |     | -0.1 | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: |       |     |     |         |     |      |     |      |     |     |     |     |   |   |
|             | KAI   | 0.6 |     |         |     | GPZ  | 0.6 |      |     | COB | 0.5 | 0.7 |   |   |
|             | MJZ   | 0.3 | 0.4 |         |     | OMZ  | 0.1 |      |     | MNG | 0.3 | 0.3 |   |   |

FELT: Waiau (96) MM IV

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MAY 22 15<sup>h</sup>23<sup>m</sup>16<sup>s</sup>.8 37°.80s 176°.74E 12 km M = 4.1  
 ± 0.5 0.03 0.03 R S.E. of RES. 1.1

| STN  | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WITZ | iPg   | 15 | 23 | 22.1  |     | -0.5 | 100 | 0.27 | 133 |     |     |     |   |   |
| KRP  | Pg    | 15 | 23 | 35.8  |     | -0.5 | 100 | 0.96 | 262 |     |     |     |   |   |
|      | Sg    |    |    | 50    |     | 0.7  | 100 |      |     |     |     |     |   |   |
| WNZ  | Pg    | 15 | 23 | 37    |     | 0.6  | 100 | 0.96 | 211 |     | 3.9 | 3.7 |   |   |
|      | i     |    |    | 41    |     |      |     |      |     |     |     |     |   |   |
| TUA  | Pg    | 15 | 23 | 36.5  |     | -1.7 | 99  | 1.05 | 162 |     | 4.6 | 4.3 |   |   |
|      | Sg    |    |    | 52    |     | -0.4 | 100 |      |     |     |     |     |   |   |
| GNZ  | Pg    | 15 | 23 | 43    |     | -0.4 | 100 | 1.31 | 130 |     | 4.4 | 4.2 |   |   |
|      | Sg    |    |    | 24 04 |     | 2.8  | 92  |      |     |     |     |     |   |   |
| ECZ  | Pg    | 15 | 23 | 45.5  |     | -0.4 | 100 | 1.44 | 86  |     |     |     |   |   |
| CNZ  | Pg    | 15 | 23 | 52    |     | 1.2  | 100 | 1.68 | 213 |     |     |     |   |   |
| TRZ  | P*    | 15 | 23 | 48    |     | 0.2  | 100 | 1.75 | 178 |     | 4.7 | 4.0 |   |   |
|      | iPg   |    |    | 51.5  |     | -0.7 | 100 |      |     |     |     |     |   |   |
|      | Sg    |    |    | 24 15 |     | -0.8 | 100 |      |     |     |     |     |   |   |

|             |     |    |    |      |      |     |      |     |     |     |     |    |
|-------------|-----|----|----|------|------|-----|------|-----|-----|-----|-----|----|
| AUC         | Pg  | 15 | 23 | 53.5 | -0.2 | 100 | 1.83 | 300 |     |     |     |    |
| ONE         | ePg | 15 | 24 | 14   | 1.0  |     | 2.78 | 316 | 3.9 |     |     |    |
| MNG         | ePn | 15 | 24 | 05   | 2.1  |     | 2.98 | 199 |     | 4.2 |     |    |
|             | P*  |    |    | 12.5 | 3.8  |     |      |     |     |     |     |    |
| COB         | P*  | 15 | 24 | 30.5 | -4.5 |     | 4.52 | 222 |     | 3.7 |     |    |
| AMPLITUDES: | WNZ |    |    | 0.4  | 0.3  | TUA |      | 7.8 | 4.2 | GNZ | 10  | 10 |
|             | TRZ |    |    | 4.0  | 1.0  | ONE | 0.2  |     |     | MNG | 2.1 |    |
|             | COB |    |    | 0.1  |      |     |      |     |     |     |     |    |

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MAY 23 08<sup>h</sup>33<sup>m</sup>52<sup>s</sup>.1 37°.31s 177°.40E 130 km M = 3.8

S.E. of RES. 0.6

| STN         | PHASE | H   | M  | S       | DIR | RES   | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-------------|-------|-----|----|---------|-----|-------|-----|------|-----|-----|------|------|---|---|
| WTZ         | iP    | 08  | 34 | 13.4    | U   | 0.4   | 100 | 0.76 | 206 |     | 4.0  | 3.9  |   |   |
|             | S     |     |    | 29      |     | -0.1  | 100 |      |     |     |      |      |   |   |
| ECZ         | P     | 08  | 34 | 14.3    |     | -0.8  | 99  | 0.99 | 113 |     | 3.5  | 3.8  |   |   |
|             | S     |     |    | 33      |     | 0.4   | 100 |      |     |     |      |      |   |   |
| GNZ         | iP    | 08  | 34 | 20.1    | U   | 0.4   | 100 | 1.42 | 160 |     | 4.1  | 4.4  |   |   |
|             | S     |     |    | 40.5    |     | -0.3  | 100 |      |     |     |      |      |   |   |
| TUA         | S     | 08  | 34 | 42.5    |     | -0.1  |     | 1.51 | 187 |     | 3.4  | 3.9  |   |   |
| KRP         | iP    | 08  | 34 | 21.9    | DE  | 0.1   | 100 | 1.60 | 247 |     |      |      |   |   |
|             | S     |     |    | 44      |     | -0.3  | 100 |      |     |     |      |      |   |   |
| TRZ         | P     | 08  | 34 | 28.5    |     | -1.7  |     | 2.29 | 191 |     | 3.3  | 4.0  |   |   |
|             | S     |     |    | 57.5    |     | -1.5  |     |      |     |     |      |      |   |   |
| CNZ         | P     | 08  | 34 | 30.3    |     | -1.2  |     | 2.38 | 217 |     |      |      |   |   |
|             | S     |     |    | 35 02   |     | 0.7   |     |      |     |     |      |      |   |   |
| MNG         | P     | 08  | 34 | 43.0    |     | -5.0  |     | 3.64 | 204 |     | 3.8  | 3.7  |   |   |
|             | eS    |     |    | 35 22.5 |     | -8.1  |     |      |     |     |      |      |   |   |
| WEL         | S     | 08  | 35 | 41.5    |     | -9.1  |     | 4.47 | 206 | 3.7 |      |      |   |   |
| COB         | P     | 08  | 35 | 03      |     | -6.4  |     | 5.24 | 222 |     | 3.2* | 2.4* |   |   |
|             | S     |     |    | 36 00   |     | -9.2  |     |      |     |     |      |      |   |   |
| GPZ         | S     | 08  | 36 | 48.5    |     | -11.7 |     | 7.34 | 208 |     |      |      |   |   |
| AMPLITUDES: | WTZ   |     |    | 5.5     | 4.5 | ECZ   |     | 0.6  | 1.2 | GNZ | 3.5  | 11   |   |   |
|             | TUA   |     |    | 0.3     | 0.8 | TRZ   |     | 0.1  | 1.1 | MNG | 0.9  | 0.9  |   |   |
|             | WEL   | 0.1 |    |         |     | COB   |     | 0.2  | 0.1 |     |      |      |   |   |

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MAY 23 08<sup>h</sup>36<sup>m</sup>15<sup>s</sup>.0 37°.88s 176°.57E 158 km M = 4.5

S.E. of RES. 1.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|---|---|
| WTZ | iP    | 08 | 36 | 36.0    | U   | -0.7 | 100 | 0.35 | 108 |     | 4.2  | 4.3  |   |   |
|     | S     |    |    | 52.5    |     | -1.1 | 100 |      |     |     |      |      |   |   |
| KRP | iP    | 08 | 36 | 39.1    | UW  | -0.1 | 100 | 0.82 | 266 |     |      |      |   |   |
|     | S     |    |    | 57      |     | -0.9 | 100 |      |     |     |      |      |   |   |
| WNZ | iP    | 08 | 36 | 39.6    | U   | 0.2  | 100 | 0.84 | 206 |     | 4.6  |      |   |   |
| TUA | P     | 08 | 36 | 41      |     | 0.1  | 100 | 1.03 | 154 |     | 4.2  | 4.7  |   |   |
|     | S     |    |    | 37 00.5 |     | -0.3 | 100 |      |     |     |      |      |   |   |
| GNZ | iP    | 08 | 36 | 44.5    | D   | 0.3  | 100 | 1.38 | 124 |     | 4.4  | 4.9  |   |   |
|     | S     |    |    | 37 06.5 |     | -0.1 | 100 |      |     |     |      |      |   |   |
| CNZ | iP    | 08 | 36 | 46.2    |     | 0.3  | 100 | 1.54 | 211 |     |      |      |   |   |
|     | S     |    |    | 37 11   |     | 1.3  | 99  |      |     |     |      |      |   |   |
| ECZ | P     | 08 | 36 | 47      |     | 0.7  | 100 | 1.58 | 84  |     |      |      |   |   |
|     | eS    |    |    | 37 11.5 |     | 1.1  | 100 |      |     |     |      |      |   |   |
| TRZ | P     | 08 | 36 | 47.0    | U   | -0.3 | 100 | 1.68 | 173 |     |      |      |   |   |
| AUC | P     | 08 | 36 | 48.1    |     | -0.1 | 100 | 1.75 | 305 |     |      |      |   |   |
| TNZ | P     | 08 | 36 | 53.1    | U   | 0.3  | 100 | 2.16 | 232 |     | 3.5* | 3.3* |   |   |
|     | eS    |    |    | 37 24   |     | 2.1  | 98  |      |     |     |      |      |   |   |

|             |    |            |     |       |     |         |     |           |
|-------------|----|------------|-----|-------|-----|---------|-----|-----------|
| ONE         | P  | 08 37 00.5 |     | 0.4   | 100 | 2.74    | 319 | 3.4*      |
|             | S  | 34         |     | -0.6  | 100 |         |     |           |
| MNG         | iP | 08 36 59.1 |     | -2.5  | 95  | 2.86    | 197 |           |
|             | eS | 37 36      |     | -1.4  | 99  |         |     |           |
| CAZ         | iP | 08 37 02.3 | U   | -1.4  |     | 3.03    | 185 |           |
|             | S  | 40         |     | -1.1  |     |         |     |           |
| WEL         | P  | 08 37 09   |     | -3.0  |     | 3.68    | 202 | 4.9       |
|             | S  | 50.5       |     | -5.3  |     |         |     |           |
| COB         | eP | 08 37 16   |     | -5.0  |     | 4.36    | 222 | 3.8* 4.2* |
|             | S  | 38 07      |     | -4.9  |     |         |     |           |
| KAI         | S  | 08 38 43.5 |     | -9.4  |     | 6.09    | 219 | 3.8*      |
| GPZ         | eP | 08 37 45   |     | -4.8  |     | 6.53    | 206 | 4.0*      |
|             | S  | 38 55      |     | -8.3  |     |         |     |           |
| MJZ         | P  | 08 37 59   |     | -5.8  |     | 7.66    | 215 | 3.5* 3.9* |
|             | S  | 39 20      |     | -10.3 |     |         |     |           |
| CIZ         | S  | 08 39 35   |     | -3.3  |     | 7.99    | 142 |           |
| MNW         | eP | 08 38 35   |     | -5.0  |     | 10.34   | 217 | 3.0* 3.6* |
|             | eS | 40 25      |     | -8.8  |     |         |     |           |
| AMPLITUDES: |    | WIZ        | 8.0 | 11    | WNZ | 0.8     | TUA | 2.0 7.1   |
|             |    | GNZ        | 5.8 | 35    | TNZ | 0.5 0.4 | ONE | 0.6       |
|             |    | WEL        | 2.1 |       | COB | 0.9 7.5 | KAI | 0.5       |
|             |    | GPZ        | 1.2 |       | MJZ | 0.8 3.7 | CIZ | 0.3       |
|             |    | MNW        | 0.1 | 0.8   |     |         |     |           |

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MAY 23 18<sup>h</sup>59<sup>m</sup>57<sup>s</sup>.0 44°.95s 167°.70E 33 km M = 4.0

± 1.1 0.07 0.10 R S.E. of RES. 1.1

| STN         | PHASE | H     | M     | S   | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-------|-------|-----|-----|------|-----|------|-----|-----|-----|-----|
| MNW         | iPn   | 19 00 | 12.4  |     |     | 0.4  | 100 | 0.84 | 184 |     |     |     |
| ROX         | iPn   | 19 00 | 18.6  |     | U   | 0.8  | 100 | 1.26 | 115 |     |     |     |
| GSP         | iPn   | 19 00 | 25.3  |     | U   | -0.5 | 100 | 1.84 | 65  |     |     |     |
|             | Sn    |       | 49    |     |     | 1.6  | 99  |      |     |     |     |     |
| MJZ         | iPn   | 19 00 | 29.5  |     | U   | -1.1 | 100 | 2.20 | 65  |     | 4.3 | 4.2 |
|             | Sn    |       | 56    |     |     | 0.1  | 100 |      |     |     |     |     |
| OMZ         | iPn   | 19 00 | 31.3  |     | U   | -0.5 | 100 | 2.29 | 94  |     |     |     |
|             | eSn   |       | 57    |     |     | -0.9 | 100 |      |     |     |     |     |
| KAI         | Sn    | 19 01 | 30    |     |     | 0.1  |     | 3.62 | 49  | 3.5 |     |     |
| GPZ         | ePn   | 19 00 | 49    |     |     | -3.0 |     | 3.76 | 72  | 3.9 |     |     |
|             | Sn    |       | 01 28 |     |     | -5.4 |     |      |     |     |     |     |
| COB         | Pn    | 19 01 | 11.5  |     |     | -2.0 |     | 5.34 | 45  |     | 4.2 | 4.0 |
|             | Sn    |       | 02 11 |     |     | -0.3 |     |      |     |     |     |     |
| AMPLITUDES: |       | MJZ   | 7.3   | 10  | KAI | 0.1  |     | GPZ  | 0.4 |     |     |     |
|             |       | COB   | 0.3   | 0.7 |     |      |     |      |     |     |     |     |

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MAY 23 22<sup>h</sup>28<sup>m</sup>30<sup>s</sup>.2 31°.29s 178°.75W 33 km M = 4.8

± 1.4 0.05 0.14 R S.E. of RES. 1.0

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | e     | 22 30 | 14      |   |     |      |     | 6.78 | 199 |     | 5.0 | 5.3 |
|     | Sn    |       | 31 20   |   |     | 1.0  | 100 |      |     |     |     |     |
|     | e     |       | 26      |   |     |      |     |      |     |     |     |     |
| ONE | ePn   | 22 30 | 15      |   |     | 1.7  | 98  | 7.29 | 230 |     |     |     |
| WTZ | Pn    | 22 30 | 16      |   |     | -0.9 | 100 | 7.55 | 207 |     | 4.7 | 4.9 |
|     | Sn    |       | 31 36.5 |   |     | -1.2 | 99  |      |     |     |     |     |
| GNZ | Pn    | 22 30 | 20      |   |     | -0.3 | 100 | 7.81 | 199 |     | 5.0 | 5.1 |
|     | Sn    |       | 31 44   |   |     | 0.2  | 100 |      |     |     |     |     |
| CRZ | ePn   | 22 30 | 20.5    |   |     | -0.7 | 100 | 7.87 | 244 |     |     |     |



|             |     |          |       |         |       |         |     |     |
|-------------|-----|----------|-------|---------|-------|---------|-----|-----|
| KRP         | Pn  | 22 30 25 | 0.3   | 100     | 8.13  | 214     |     |     |
|             | eSn | 31 51.5  | -0.0  | 100     |       |         |     |     |
| TUA         | Sn  | 22 31 54 | 0.1   | 100     | 8.23  | 203     | 4.3 | 5.0 |
| CNZ         | Pn  | 22 30 39 | 0.0   |         | 9.17  | 209     |     |     |
|             | eSn | 32 17    | 0.4   |         |       |         |     |     |
| WEL         | Sn  | 22 32 55 | -12.0 |         | 11.27 | 206     | 4.8 |     |
| COB         | Sn  | 22 33 06 | -17.5 |         | 11.96 | 213     |     | 4.6 |
| KAI         | eSn | 22 33 42 | -23.4 |         | 13.71 | 212     | 4.7 |     |
| GPZ         | Sn  | 22 33 51 | -25.1 |         | 14.15 | 206     | 5.1 |     |
| MJZ         | Sn  | 22 34 15 | -28.4 |         | 15.28 | 211     |     | 3.9 |
| AMPLITUDES: |     |          |       |         |       |         |     |     |
|             | ECZ | 0.4 1.1  | WTZ   | 1.0 1.2 | GNZ   | 1.2 2.6 |     |     |
|             | TUA | 0.1 0.5  | WEL   | 0.2     | COB   | 0.6     |     |     |
|             | KAI | 0.1      | GPZ   | 0.4     | MJZ   | 0.1     |     |     |

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MAY 24 08<sup>h</sup>21<sup>m</sup>46<sup>s</sup>.8 39°.39S 179°.37E 12 km M = 3.8  
 ± 0.8 0.04 0.05 R S.E. of RES. 1.4

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| GNZ         | P*    | 08  | 22  | 08.5  |     | -1.5 | 100 | 1.29 | 305 |     | 3.7 | 3.5 |   |   |
|             | Pg    |     |     | 11    |     | -1.9 | 99  |      |     |     |     |     |   |   |
|             | S*    |     |     | 27.5  |     | 0.4  | 100 |      |     |     |     |     |   |   |
| TUA         | Pn    | 08  | 22  | 17    |     | -0.2 | 100 | 1.82 | 288 |     | 3.5 | 3.7 |   |   |
|             | Sn    |     |     | 39    |     | -1.0 | 100 |      |     |     |     |     |   |   |
| TRZ         | Sn    | 08  | 22  | 45.5  |     | 1.8  | 99  | 1.98 | 265 |     |     | 3.9 |   |   |
| WTZ         | Pn    | 08  | 22  | 24.8  |     | 0.6  | 100 | 2.33 | 306 |     | 3.7 | 3.8 |   |   |
|             | Sn    |     |     | 51.5  |     | -0.8 | 100 |      |     |     |     |     |   |   |
| CNZ         | Pn    | 08  | 22  | 34.5  |     | 1.6  | 100 | 2.97 | 273 |     |     |     |   |   |
|             | eSn   |     |     | 23 08 |     | 0.4  | 100 |      |     |     |     |     |   |   |
|             | S*    |     |     | 16.5  |     | -1.1 | 100 |      |     |     |     |     |   |   |
| KRP         | Sn    | 08  | 23  | 21    |     | 4.6  |     | 3.34 | 295 |     |     |     |   |   |
| TNZ         | eP*   | 08  | 22  | 55    |     | 0.8  |     | 3.88 | 271 |     |     | 3.9 |   |   |
|             | eSn   |     |     | 23 36 |     | 6.6  |     |      |     |     |     |     |   |   |
| WEL         | Sn    | 08  | 23  | 31    |     | -1.1 | 100 | 4.00 | 240 | 4.2 |     |     |   |   |
|             | e     |     |     | 24 00 |     |      |     |      |     |     |     |     |   |   |
| AUC         | Sn    | 08  | 23  | 45    |     | 2.7  | 98  | 4.42 | 304 |     |     |     |   |   |
| COB         | Sn    | 08  | 24  | 05    |     | 0.1  | 100 | 5.35 | 249 |     |     | 3.4 |   |   |
| CIZ         | Sn    | 08  | 24  | 08    |     | -0.0 | 100 | 5.49 | 148 |     |     |     |   |   |
| GPZ         | Sn    | 08  | 24  | 30.5  |     | -5.0 |     | 6.63 | 227 | 3.8 |     |     |   |   |
| KAI         |       |     |     |       |     |      |     | 6.79 | 240 | 4.4 |     |     |   |   |
| MJZ         | Pn    | 08  | 23  | 42    |     | -0.8 |     | 8.09 | 233 |     |     |     |   |   |
|             | Sn    |     |     | 25 10 |     | -0.6 |     |      |     |     |     |     |   |   |
| AMPLITUDES: |       |     |     |       |     |      |     |      |     |     |     |     |   |   |
|             | GNZ   | 2.5 | 2.5 | TUA   | 0.3 | 0.6  | TRZ | 1.3  |     |     |     |     |   |   |
|             | WTZ   | 1.0 | 1.1 | TNZ   | 0.1 | WEL  | 0.4 |      |     |     |     |     |   |   |
|             | COB   |     | 0.2 | CIZ   | 0.6 | GPZ  | 0.1 |      |     |     |     |     |   |   |
|             | KAI   | 0.2 |     |       |     |      |     |      |     |     |     |     |   |   |

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MAY 24 12<sup>h</sup>18<sup>m</sup>08<sup>s</sup>.6 38°.36S 176°.23E 140 km M = 4.3  
 ± 0.4 0.02 0.02 2 S.E. of RES. 0.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WNZ | P     | 12 | 18 | 27.5 |     | -0.6 | 98  | 0.29 | 200 |     |     |     |   |   |
|     | S     |    |    | 42.5 |     | -0.4 | 99  |      |     |     |     |     |   |   |
| KRP | iP    | 12 | 18 | 30.1 | UNW | 0.1  | 100 | 0.69 | 308 |     |     |     |   |   |
|     | S     |    |    | 46.5 |     | -0.1 | 100 |      |     |     |     |     |   |   |
| WTZ | iP    | 12 | 18 | 30.3 | D   | 0.2  | 100 | 0.70 | 58  |     | 4.1 | 4.1 |   |   |
|     | S     |    |    | 47   |     | 0.3  | 100 |      |     |     |     |     |   |   |
| TUA | iP    | 12 | 18 | 31.0 | D   | -0.2 | 100 | 0.85 | 122 |     | 4.5 | 4.4 |   |   |

|             |     |       |         |     |       |         |      |     |         |      |      |  |
|-------------|-----|-------|---------|-----|-------|---------|------|-----|---------|------|------|--|
|             | S   |       | 48.5    |     | -0.1  | 100     |      |     |         |      |      |  |
| CNZ         | P   | 12 18 | 32.6    |     | 0.1   | 100     | 1.00 | 212 |         |      |      |  |
| GSZ         | S   | 12 18 | 52      |     | 0.4   | 100     | 1.04 | 208 |         |      |      |  |
| TRZ         | P   | 12 18 | 34.5    |     | -0.8  |         | 1.28 | 159 |         | 4.4  | 4.5  |  |
|             | eS  |       | 55      |     | -0.8  |         |      |     |         |      |      |  |
| GNZ         | iP  | 12 18 | 36.4    | DNW | -0.6  |         | 1.44 | 102 |         | 4.5  | 4.2  |  |
|             | S   |       | 58      |     | -0.8  |         |      |     |         |      |      |  |
| TNZ         | P   | 12 18 | 39.6    |     | 0.1   |         | 1.66 | 240 |         | 3.8* |      |  |
| ECZ         | iP  | 12 18 | 42.2    | D   | -0.6  |         | 1.94 | 71  |         | 4.2  | 4.6  |  |
|             | S   |       | 19 10   |     | 1.2   |         |      |     |         |      |      |  |
| CAZ         | P   | 12 18 | 49      |     | -1.4  |         | 2.55 | 180 |         |      |      |  |
|             | S   |       | 19 19.5 |     | -2.7  |         |      |     |         |      |      |  |
| WEL         | P   | 12 18 | 54.3    |     | -3.8  |         | 3.13 | 201 | 4.4     |      |      |  |
|             | S   |       | 19 32   |     | -3.8  |         |      |     |         |      |      |  |
| COB         | P   | 12 19 | 03.5    |     | -3.9  |         | 3.83 | 224 |         |      |      |  |
|             | S   |       | 48      |     | -4.3  |         |      |     |         |      |      |  |
| GPZ         | eP  | 12 19 | 29.5    |     | -6.4  |         | 5.98 | 206 | 3.7*    |      |      |  |
|             | S   |       | 20 34.5 |     | -9.3  |         |      |     |         |      |      |  |
| MJZ         | P   | 12 19 | 46      |     | -5.2  |         | 7.11 | 216 |         | 3.3* | 3.3* |  |
|             | eS  |       | 21 01   |     | -10.0 |         |      |     |         |      |      |  |
| OMZ         | P   | 12 19 | 54.7    |     | -5.8  |         | 7.80 | 209 | 3.8*    |      |      |  |
| CIZ         | S   | 12 21 | 24      |     | -3.6  |         | 7.80 | 138 |         |      |      |  |
| AMPLITUDES: |     |       |         |     |       |         |      |     |         |      |      |  |
|             | WNZ |       | 0.3 0.3 | WTZ |       | 6.0 6.5 | TUA  |     | 5.8 5.4 |      |      |  |
|             | TRZ |       | 2.7 7.5 | GNZ |       | 8.0 6.3 | TNZ  |     | 1.1     |      |      |  |
|             | ECZ |       | 1.0 3.0 | WEL | 1.0   |         | GPZ  | 0.6 |         |      |      |  |
|             | MJZ |       | 0.6 0.9 | OMZ |       | 0.5     |      |     |         |      |      |  |

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MAY 25 07<sup>h</sup>57<sup>m</sup>36<sup>s</sup>.7 39°.22s 175°.22E 121 km M = 3.8

± 0.6 0.02 0.03 6 S.E. of RES. 1.0

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|------|------|------|
| CNZ | iP    | 07 57 | 53.4    |   |     | -0.3 | 100 | 0.25 | 85  |      |      |      |
|     | eS    |       | 58 06.5 |   |     | -0.3 | 100 |      |     |      |      |      |
| GSZ | iP    | 07 57 | 53.4    |   |     | -0.4 |     | 0.29 | 102 |      |      |      |
|     | S     |       | 58 05   |   |     | -2.0 |     |      |     |      |      |      |
| TNZ | iP    | 07 57 | 56.6    |   | D   | 0.6  | 100 | 0.66 | 273 |      | 3.7* | 3.3* |
| WNZ | P     | 07 57 | 58.5    |   |     | 0.5  | 100 | 0.90 | 50  |      |      |      |
| TRZ | P     | 07 58 | 03.5    |   |     | 1.5  | 99  | 1.28 | 106 |      | 3.8  | 4.0  |
|     | S     |       | 23      |   |     | 1.6  | 99  |      |     |      |      |      |
| KRP | P     | 07 58 | 02.9    |   | DSE | 0.5  | 100 | 1.31 | 11  |      |      |      |
|     | S     |       | 21.5    |   |     | -0.6 | 100 |      |     |      |      |      |
| TUA | P     | 07 58 | 06      |   |     | 0.7  | 100 | 1.56 | 75  |      | 4.0  | 4.0  |
|     | S     |       | 26      |   |     | -0.9 | 100 |      |     |      |      |      |
| WTZ | P     | 07 58 | 08      |   |     | -0.7 | 100 | 1.85 | 49  |      | 3.2  | 3.8  |
|     | S     |       | 33.5    |   |     | 0.5  | 100 |      |     |      |      |      |
| CAZ | S     | 07 58 | 33      |   |     | 0.0  | 100 | 1.85 | 156 |      |      |      |
| WEL | e     | 07 58 | 15      |   |     |      |     | 2.10 | 189 | 3.7  |      |      |
|     | S     |       | 36.5    |   |     | -1.8 | 99  |      |     |      |      |      |
|     | e     |       | 43      |   |     |      |     |      |     |      |      |      |
| GNZ | eP    | 07 58 | 13      |   |     | -0.9 | 100 | 2.26 | 76  |      | 3.6  | 4.3  |
|     | S     |       | 41      |   |     | -1.0 | 100 |      |     |      |      |      |
| COB | P     | 07 58 | 19.0    |   | D   | -0.4 | 100 | 2.67 | 225 |      | 3.4* | 3.6* |
|     | S     |       | 52.5    |   |     | 0.7  | 100 |      |     |      |      |      |
| KAI | S     | 07 59 | 29.5    |   |     | -3.6 |     | 4.39 | 220 | 3.3* |      |      |
| GPZ | S     | 07 59 | 37.5    |   |     | -7.3 |     | 4.88 | 203 | 3.3* |      |      |
| MJZ | S     | 08 00 | 04.5    |   |     | -6.5 |     | 5.96 | 215 |      |      | 2.9* |
| CIZ | S     | 08 00 | 54      |   |     | -1.0 |     | 7.77 | 130 |      |      |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TNZ | 1.7 | 1.0 | TRZ | 0.9 | 2.7 | TUA | 1.1 | 1.0 |
|             | WIZ | 0.3 | 1.2 | WEL | 0.4 |     | GNZ | 0.6 | 4.2 |
|             | COB | 0.6 | 3.0 | KAI | 0.2 |     | GPZ | 0.3 |     |
|             | MJZ |     | 0.5 |     |     |     |     |     |     |

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MAY 25 16<sup>h</sup>36<sup>m</sup>16<sup>s</sup>.5 32°.98s 178°.18w 12 km M = 4.6  
 ± 1.9 0.09 0.22 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S       | DIR | RES   | WT  | DIST  | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|-------|-----|-------|-----|-----|-----|-----|
| ECZ | Pn    | 16 | 37 | 39.0    | U   | 3.1   | 99  | 5.42  | 209 |     | 5.1 | 5.0 |
|     | Sn    |    |    | 38 38   |     | 2.1   | 100 |       |     |     |     |     |
|     | S*    |    |    | 39 04.5 |     | 4.1   | 97  |       |     |     |     |     |
| WIZ | Pn    | 16 | 37 | 48.8    | D   | -0.0  | 100 | 6.36  | 217 |     | 4.8 | 4.4 |
|     | eSn   |    |    | 38 58   |     | -0.8  | 100 |       |     |     |     |     |
| GNZ | ePn   | 16 | 37 | 49      |     | -0.9  | 100 | 6.44  | 208 |     | 4.8 | 4.4 |
|     | P*    |    |    | 38 07.5 |     | -0.1  | 100 |       |     |     |     |     |
|     | Sn    |    |    | 58      |     | -2.6  | 99  |       |     |     |     |     |
| ONE | ePn   | 16 | 37 | 55      |     | 0.6   | 100 | 6.77  | 244 |     |     |     |
| TUA | Pn    | 16 | 37 | 56      |     | -0.7  | 100 | 6.95  | 212 |     | 4.8 | 4.6 |
|     | P*    |    |    | 38 15   |     | -1.1  | 100 |       |     |     |     |     |
|     | Sn    |    |    | 39 10   |     | -2.7  | 99  |       |     |     |     |     |
| KRP | Pn    | 16 | 38 | 00      |     | 0.9   | 100 | 7.12  | 224 |     |     |     |
| TRZ | ePn   | 16 | 38 | 08      |     | 0.8   | 100 | 7.70  | 210 |     | 4.2 | 4.5 |
|     | Sn    |    |    | 39 29.5 |     | -1.5  | 100 |       |     |     |     |     |
| CRZ | Pn    | 16 | 38 | 08      |     | 0.1   | 100 | 7.76  | 257 |     | 4.8 |     |
| CNZ | Pn    | 16 | 38 | 10.5    |     | -1.0  | 100 | 8.02  | 218 |     |     |     |
| WEL | Sn    | 16 | 40 | 17      |     | -9.7  |     | 10.03 | 212 | 4.4 |     |     |
| COB | Sn    | 16 | 40 | 38      |     | -9.1  |     | 10.87 | 219 |     |     | 3.8 |
| CIZ | Sn    | 16 | 40 | 51      |     | -0.1  |     | 11.03 | 174 |     |     |     |
| GPZ | Sn    | 16 | 41 | 26      |     | -9.7  |     | 12.90 | 211 | 4.7 |     |     |
| MJZ | Sn    | 16 | 41 | 53.5    |     | -11.9 |     | 14.13 | 216 |     |     | 4.1 |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 0.9 | 0.8 | WIZ | 1.6 | 0.6 | GNZ | 1.2 | 0.8 |
|             | TUA | 0.4 | 0.3 | TRZ | 0.1 | 0.3 | CRZ | 0.1 |     |
|             | WEL | 0.1 |     | COB |     | 0.1 | GPZ | 0.2 |     |
|             | MJZ |     | 0.2 |     |     |     |     |     |     |

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MAY 26 18<sup>h</sup>47<sup>m</sup>17<sup>s</sup>.9 40°.29s 174°.03E 101 km M = 3.5  
 ± 0.6 0.02 0.02 7 S.E. of RES. 0.6

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|------|------|------|
| TNZ | P     | 18 | 47 | 40.0  | D   | -0.2 | 100 | 1.13 | 14  |      | 3.3* | 3.7* |
|     | S     |    |    | 57    |     | -0.0 | 100 |      |     |      |      |      |
| WEL | eP    | 18 | 47 | 40.5  |     | 0.2  | 100 | 1.14 | 151 | 3.7  |      |      |
|     | S     |    |    | 57    |     | -0.2 | 100 |      |     |      |      |      |
| MNG | iP    | 18 | 47 | 41.2  | U   | 0.8  | 99  | 1.15 | 107 |      | 3.3  |      |
|     | eS    |    |    | 57    |     | -0.5 | 100 |      |     |      |      |      |
| COB | iP    | 18 | 47 | 41.7  | U   | -0.1 | 100 | 1.27 | 231 |      | 4.0* | 3.6* |
|     | S     |    |    | 48 00 |     | 0.1  | 100 |      |     |      |      |      |
| GSZ | S     | 18 | 48 | 07    |     | 0.7  | 99  | 1.57 | 50  |      |      |      |
| CNZ | P     | 18 | 47 | 45    |     | -0.8 | 99  | 1.60 | 48  |      |      |      |
| TRZ | S     | 18 | 48 | 20.5  |     | -1.4 |     | 2.27 | 72  |      |      | 3.4  |
| KRP | P     | 18 | 47 | 57.5  |     | -2.2 |     | 2.64 | 27  |      |      |      |
|     | S     |    |    | 48 28 |     | -3.0 |     |      |     |      |      |      |
| WIZ | eP    | 18 | 48 | 05    |     | -3.2 |     | 3.26 | 46  |      |      | 3.1  |
|     | S     |    |    | 45    |     | -1.1 |     |      |     |      |      |      |
| GNZ | S     | 18 | 48 | 48    |     | -4.2 |     | 3.50 | 63  |      |      | 3.8  |
| GPZ | eP    | 18 | 48 | 09    |     | -3.3 |     | 3.56 | 196 | 3.6* |      |      |



|     |   |            |      |      |     |      |      |
|-----|---|------------|------|------|-----|------|------|
|     | S |            | 48.5 | -5.1 |     |      |      |
| MJZ | P | 18 48 23   | -2.8 | 4.55 | 214 | 3.3* | 3.0* |
|     | S | 49 13      | -4.9 |      |     |      |      |
| GSP | P | 18 48 27.5 | -2.6 | 4.87 | 216 |      |      |
|     | S | 49 22      | -3.7 |      |     |      |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TNZ | 0.5 | 2.1 | WEL | 1.3 | MNG | 2.5 |     |     |
|             | COB | 5.0 | 6.0 | TRZ |     | 0.3 | WTZ | 0.1 |     |
|             | GNZ |     | 0.6 | GPZ | 0.8 |     | MJZ | 0.8 | 0.8 |

MAY 26 20<sup>h</sup>06<sup>m</sup>54<sup>s</sup>.2 38°.52s 176°.45E 12 km M = 2.5  
 ± 3.2 0.08 0.23 R S.E. of RES. 2.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|---|-----|---|
| WNZ | iPg   | 20 | 06 | 58.5 |     | -1.9 | 99  | 0.29 | 248 |     |   |   |     |   |
| KRP | Pg    | 20 | 07 | 14   |     | 0.8  | 100 | 0.94 | 310 |     |   |   |     |   |
| CNZ | Sg    | 20 | 07 | 28   |     | 0.8  | 100 | 0.97 | 226 |     |   |   |     |   |
| MNG | ePg   | 20 | 07 | 39.5 |     | 0.3  | 100 | 2.22 | 199 |     |   |   | 2.5 |   |

AMPLITUDES: MNG 0.1

FELT: Wairakei (41)

MAY 27 07<sup>h</sup>52<sup>m</sup>27<sup>s</sup>.0 35°.37s 178°.65E 279 km M = 4.3  
 ± 1.4 0.10 0.21 14 S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W    | S   |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|---|------|-----|
| WTZ | P     | 07 | 53 | 21.2    |     | 0.1  | 100 | 2.93 | 207 |     |   |   | 4.8  | 4.3 |
|     | S     |    |    | 54 02.0 |     | -1.1 | 100 |      |     |     |   |   |      |     |
| GNZ | P     | 07 | 53 | 24.9    |     | 0.0  | 100 | 3.31 | 189 |     |   |   | 4.5  | 4.2 |
|     | S     |    |    | 54 09.0 |     | -1.1 | 100 |      |     |     |   |   |      |     |
| KRP | eP    | 07 | 53 | 28      |     | 0.2  | 100 | 3.58 | 223 |     |   |   | 2.9* |     |
| TUA | eS    | 07 | 54 | 18      |     | 1.4  | 99  | 3.64 | 199 |     |   |   |      | 4.3 |
| TRZ | eP    | 07 | 53 | 37.2    |     | -0.4 | 100 | 4.43 | 199 |     |   |   | 4.2  | 4.2 |
|     | eS    |    |    | 54 34   |     | 1.4  | 99  |      |     |     |   |   |      |     |
| MNG | P     | 07 | 53 | 53.9    |     | -0.2 | 100 | 5.81 | 205 |     |   |   | 4.1  | 4.0 |
|     | S     |    |    | 55 01.0 |     | -1.3 | 99  |      |     |     |   |   |      |     |

AMPLITUDES: WTZ 3.3 1.2 GNZ 1.6 1.2 KRP 0.3  
 TUA 0.4 TRZ 0.2 0.4 MNG 0.6 0.6

MAY 27 10<sup>h</sup>59<sup>m</sup>20<sup>s</sup>.3 32°.88s 179°.66W 466 km M = 4.8  
 ± 1.6 0.18 0.44 18 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W    | S   |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|---|------|-----|
| WTZ | eP    | 11 | 00 | 53.8    |     | -0.2 | 100 | 5.79 | 207 |     |   |   | 5.2  | 4.7 |
|     | eS    |    |    | 02 06   |     | -1.9 | 99  |      |     |     |   |   |      |     |
| GNZ | eP    | 11 | 00 | 55.5    |     | -1.3 | 100 | 6.06 | 198 |     |   |   | 4.4  | 4.9 |
|     | S     |    |    | 02 13.5 |     | 0.6  | 100 |      |     |     |   |   |      |     |
| KRP | P     | 11 | 01 | 02.0    |     | 1.8  | 99  | 6.39 | 217 |     |   |   | 3.5* |     |
| TUA | eS    | 11 | 02 | 21      |     | 0.5  | 100 | 6.46 | 203 |     |   |   |      | 4.8 |
| TRZ | eP    | 11 | 01 | 10      |     | 0.9  | 100 | 7.25 | 202 |     |   |   | 4.7  | 4.9 |
|     | eS    |    |    | 02 37   |     | 1.6  | 99  |      |     |     |   |   |      |     |
| MNG | P     | 11 | 01 | 23.2    |     | -1.2 | 100 | 8.66 | 205 |     |   |   | 4.9  | 4.8 |
|     | eS    |    |    | 03 02.5 |     | -0.3 | 100 |      |     |     |   |   |      |     |
| WEL | eS    | 11 | 03 | 19      |     | -0.5 | 100 | 9.50 | 206 |     |   |   | 4.7  |     |

AMPLITUDES: WTZ 2.6 0.8 GNZ 0.4 1.8 KRP 0.7  
 TUA 0.4 TRZ 0.2 0.7 MNG 1.8 1.7  
 WEL 0.2

MAY 28 01<sup>h</sup>46<sup>m</sup>07<sup>s</sup>.2 38°.97s 177°.57E 12 km 77/ 307  
 ± 0.6 0.04 0.05 R S.E. of RES. 1.6 M = 4.0

| STN         | PHASE | H   | M  | S       | DIR | RES     | WT  | DIST | AZ  | W-A | W | P | W       | S       |
|-------------|-------|-----|----|---------|-----|---------|-----|------|-----|-----|---|---|---------|---------|
| TUA         | P*    | 01  | 46 | 14.6    |     | 0.0     | 100 | 0.37 | 296 |     |   |   |         |         |
|             | S*    |     |    | 19.7    |     | -0.1    | 100 |      |     |     |   |   |         | 3.9 4.1 |
| GNZ         | iP*   | 01  | 46 | 16.0    |     | -0.6    | 100 | 0.48 | 48  |     |   |   |         |         |
|             | S*    |     |    | 23.2    |     | -0.0    | 100 |      |     |     |   |   |         |         |
| TRZ         | P*    | 01  | 46 | 21.8    |     | -0.6    | 100 | 0.83 | 225 |     |   |   | 3.8     |         |
| WTZ         | iP*   | 01  | 46 | 23.9    |     | -3.0    | 98  | 1.08 | 335 |     |   |   |         |         |
| WNZ         | eP*   | 01  | 46 | 30.2    |     | 1.4     | 100 | 1.20 | 286 |     |   |   | 4.2     |         |
|             | e     |     |    | 50      |     |         |     |      |     |     |   |   |         |         |
| ECZ         | eP*   | 01  | 46 | 36      |     | 2.2     | 99  | 1.48 | 31  |     |   |   |         |         |
|             | e     |     |    | 41.5    |     |         |     |      |     |     |   |   |         |         |
| GSZ         | P*    | 01  | 46 | 36.9    |     | 1.7     | 100 | 1.57 | 258 |     |   |   |         |         |
|             | i     |     |    | 39.2    |     |         |     |      |     |     |   |   |         |         |
|             | i     |     |    | 42.1    |     |         |     |      |     |     |   |   |         |         |
| MNG         | Pn    | 01  | 46 | 42.0    |     | -2.1    | 99  | 2.30 | 224 |     |   |   | 3.9 4.0 |         |
|             | eP*   |     |    | 49.0    |     | 1.3     | 100 |      |     |     |   |   |         |         |
|             | Sn    |     |    | 47 12.5 |     | 0.6     | 100 |      |     |     |   |   |         |         |
| TNZ         | eP*   | 01  | 46 | 53.5    |     | 2.6     |     | 2.49 | 264 |     |   |   | 4.1 4.1 |         |
|             | e     |     |    | 47 31.5 |     |         |     |      |     |     |   |   |         |         |
| WEL         | Sn    | 01  | 47 | 31.5    |     | -1.0    | 100 | 3.16 | 222 | 4.2 |   |   |         |         |
| GPZ         | Sn    | 01  | 48 | 36      |     | -4.9    |     | 6.01 | 217 | 4.2 |   |   |         |         |
| AMPLITUDES: |       | TUA |    | 18 35   | TRZ | 3.8     |     | WNZ  |     | 0.8 |   |   |         |         |
|             |       | MNG |    | 2.6 4.6 | TNZ | 0.3 0.3 |     | WEL  |     | 0.6 |   |   |         |         |
|             |       | GPZ |    | 0.3     |     |         |     |      |     |     |   |   |         |         |

FELT: Mahia Beach (54)

MAY 28 20<sup>h</sup>01<sup>m</sup>06<sup>s</sup>.2 41°.96s 173°.66E 12 km 77/ 308  
 ± 0.6 0.03 0.05 R S.E. of RES. 2.1 M = 3.7

| STN         | PHASE | H   | M  | S       | DIR | RES     | WT  | DIST | AZ  | W-A | W | P | W       | S |
|-------------|-------|-----|----|---------|-----|---------|-----|------|-----|-----|---|---|---------|---|
| KKY         | iPg   | 20  | 01 | 13.8    |     | -2.0    | 100 | 0.46 | 177 |     |   |   |         |   |
|             | iSg   |     |    | 23.4    |     | 1.1     | 100 |      |     |     |   |   |         |   |
|             | i     |     |    | 26.8    |     |         |     |      |     |     |   |   |         |   |
| WEL         | Pg    | 20  | 01 | 28.8    |     | 0.8     | 100 | 1.07 | 52  | 3.6 |   |   |         |   |
|             | Sg    |     |    | 43.5    |     | 1.0     | 100 |      |     |     |   |   |         |   |
| COB         | Pg    | 20  | 01 | 29.0    |     | 0.2     | 100 | 1.12 | 321 |     |   |   | 3.8 3.2 |   |
|             | Sg    |     |    | 41.5    |     | -2.3    | 100 |      |     |     |   |   |         |   |
| KAI         | eSg   | 20  | 02 | 08.0    |     | 2.2     | 100 | 1.76 | 250 | 3.7 |   |   |         |   |
| GPZ         | e     | 20  | 01 | 40      |     |         |     | 1.89 | 203 | 3.3 |   |   |         |   |
|             | eSg   |     |    | 02 08   |     | -2.1    | 100 |      |     |     |   |   |         |   |
| MNG         | Pn    | 20  | 01 | 40.8    |     | 2.9     | 99  | 1.92 | 46  |     |   |   | 3.8 3.8 |   |
|             | Pg    |     |    | 43.0    |     | -2.1    | 100 |      |     |     |   |   |         |   |
|             | Sg    |     |    | 02 08.2 |     | -2.8    | 99  |      |     |     |   |   |         |   |
| TNZ         | ePg   | 20  | 02 | 03      |     | -0.3    | 100 | 2.83 | 11  |     |   |   | 3.7 3.7 |   |
|             | eSg   |     |    | 42      |     | 0.6     | 100 |      |     |     |   |   |         |   |
|             | e     |     |    | 53      |     |         |     |      |     |     |   |   |         |   |
| GSZ         | eP*   | 20  | 02 | 02      |     | 2.5     | 100 | 3.05 | 29  |     |   |   |         |   |
|             | i     |     |    | 04.9    |     |         |     |      |     |     |   |   |         |   |
| KRP         | eP*   | 20  | 02 | 23      |     | 2.5     |     | 4.28 | 20  |     |   |   | 4.2     |   |
|             | e     |     |    | 03 13   |     |         |     |      |     |     |   |   |         |   |
|             | eS*   |     |    | 19      |     | 2.8     |     |      |     |     |   |   |         |   |
| AMPLITUDES: |       | WEL |    | 1.3     | COB | 2.7 2.8 |     | KAI  |     | 0.7 |   |   |         |   |

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|--|--|--|--|--|--|-----|-----|--|--|-----|-----|-----|-----|--|-----|-----|
|  |  |  |  |  |  | GPZ | 0.4 |  |  | MNG | 2.8 | 3.6 | TNZ |  | 0.2 | 0.3 |
|  |  |  |  |  |  | KRP | 0.4 |  |  |     |     |     |     |  |     |     |
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|             |                                                    |         |          |         |                  |      |     |      |     |      |      |         |  |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|------|------|---------|--|
|             |                                                    |         |          |         |                  |      |     |      |     |      |      | 77/ 310 |  |
| MAY 28      | 22 <sup>h</sup> 35 <sup>m</sup> 39 <sup>s</sup> .5 | 37°.94s | 176°.38E | 183 km  | M = 4.2          |      |     |      |     |      |      |         |  |
|             | ± 1.1                                              | 0.06    | 0.07     | 7       | S.E. of RES: 1.3 |      |     |      |     |      |      |         |  |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A  | W P  | W S     |  |
| WTZ         | P                                                  | 22      | 36       | 03.3    |                  | -1.2 | 100 | 0.49 | 96  |      | 3.9  | 4.0     |  |
|             | e                                                  |         |          | 19      |                  |      |     |      |     |      |      |         |  |
|             | eS                                                 |         |          | 22      |                  | -1.9 | 99  |      |     |      |      |         |  |
| KRP         | P                                                  | 22      | 36       | 06.0    |                  | 0.5  | 100 | 0.67 | 271 |      | 3.7* | 3.0*    |  |
|             | S                                                  |         |          | 26.0    |                  | 0.5  | 100 |      |     |      |      |         |  |
| TUA         | P                                                  | 22      | 36       | 08.7    |                  | 0.7  | 100 | 1.06 | 145 |      | 4.2  | 4.3     |  |
|             | e                                                  |         |          | 25      |                  |      |     |      |     |      |      |         |  |
|             | S                                                  |         |          | 29.7    |                  | -0.3 | 100 |      |     |      |      |         |  |
| GNZ         | P                                                  | 22      | 36       | 11.8    |                  | 0.1  | 100 | 1.48 | 119 |      |      |         |  |
|             | e                                                  |         |          | 24.5    |                  |      |     |      |     |      |      |         |  |
| GSZ         | P                                                  | 22      | 36       | 13.1    |                  | 1.4  | 100 | 1.48 | 205 |      |      |         |  |
| TRZ         | P                                                  | 22      | 36       | 14.3    |                  | 0.9  | 100 | 1.66 | 168 |      | 4.4  |         |  |
|             | eS                                                 |         |          | 41      |                  | 1.4  | 100 |      |     |      |      |         |  |
| TNZ         | eP                                                 | 22      | 36       | 19.0    |                  | 2.0  | 99  | 2.01 | 231 |      | 3.4* |         |  |
| MNG         | P                                                  | 22      | 36       | 25.9    |                  | -0.1 | 100 | 2.77 | 194 |      |      |         |  |
|             | e                                                  |         |          | 37 01   |                  |      |     |      |     |      |      |         |  |
| WEL         | P                                                  | 22      | 36       | 35.0    |                  | -0.8 | 100 | 3.57 | 200 | 4.7  |      |         |  |
|             | S                                                  |         |          | 37 19.0 |                  | -0.3 | 100 |      |     |      |      |         |  |
| COB         | P                                                  | 22      | 36       | 43.0    |                  | -1.1 | 100 | 4.23 | 221 |      | 3.5* | 3.9*    |  |
|             | S                                                  |         |          | 37 32.5 |                  | -1.8 | 99  |      |     |      |      |         |  |
| KAI         | eS                                                 | 22      | 38       | 09.0    |                  | -5.5 |     | 5.96 | 218 | 3.7* |      |         |  |
| GPZ         | S                                                  | 22      | 38       | 19.5    |                  | -5.8 |     | 6.42 | 205 | 4.1* |      |         |  |
| AMPLITUDES: |                                                    | WTZ     | 2.8      | 3.7     | KRP              | 5.5  | 1.2 | TUA  | 1.7 | 2.0  |      |         |  |
|             |                                                    | TRZ     | 1.5      |         | TNZ              | 0.4  |     | WEL  | 1.3 |      |      |         |  |
|             |                                                    | COB     | 0.5      | 3.7     | KAI              | 0.4  |     | GPZ  | 1.3 |      |      |         |  |

|        |                                                    |         |    |          |     |       |              |      |     |     |     |         |  |
|--------|----------------------------------------------------|---------|----|----------|-----|-------|--------------|------|-----|-----|-----|---------|--|
|        |                                                    |         |    |          |     |       |              |      |     |     |     | 77/ 311 |  |
| MAY 29 | 03 <sup>h</sup> 07 <sup>m</sup> 12 <sup>s</sup> .4 | 41°.05S |    | 172°.75E |     | 12 km | M = 2.8      |      |     |     |     |         |  |
|        |                                                    | ± R     | R  | R        |     | R     | S.E. of RES. | 1.4  |     |     |     |         |  |
| STN    | PHASE                                              | H       | M  | S        | DIR | RES   | WT           | DIST | AZ  | W-A | W P | W S     |  |
| COB    | Pg                                                 | 03      | 07 | 16.0     |     | 1.3   | 100          | 0.04 | 198 |     |     |         |  |



MNG ePg 03 07 53.8 -1.4 100 2.12 79 2.7 2.9  
 eSg 08 24.0 0.2 100

AMPLITUDES: MNG 0.2 0.4

FELT: Cobb River (74) MM IV

MAY 29 03<sup>h</sup>20<sup>m</sup>31<sup>s</sup>.8 34°.71s 178°.91w 33 km 77/ 312  
 M = 5.0  
 ± 1.5 0.09 0.10 R S.E. of RES. 1.7

| STN | PHASE | H  | M    | S    | DIR | RES  | WT  | DIST  | AZ  | W-A | W P | W S |
|-----|-------|----|------|------|-----|------|-----|-------|-----|-----|-----|-----|
| ECZ | P     | 03 | 21   | 28.0 |     | 3.2  | 99  | 3.63  | 214 |     |     |     |
| WIZ | P     | 03 | 21   | 33.0 |     | -0.1 | 100 | 4.24  | 227 |     |     |     |
| GNZ | P     | 03 | 21   | 38.8 |     | 0.1  | 100 | 4.64  | 211 |     |     |     |
| WIZ | P     | 03 | 21   | 38.1 |     | -0.8 | 100 | 4.66  | 224 |     | 5.2 | 5.2 |
|     | e(S)  |    | 22   | 39.5 |     | 9.8  |     |       |     |     |     |     |
| TUA | P     | 03 | 21   | 46.0 |     | 0.0  | 100 | 5.17  | 217 |     | 5.2 | 5.3 |
|     | e(S)  |    | 22   | 50.5 |     | 8.4  |     |       |     |     |     |     |
| KRP | P     | 03 | 21   | 50.0 |     | -0.6 | 100 | 5.52  | 233 |     | 5.3 |     |
|     | e(S)  |    | 22   | 58   |     | 7.6  |     |       |     |     |     |     |
| AUC | (P)   | 03 | 21   | 54.8 |     | 3.5  |     | 5.57  | 245 |     |     |     |
|     | i     |    | 22   | 02.8 |     |      |     |       |     |     |     |     |
| ONE | eP    | 03 | 21   | 53   |     | 1.0  | 100 | 5.62  | 257 |     |     |     |
| TRZ | P     | 03 | 21   | 55.0 |     | -1.1 | 100 | 5.92  | 214 |     | 4.8 | 5.0 |
|     | e(S)  |    | 23   | 07.0 |     | 6.9  |     |       |     |     |     |     |
| TNZ | eP    | 03 | 22   | 11   |     | 0.2  | 100 | 6.99  | 228 |     | 5.7 |     |
|     | e     |    | 26   |      |     |      |     |       |     |     |     |     |
| MNG | eP    | 03 | 22   | 12.5 |     | -3.7 | 97  | 7.40  | 215 |     | 4.7 |     |
|     | e     |    | 19.0 |      |     |      |     |       |     |     |     |     |
| WEL | eP    | 03 | 22   | 29   |     | 1.0  | 100 | 8.25  | 215 | 5.0 |     |     |
|     | S     |    | 23   | 55.7 |     | -0.4 | 100 |       |     |     |     |     |
| COB | eP    | 03 | 22   | 38   |     | -2.6 | 99  | 9.18  | 224 |     | 4.6 | 4.5 |
|     | eS    |    | 24   | 20   |     | 1.7  | 100 |       |     |     |     |     |
| CIZ | eP    | 03 | 22   | 46.0 |     | 2.1  | 100 | 9.42  | 170 |     |     |     |
|     | eS    |    | 24   | 23   |     | -1.0 | 100 |       |     |     |     |     |
| GPZ | eP    | 03 | 23   | 09   |     | 2.0  | 100 | 11.11 | 214 | 4.9 |     |     |
|     | eS    |    | 25   | 05   |     | 0.1  | 100 |       |     |     |     |     |
| MSZ | eP    | 03 | 23   | 48.0 |     | -1.1 | 100 | 14.20 | 222 |     | 4.8 |     |

AMPLITUDES: WTZ 7.0 7.5 TUA 2.0 2.8 KRP 1.8  
 TRZ 0.7 1.7 TNZ 0.8 MNG 1.7  
 WEL 0.6 COB 0.3 0.7 GPZ 0.4  
 MSZ 0.5

MAY 29 11<sup>h</sup>20<sup>m</sup>07<sup>s</sup>.8 44°.72s 167°.58E 12 km 77/ 313  
 M = 4.0  
 ± 0.9 0.03 0.07 R S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|-----|-----|
| MSZ | P*    | 11 | 20 | 11.8 |     | -1.3 | 100 | 0.24 | 80  |      |     |     |
| MNW | P*    | 11 | 20 | 27.0 |     | -0.1 | 100 | 1.06 | 179 |      |     |     |
|     | S*    |    |    | 41.5 |     | 0.1  | 100 |      |     |      |     |     |
| ROX | P*    | 11 | 20 | 33.2 |     | -0.5 | 100 | 1.45 | 122 |      |     |     |
|     | S*    |    |    | 54   |     | 1.1  | 100 |      |     |      |     |     |
| MJZ | Pn    | 11 | 20 | 43.5 |     | 0.2  | 100 | 2.20 | 72  |      | 2.7 | 5.0 |
|     | iP*   |    |    | 47.0 |     | 0.6  | 100 |      |     |      |     |     |
|     | e     |    |    | 50.5 |     |      |     |      |     |      |     |     |
|     | S*    |    | 21 | 16.0 |     | 0.7  | 100 |      |     |      |     |     |
| OMZ | Pn    | 11 | 20 | 46.3 |     | 0.3  | 100 | 2.39 | 100 | 5.5* | 3.0 | 5.4 |
|     | S*    |    | 21 | 19.5 |     | -1.8 | 99  |      |     |      |     |     |

|             |     |            |            |     |         |    |     |     |     |
|-------------|-----|------------|------------|-----|---------|----|-----|-----|-----|
| KAI         | eS* | 11 21 57   | 1.4        | 100 | 3.54    | 53 | 3.8 |     |     |
| GPZ         |     |            |            |     | 3.78    | 76 | 3.6 |     |     |
| COB         | Pn  | 11 21 22.8 | -2.1       | 99  | 5.25    | 48 |     | 4.5 | 3.7 |
|             | eSn | 22 21.5    | -1.7       | 100 |         |    |     |     |     |
| MNG         | Pn  | 11 21 53.5 | 3.0        | 98  | 7.12    | 58 |     | 4.0 |     |
| AMPLITUDES: |     | MJZ 0.2 60 | OMZ 50 0.1 | 50  | KAI 0.2 |    |     |     |     |
|             |     | GPZ 0.2    | COB 0.6    | 0.4 | MNG 0.4 |    |     |     |     |

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MAY 29 18<sup>h</sup>38<sup>m</sup>30<sup>s</sup>.2 37°.84s 176°.72E 12 km M = 3.3  
 $\pm 0.8$  0.04 0.04 R S.E. of RES. 2.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | Pg    | 18 | 38 | 38.2 |     | 2.4  | 99  | 0.25 | 124 |     |     |     |
|     | Sg    |    |    | 40.8 |     | 1.3  | 100 |      |     |     |     |     |
| WIZ | ePg   | 18 | 38 | 40   |     | -0.2 | 100 | 0.49 | 50  |     |     |     |
|     | e     |    |    | 40.7 |     |      |     |      |     |     |     |     |
|     | Sg    |    |    | 45.3 |     | -1.6 | 100 |      |     |     |     |     |
| KRP | Pg    | 18 | 38 | 49.0 |     | -0.3 | 100 | 0.94 | 265 |     | 3.0 | 3.0 |
|     | eSg   |    | 39 | 03.0 |     | 0.9  | 100 |      |     |     |     |     |
| TUA | Pg    | 18 | 38 | 49.3 |     | -1.6 | 100 | 1.02 | 161 |     | 3.5 | 3.6 |
|     | Sg    |    | 39 | 01.3 |     | -3.5 | 98  |      |     |     |     |     |
| GNZ | Pg    | 18 | 38 | 57.2 |     | 0.6  | 100 | 1.30 | 128 |     | 3.6 | 3.1 |
|     | Sg    |    | 39 | 15.5 |     | 1.4  | 100 |      |     |     |     |     |

|             |  |             |             |             |  |  |  |  |  |
|-------------|--|-------------|-------------|-------------|--|--|--|--|--|
| AMPLITUDES: |  | WTZ 2.8 4.8 | KRP 0.8 0.7 | TUA 0.8 1.0 |  |  |  |  |  |
|             |  | GNZ 1.5 0.7 |             |             |  |  |  |  |  |

FELT: Kawerau (24)

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MAY 30 03<sup>h</sup>51<sup>m</sup>22<sup>s</sup>.7 38°.41s 175°.97E 208 km M = 3.8  
 $\pm 2.7$  0.09 0.15 21 S.E. of RES. 1.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|
| KRP | P     | 03 | 51 | 50.4 |     | -0.8 | 100 | 0.58 | 325 |      | 3.4* |      |
| TUA | P     | 03 | 51 | 55   |     | 1.5  | 100 | 1.01 | 114 |      | 3.9  | 3.9  |
|     | S     |    | 52 | 17.5 |     | 0.2  | 100 |      |     |      |      |      |
| GNZ | e     | 03 | 52 | 08   |     |      |     | 1.63 | 99  |      | 3.6  | 3.8  |
|     | eS    |    |    | 24.5 |     | -1.6 | 100 |      |     |      |      |      |
| MNG | P     | 03 | 52 | 07.0 |     | 2.4  | 99  | 2.24 | 190 |      | 3.7  |      |
|     | S     |    |    | 37.5 |     | 0.5  | 100 |      |     |      |      |      |
| WEL | S     | 03 | 52 | 53.5 |     | 0.7  | 100 | 3.02 | 197 | 4.2  |      |      |
| COB | eS    | 03 | 53 | 06.0 |     | -0.4 | 100 | 3.66 | 222 |      |      | 3.0* |
| GPZ | eS    | 03 | 53 | 54   |     | -2.0 | 99  | 5.86 | 204 | 3.2* |      |      |

|             |  |         |             |             |  |  |  |  |  |
|-------------|--|---------|-------------|-------------|--|--|--|--|--|
| AMPLITUDES: |  | KRP 2.2 | TUA 0.7 0.8 | GNZ 0.6 1.6 |  |  |  |  |  |
|             |  | MNG 1.5 | WEL 0.5     | COB 0.6     |  |  |  |  |  |
|             |  | GPZ 0.2 |             |             |  |  |  |  |  |

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MAY 30 12<sup>h</sup>37<sup>m</sup>49<sup>s</sup>.4 39°.66s 176°.14E 33 km M = 3.4  
 $\pm 0.6$  0.04 0.07 R S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ | P     | 12 | 38 | 01.2 |     | 0.9  | 100 | 0.54 | 79  |     | 3.2 |     |
|     | e     |    |    | 11.8 |     |      |     |      |     |     |     |     |
| GSZ | iP    | 12 | 38 | 00.2 |     | -0.6 | 100 | 0.58 | 312 |     |     |     |
|     | eS    |    |    | 09.2 |     | 0.1  | 100 |      |     |     |     |     |
| WNZ | e     | 12 | 38 | 05   |     |      |     | 1.03 | 359 |     | 3.6 | 3.8 |
|     | eS    |    |    | 22   |     | 1.9  | 99  |      |     |     |     |     |

|             |     |            |      |     |      |     |         |
|-------------|-----|------------|------|-----|------|-----|---------|
| MNG         | P   | 12 38 09.0 | 1.3  | 100 | 1.08 | 207 |         |
|             | e   | 25.5       |      |     |      |     |         |
| TUA         | e   | 12 38 08.5 |      |     | 1.16 | 43  | 3.5     |
|             | e   | 11.2       |      |     |      |     |         |
| TNZ         | eP  | 12 38 12.5 | -0.1 | 100 | 1.44 | 289 | 3.3     |
|             | e   | 34         |      |     |      |     |         |
| WTZ         | eP  | 12 38 15.5 | -2.1 | 99  | 1.80 | 22  | 3.1     |
|             | e   | 24         |      |     |      |     |         |
|             | e   | 38         |      |     |      |     |         |
| KRP         | eP  | 12 38 15.0 | -2.5 | 99  | 1.80 | 345 | 3.5     |
|             | eS  | 40.0       | 1.4  | 100 |      |     |         |
| WEL         | eS  | 12 38 42   | 0.3  | 100 | 1.93 | 212 | 3.4     |
| COB         | eP  | 12 38 32.8 | -0.6 | 100 | 2.96 | 240 | 3.7 3.4 |
|             | e   | 39 13.5    |      |     |      |     |         |
| AMPLITUDES: | TRZ | 2.5        | WNZ  | 0.2 | 0.5  | TUA | 0.7     |
|             | TNZ | 0.3        | WTZ  | 0.4 |      | KRP | 0.4     |
|             | WEL | 0.3        | COB  | 0.3 | 0.6  |     |         |

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MAY 31 18<sup>h</sup>50<sup>m</sup>56<sup>s</sup>.9 37°.88S 176°.81E 12 km M = 5.4  
 ± 0.5 0.03 0.05 R S.E. of RES. 1.6

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W | S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|---|-----|---|---|
| WTZ | Pg    | 18 50 | 59.6    |   |     | -1.4 | 100 | 0.17 | 126 |     |   |     |   |   |
| WNZ | P*    | 18 51 | 14.8    |   |     | 0.8  | 100 | 0.94 | 217 |     |   |     |   |   |
| TUA | iP*   | 18 51 | 14.4    |   | U   | -0.0 | 100 | 0.96 | 164 |     |   |     |   |   |
| KRP | P*    | 18 51 | 13.7    |   | U   | -1.5 | 100 | 1.01 | 267 |     |   |     |   |   |
|     | ePg   |       | 17.0    |   |     | -0.4 | 100 |      |     |     |   |     |   |   |
| GNZ | iP*   | 18 51 | 19.9    |   |     | 1.0  | 100 | 1.22 | 129 |     |   |     |   |   |
| ECZ | P*    | 18 51 | 22.2    |   |     | 0.5  | 100 | 1.39 | 83  |     |   |     |   |   |
| TRZ | P*    | 18 51 | 26.1    |   |     | -0.4 | 100 | 1.67 | 180 |     |   |     |   |   |
| GSZ | Pn    | 18 51 | 25.7    |   |     | 0.2  | 100 | 1.69 | 214 |     |   |     |   |   |
|     | iP*   |       | 29.4    |   |     | 2.5  | 99  |      |     |     |   |     |   |   |
|     | i     |       | 31.8    |   |     |      |     |      |     |     |   |     |   |   |
| AUC | P*    | 18 51 | 27.5    |   |     | -3.2 | 98  | 1.92 | 302 |     |   |     |   |   |
| TNZ | ePn   | 18 51 | 34.0    |   |     | 0.1  | 100 | 2.31 | 235 |     |   | 6.0 |   |   |
|     | eP*   |       | 37.4    |   |     | -0.1 | 100 |      |     |     |   |     |   |   |
| ONE | ePn   | 18 51 | 39.5    |   |     | -2.2 | 99  | 2.88 | 316 | 5.9 |   |     |   |   |
|     | iP*   |       | 51.5    |   |     | 4.3  | 90  |      |     |     |   |     |   |   |
|     | i     |       | 52 00.0 |   |     |      |     |      |     |     |   |     |   |   |
|     | eSg   |       | 35      |   |     | 1.1  | 100 |      |     |     |   |     |   |   |
| MNG | Pn    | 18 51 | 41.2    |   |     | -1.0 | 100 | 2.92 | 200 |     |   |     |   |   |
|     | iP*   |       | 45.7    |   |     | -2.2 | 99  |      |     |     |   |     |   |   |
| WEL | ePn   | 18 51 | 55      |   |     | 1.4  | 100 | 3.75 | 204 | 5.1 |   |     |   |   |
|     | e     |       | 52 08   |   |     |      |     |      |     |     |   |     |   |   |
|     | e     |       | 15      |   |     |      |     |      |     |     |   |     |   |   |
| COB | ePn   | 18 52 | 04.0    |   |     | 0.3  | 100 | 4.50 | 223 |     |   | 5.7 |   |   |
|     | i     |       | 09.2    |   |     |      |     |      |     |     |   |     |   |   |
|     | eP*   |       | 15.2    |   |     | 0.4  | 100 |      |     |     |   |     |   |   |
| CRZ | ePn   | 18 52 | 07.0    |   |     | -0.9 | 100 | 4.81 | 315 |     |   | 5.2 |   |   |
|     | e     |       | 32.5    |   |     |      |     |      |     |     |   |     |   |   |
|     | e     |       | 53 45   |   |     |      |     |      |     |     |   |     |   |   |
| KAI | e     | 18 52 | 34      |   |     |      |     | 6.22 | 220 | 5.3 |   |     |   |   |
| GPZ | ePn   | 18 52 | 30.5    |   |     | -2.1 |     | 6.61 | 207 | 5.0 |   |     |   |   |
|     | e     |       | 47      |   |     |      |     |      |     |     |   |     |   |   |
|     | eP*   |       | 52      |   |     | 1.1  |     |      |     |     |   |     |   |   |
| MJZ | ePn   | 18 52 | 46.5    |   |     | -1.8 |     | 7.77 | 216 |     |   | 5.3 |   |   |
|     | i     |       | 56.0    |   |     |      |     |      |     |     |   |     |   |   |
| ROX | ePn   | 18 53 | 15.8    |   |     | 4.7  |     | 9.43 | 214 |     |   | 5.5 |   |   |



|             |     |       |      |     |     |       |     |     |  |
|-------------|-----|-------|------|-----|-----|-------|-----|-----|--|
|             | e   |       | 26.8 |     |     |       |     |     |  |
| MSZ         | ePn | 18 53 | 13.0 | 0.6 | 100 | 9.53  | 222 | 5.4 |  |
| MNW         | ePn | 18 53 | 30.0 | 4.9 |     | 10.46 | 218 |     |  |
|             | e   |       | 32.5 |     |     |       |     |     |  |
| AMPLITUDES: | TNZ |       | 18   | ONE | 17  |       |     | 2.5 |  |
|             | COB |       | 10   | CRZ |     | 1.3   |     | 1.4 |  |
|             | GPZ | 1.1   |      | MJZ |     | 4.8   |     | 1.6 |  |
|             | MSZ |       | 3.2  |     |     |       |     |     |  |

FELT: Central Bay of Plenty. Scattered minor damage. Maximum intensity about MM VIII

MAY 31 18<sup>h</sup>59<sup>m</sup>11<sup>s</sup>.1 37°.69s 176°.72E 12 km M = 4.0  
 ± 1.2 0.09 0.04 R S.E. of RES. 1.6

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ         | Pg    | 18 | 59 | 17.3 |     | -1.4 | 100 | 0.36 | 144 |     |     |     |   |   |
| KRP         | Pg    | 18 | 59 | 32.0 |     | 1.2  | 100 | 0.96 | 256 |     | 3.7 | 3.6 |   |   |
|             | Sg    |    |    | 44.0 |     | 0.2  | 100 |      |     |     |     |     |   |   |
| WNZ         | ePg   | 18 | 59 | 36.5 |     | 3.9  |     | 1.06 | 207 |     | 3.9 |     |   |   |
| GNZ         | Pg    | 18 | 59 | 39.2 |     | -0.3 | 100 | 1.40 | 133 |     |     |     |   |   |
|             | Sg    | 19 | 00 | 00.5 |     | 2.1  | 99  |      |     |     |     |     |   |   |
| ECZ         | Pg    | 18 | 59 | 40.2 |     | -0.3 | 100 | 1.45 | 91  |     | 4.2 |     |   |   |
| AUC         | Pg    | 18 | 59 | 51.5 |     | 4.8  |     | 1.75 | 298 |     |     |     |   |   |
| TRZ         | Pg    | 18 | 59 | 47.3 |     | -1.5 | 100 | 1.86 | 178 |     | 4.5 |     |   |   |
| MNG         | P*    | 19 | 00 | 04.0 |     | -0.8 |     | 3.08 | 198 |     | 3.8 |     |   |   |
|             | Pg    |    |    | 09.3 |     | -4.1 |     |      |     |     |     |     |   |   |
| AMPLITUDES: | KRP   |    |    | 3.6  | 2.7 | WNZ  |     | 0.3  | ECZ |     | 1.1 |     |   |   |
|             | TRZ   |    |    | 2.3  |     | MNG  |     | 0.8  |     |     |     |     |   |   |

FELT: Pikowai (27)

MAY 31 19<sup>h</sup>00<sup>m</sup>49<sup>s</sup>.3 37°.78s 176°.71E 12 km M = 3.8  
 ± 2.5 - 0.19 0.08 R S.E. of RES. 1.9

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ         | Pg    | 19 | 00 | 54.2 |     | -1.5 | 100 | 0.30 | 134 |     |     |     |   |   |
| KRP         | ePg   | 19 | 01 | 09.8 |     | 1.3  | 100 | 0.94 | 261 |     | 3.4 | 3.6 |   |   |
|             | Sg    |    |    | 21.2 |     | -0.1 | 100 |      |     |     |     |     |   |   |
| GNZ         | Pg    | 19 | 01 | 15.8 |     | -0.8 | 100 | 1.35 | 130 |     | 4.0 |     |   |   |
|             | eSg   |    |    | 37   |     | 2.2  | 99  |      |     |     |     |     |   |   |
| TRZ         | Pg    | 19 | 01 | 24.3 |     | -1.0 | 100 | 1.77 | 177 |     | 4.1 |     |   |   |
| MNG         | eP*   | 19 | 01 | 44.0 |     | 2.4  |     | 3.00 | 198 |     | 3.7 |     |   |   |
|             | ePg   |    |    | 46.9 |     | -3.0 |     |      |     |     |     |     |   |   |
| AMPLITUDES: | KRP   |    |    | 1.8  | 2.6 | GNZ  |     | 3.6  | TRZ |     | 1.1 |     |   |   |
|             | MNG   |    |    | 0.7  |     |      |     |      |     |     |     |     |   |   |

FELT: Pikowai (27)

MAY 31 19<sup>h</sup>05<sup>m</sup>11<sup>s</sup>.1 37°.76s 176°.71E 12 km M = 3.9  
 ± 1.0 0.07 0.04 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ | Pg    | 19 | 05 | 15.5 |     | -2.2 | 99  | 0.31 | 135 |     |     |     |   |   |
| KRP | ePg   | 19 | 05 | 30.8 |     | 0.6  | 100 | 0.94 | 260 |     | 3.5 | 3.6 |   |   |
|     | Sg    |    |    | 44.2 |     | 1.3  | 100 |      |     |     |     |     |   |   |
| WNZ | ePg   | 19 | 05 | 30.8 |     | -0.3 | 100 | 0.99 | 209 |     | 3.7 |     |   |   |

|     |     |         |      |      |     |      |     |     |     |
|-----|-----|---------|------|------|-----|------|-----|-----|-----|
| GNZ | eP* | 19 05   | 35.4 | -0.0 | 100 | 1.36 | 131 | 4.2 |     |
|     | iPg |         | 37.4 | -1.2 | 100 |      |     |     |     |
|     | eSg | 06 00   |      | 3.0  | 99  |      |     |     |     |
| ECZ | Pg  | 19 05   | 38.4 | -2.3 | 99  | 1.46 | 88  | 4.0 | 3.9 |
|     | eSg | 06 02.5 |      | 2.1  | 100 |      |     |     |     |
| TRZ | eP* | 19 05   | 42.9 | 0.1  | 100 | 1.79 | 177 | 4.4 |     |
|     | iPg |         | 46.0 | -1.3 | 100 |      |     |     |     |
| MNG | eP* | 19 06   | 02.0 | -1.5 |     | 3.01 | 198 |     |     |
|     | iPg |         | 08.0 | -3.8 |     |      |     |     |     |

AMPLITUDES: KRP 2.2 2.8 WNZ 0.2 GNZ 6.0  
ECZ 0.7 0.6 TRZ 2.1

FELT: Pikowai (27)

MAY 31 19<sup>h</sup>26<sup>m</sup>42<sup>s</sup>.1 37°.69s 176°.89E 12 km M = 4.3 77/ 321  
± 0.8 0.05 0.05 R S.E. of RES. 2.0

| STN         | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | Pg    | 19 26 | 47.1 |   |     | -1.4 | 100 | 0.30 | 166 |     |     |     |
| KRP         | Pn    | 19 27 | 01.0 |   |     | -1.6 | 100 | 1.10 | 258 |     | 4.4 |     |
|             | iPg   |       | 02.9 |   |     | -1.5 | 100 |      |     |     |     |     |
|             | Sg    |       | 17.2 |   |     | -2.1 | 100 |      |     |     |     |     |
| WNZ         | P*    | 19 27 | 02.0 |   |     | -0.5 | 100 | 1.13 | 213 |     | 4.4 |     |
|             | ePg   |       | 06.3 |   |     | 1.3  | 100 |      |     |     |     |     |
|             | e     |       | 11.7 |   |     |      |     |      |     |     |     |     |
| GNZ         | Pg    | 19 27 | 07.2 |   |     | -1.3 | 100 | 1.30 | 137 |     |     |     |
| ECZ         | Pg    | 19 27 | 10.1 |   |     | 1.4  | 100 | 1.31 | 90  |     |     |     |
| TRZ         | P*    | 19 27 | 13.9 |   |     | -1.1 | 100 | 1.85 | 182 |     |     |     |
|             | iPg   |       | 17.3 |   |     | -2.4 | 99  |      |     |     |     |     |
| AUC         | ePn   | 19 27 | 16   |   |     | 2.7  | 99  | 1.88 | 296 |     |     |     |
|             | iPg   |       | 20   |   |     | -0.2 | 100 |      |     |     |     |     |
| GSZ         | P*    | 19 27 | 18.2 |   |     | 2.7  | 99  | 1.89 | 213 |     |     |     |
|             | ePg   |       | 21.7 |   |     | 1.4  | 100 |      |     |     |     |     |
|             | iSg   |       | 48.3 |   |     | 2.6  | 99  |      |     |     |     |     |
| MNG         | ePn   | 19 27 | 29.0 |   |     | -1.2 |     | 3.12 | 200 |     | 4.4 |     |
|             | eP*   |       | 38.0 |   |     | 1.4  |     |      |     |     |     |     |
| WEL         |       |       |      |   |     |      |     | 3.95 | 204 | 4.2 |     |     |
| COB         | ePn   | 19 27 | 53.5 |   |     | 2.0  |     | 4.68 | 222 |     | 4.2 |     |
| AMPLITUDES: | KRP   |       | 13   |   |     | WNZ  | 0.8 | MNG  | 3.7 |     |     |     |
|             | WEL   | 0.2   |      |   |     | COB  | 0.3 |      |     |     |     |     |

FELT: Bay of Plenty (26,27,34), maximum intensity MM IV

MAY 31 19<sup>h</sup>29<sup>m</sup>59<sup>s</sup>.6 37°.69s 176°.74E 12 km M = 3.7 77/ 322  
± 1.5 0.10 0.05 R S.E. of RES. 2.0

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | Pg    | 19 30 | 05.2 |   |     | -1.9 | 100 | 0.35 | 147 |     |     |     |
| KRP | Pg    | 19 30 | 20.2 |   |     | 0.6  | 100 | 0.98 | 256 |     | 3.3 | 3.4 |
|     | Sg    |       | 34.0 |   |     | 1.0  | 100 |      |     |     |     |     |
| GNZ | Pg    | 19 30 | 26.3 |   |     | -1.5 | 100 | 1.39 | 134 |     | 4.0 |     |
|     | eSg   |       | 50   |   |     | 3.4  | 98  |      |     |     |     |     |
| ECZ | Pg    | 19 30 | 29.0 |   |     | 0.3  | 100 | 1.43 | 91  |     | 4.0 |     |
| TRZ | eP*   | 19 30 | 32.3 |   |     | -0.3 | 100 | 1.86 | 178 |     |     |     |
|     | iPg   |       | 35.9 |   |     | -1.5 | 100 |      |     |     |     |     |
| MNG | eP*   | 19 30 | 52.8 |   |     | -0.7 |     | 3.09 | 198 |     | 3.5 |     |
|     | ePg   |       | 58.2 |   |     | -3.9 |     |      |     |     |     |     |

AMPLITUDES: KRP 1.5 1.6 GNZ 3.5 ECZ 0.7  
MNG 0.4

FELT: Pikowai (27)

MAY 31 20<sup>h</sup>11<sup>m</sup>37<sup>s</sup>.2 37°.94s 176°.74E 12 km 77/ 323  
± 0.6 0.05 0.03 R S.E. of RES. 0.9 M = 3.5

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | Pg    | 20 | 11 | 41.2 |     | -0.6 | 100 | 0.20 | 103 |     |     |     |
| TUA         | Pg    | 20 | 11 | 57.0 |     | 1.0  | 99  | 0.93 | 160 |     | 3.6 |     |
| KRP         | ePg   | 20 | 11 | 56.9 |     | 0.3  | 100 | 0.95 | 271 |     | 3.0 | 3.3 |
|             | Sg    |    | 12 | 09.5 |     | 0.0  | 100 |      |     |     |     |     |
| GNZ         | Pg    | 20 | 12 | 02.4 |     | 0.2  | 100 | 1.23 | 125 |     | 3.8 |     |
|             | i     |    |    | 26.0 |     |      |     |      |     |     |     |     |
| MNG         | ePg   | 20 | 12 | 33.8 |     | -1.0 | 99  | 2.85 | 200 |     | 3.5 |     |
| AMPLITUDES: | TUA   |    |    | 1.3  |     | KRP  |     | 0.8  | 1.4 | GNZ |     | 3.0 |
|             | MNG   |    |    | 0.5  |     |      |     |      |     |     |     |     |

MAY 31 23<sup>h</sup>17<sup>m</sup>50<sup>s</sup>.1 37°.82s 176°.78E 12 km 77/ 324  
± 1.2 0.07 0.05 R S.E. of RES. 1.3 M = 3.5

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | Pg    | 23 | 17 | 55.7 |     | 0.5  | 100 | 0.23 | 135 |     |     |     |
| KRP         | ePg   | 23 | 18 | 10.0 |     | -0.1 | 100 | 0.99 | 264 |     | 3.2 | 3.4 |
|             | i     |    |    | 11.8 |     |      |     |      |     |     |     |     |
|             | Sg    |    |    | 24.5 |     | 0.9  | 100 |      |     |     |     |     |
| TUA         | Pg    | 23 | 18 | 10.8 |     | -0.2 | 100 | 1.03 | 164 |     | 3.8 | 3.5 |
|             | Sg    |    |    | 26   |     | 1.1  | 100 |      |     |     |     |     |
| GNZ         | ePg   | 23 | 18 | 15.9 |     | -0.1 | 100 | 1.28 | 130 |     | 4.0 |     |
|             | i     |    |    | 17.1 |     |      |     |      |     |     |     |     |
|             | i     |    |    | 40   |     |      |     |      |     |     |     |     |
| MNG         | ePg   | 23 | 18 | 48.0 |     | -2.1 | 98  | 2.97 | 199 |     | 3.3 |     |
| AMPLITUDES: | KRP   |    |    | 1.0  | 1.6 | TUA  |     | 1.4  | 0.7 | GNZ |     | 4.2 |
|             | MNG   |    |    | 0.3  |     |      |     |      |     |     |     |     |

JUN 01 00<sup>h</sup>07<sup>m</sup>03<sup>s</sup>.5 37°.84s 176°.76E 12 km 77/ 325  
± 0.7 0.05 0.03 R S.E. of RES. 1.3 M = 3.6

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | iPg   | 00 | 07 | 08.0 |     | -0.7 | 100 | 0.23 | 128 |     |     |     |
| KRP         | ePg   | 00 | 07 | 23.2 |     | -0.0 | 100 | 0.97 | 265 |     | 3.3 | 3.4 |
|             | e     |    |    | 25.3 |     |      |     |      |     |     |     |     |
|             | Sg    |    |    | 37.3 |     | 0.9  | 100 |      |     |     |     |     |
|             | e     |    |    | 42.8 |     |      |     |      |     |     |     |     |
| TUA         | Pg    | 00 | 07 | 24.2 |     | 0.1  | 100 | 1.02 | 162 |     | 3.8 | 3.5 |
|             | Sg    |    |    | 39.3 |     | 1.4  | 99  |      |     |     |     |     |
| GNZ         | Pg    | 00 | 07 | 29.5 |     | 0.1  | 100 | 1.28 | 129 |     | 4.1 |     |
|             | i     |    |    | 53   |     |      |     |      |     |     |     |     |
| ECZ         | ePg   | 00 | 07 | 32.8 |     | 0.4  | 100 | 1.42 | 85  |     | 3.6 |     |
| MNG         | ePg   | 00 | 08 | 00.8 |     | -2.3 | 98  | 2.95 | 199 |     | 3.4 |     |
| AMPLITUDES: | KRP   |    |    | 1.3  | 1.6 | TUA  |     | 1.4  | 0.8 | GNZ |     | 5.3 |
|             | ECZ   |    |    | 0.3  |     | MNG  |     | 0.4  |     |     |     |     |



|                                                                                          |       |     |    |      |     |      |     |      |     | 77/ 326 |   |       |
|------------------------------------------------------------------------------------------|-------|-----|----|------|-----|------|-----|------|-----|---------|---|-------|
| JUN 01 03 <sup>h</sup> 22 <sup>m</sup> 58 <sup>s</sup> .1 37°.77S 176°.75E 12 km M = 3.8 |       |     |    |      |     |      |     |      |     |         |   |       |
| ± 1.9 0.15 0.07 R S.E. of RES. 2.1                                                       |       |     |    |      |     |      |     |      |     |         |   |       |
| STN                                                                                      | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A     | W | P W S |
| WTZ                                                                                      | Pg    | 03  | 23 | 01.3 |     | -3.0 | 99  | 0.29 | 140 |         |   |       |
| KRP                                                                                      | ePn   | 03  | 23 | 16.7 |     | -0.2 | 100 | 0.97 | 260 |         |   |       |
|                                                                                          | iPg   |     |    | 19.0 |     | 1.0  | 100 |      |     |         |   |       |
|                                                                                          | Sg    |     |    | 30.5 |     | -0.7 | 100 |      |     |         |   |       |
| WNZ                                                                                      | ePg   | 03  | 23 | 19   |     | 0.4  | 100 | 1.01 | 210 |         |   | 3.7   |
| TUA                                                                                      | Pg    | 03  | 23 | 17.8 |     | -2.4 | 99  | 1.09 | 163 |         |   | 3.8   |
| GNZ                                                                                      | Pn    | 03  | 23 | 22.8 |     | 1.0  | 100 | 1.33 | 132 |         |   | 3.8   |
|                                                                                          | iPg   |     |    | 24.1 |     | -1.0 | 100 |      |     |         |   |       |
|                                                                                          | eSg   |     |    | 46.2 |     | 3.1  | 99  |      |     |         |   |       |
| TNZ                                                                                      | eP*   | 03  | 23 | 41   |     | 1.7  | 100 | 2.34 | 232 |         |   | 4.1   |
| MNG                                                                                      | eP*   | 03  | 23 | 51.8 |     | 1.0  |     | 3.01 | 199 |         |   | 3.6   |
|                                                                                          | ePg   |     |    | 56.3 |     | -2.8 |     |      |     |         |   |       |
| AMPLITUDES:                                                                              |       | WNZ |    | 0.2  | TUA |      | 1.2 | GNZ  |     | 2.3     |   |       |
|                                                                                          |       | TNZ |    | 0.2  | MNG |      | 0.5 |      |     |         |   |       |

|                                                                                          |       |     |    |         |     |      |     |      |     | 77/ 327 |   |         |
|------------------------------------------------------------------------------------------|-------|-----|----|---------|-----|------|-----|------|-----|---------|---|---------|
| JUN 01 05 <sup>h</sup> 55 <sup>m</sup> 20 <sup>s</sup> .9 39°.55S 175°.61E 12 km M = 4.4 |       |     |    |         |     |      |     |      |     |         |   |         |
| ± 0.3 0.02 0.03 R S.E. of RES. 1.4                                                       |       |     |    |         |     |      |     |      |     |         |   |         |
| STN                                                                                      | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A     | W | P W S   |
| GSZ                                                                                      | iPg   | 05  | 55 | 27.1    |     | 0.3  | 100 | 0.27 | 356 |         |   |         |
|                                                                                          | Sg    |     |    | 32.0    |     | 1.2  | 100 |      |     |         |   |         |
| TRZ                                                                                      | P*    | 05  | 55 | 38.2    |     | 0.1  | 100 | 0.94 | 91  |         |   | 3.8     |
|                                                                                          | e     |     |    | 56      |     |      |     |      |     |         |   |         |
| WNZ                                                                                      | P*    | 05  | 55 | 38.4    |     | -0.6 | 100 | 0.99 | 23  |         |   | 4.4     |
| TNZ                                                                                      | P*    | 05  | 55 | 40.2    |     | 0.6  | 100 | 1.03 | 290 |         |   |         |
| MNG                                                                                      | P*    | 05  | 55 | 38.2    |     | -2.2 | 99  | 1.07 | 185 |         |   |         |
| TUA                                                                                      | Pn    | 05  | 55 | 45.2    |     | -0.4 | 100 | 1.40 | 59  |         |   | 4.4     |
|                                                                                          | iP*   |     |    | 47.6    |     | 1.5  | 100 |      |     |         |   |         |
|                                                                                          | iS*   |     |    | 56 06.4 |     | 1.7  | 100 |      |     |         |   |         |
| CAZ                                                                                      | P*    | 05  | 55 | 46.0    |     | -0.6 | 100 | 1.43 | 161 |         |   |         |
|                                                                                          | i     |     |    | 50.0    |     |      |     |      |     |         |   |         |
| KRP                                                                                      | ePn   | 05  | 55 | 47.2    |     | -1.4 | 100 | 1.62 | 358 |         |   | 4.5 4.8 |
|                                                                                          | iP*   |     |    | 49.2    |     | -0.6 | 100 |      |     |         |   |         |
|                                                                                          | S*    |     |    | 56 11.2 |     | -0.1 | 100 |      |     |         |   |         |
| WEL                                                                                      | ePn   | 05  | 55 | 50.2    |     | -1.5 | 100 | 1.85 | 200 | 4.1     |   |         |
|                                                                                          | iSn   |     |    | 56 14.0 |     | -0.8 | 100 |      |     |         |   |         |
|                                                                                          | e     |     |    | 18.0    |     |      |     |      |     |         |   |         |
|                                                                                          | S*    |     |    | 19.5    |     | 1.4  | 100 |      |     |         |   |         |
| WTZ                                                                                      | ePn   | 05  | 55 | 50.2    |     | -2.1 | 99  | 1.90 | 35  |         |   | 4.4     |
|                                                                                          | iP*   |     |    | 54.7    |     | 0.2  | 100 |      |     |         |   |         |
|                                                                                          | iSn   |     |    | 56 14.0 |     | -1.9 | 99  |      |     |         |   |         |
|                                                                                          | iS*   |     |    | 18.5    |     | -0.9 | 100 |      |     |         |   |         |
| GNZ                                                                                      | eP*   | 05  | 55 | 59.0    |     | 1.4  | 100 | 2.08 | 65  |         |   | 4.3     |
|                                                                                          | iPg   |     |    | 56 05.0 |     | 1.9  | 99  |      |     |         |   |         |
| COB                                                                                      | ePn   | 05  | 56 | 02.5    |     | -0.6 | 100 | 2.69 | 234 |         |   | 4.7 4.2 |
|                                                                                          | i     |     |    | 05.0    |     |      |     |      |     |         |   |         |
|                                                                                          | iP*   |     |    | 07.0    |     | -1.0 | 100 |      |     |         |   |         |
|                                                                                          | Sn    |     |    | 37.5    |     | 2.6  | 98  |      |     |         |   |         |
| ECZ                                                                                      | ePg   | 05  | 56 | 21      |     | 0.4  | 100 | 2.95 | 52  |         |   | 4.4     |
| KAI                                                                                      | eP*   | 05  | 56 | 38      |     | 1.5  | 100 | 4.36 | 226 | 4.1     |   |         |
| AMPLITUDES:                                                                              |       | TRZ |    | 3.0     | WNZ |      | 1.3 | TUA  |     | 3.7     |   |         |
|                                                                                          |       | KRP |    | 6.1 9.3 | WEL |      | 1.6 | WTZ  |     | 4.9     |   |         |

GNZ 3.2 COB 4.1 5.0 ECZ 0.4  
KAI 0.3

FELT: Central North Island. Maximum intensity MM V at  
Moawhango and Taihape (58)

JUN 01 08<sup>h</sup>47<sup>m</sup>01<sup>s</sup>.0 34°.40s 179°.05w 269 km 77/ 328  
M = 4.7  
± 2.6 0.24 0.46 40 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|-----|
| ECZ | P     | 08 | 48 | 04.8    |     | 0.7  | 100 | 3.82 | 210 |     |      |     |
| WTZ | eP    | 08 | 48 | 14.0    |     | -1.6 | 99  | 4.81 | 221 |     | 5.0  |     |
| GNZ | eP    | 08 | 48 | 15.0    |     | -1.2 | 100 | 4.85 | 208 |     | 4.8  | 4.5 |
|     | i     |    |    | 17.0    |     |      |     |      |     |     |      |     |
|     | i     |    |    | 49 10.0 |     |      |     |      |     |     |      |     |
|     | S     |    |    | 14.8    |     | -0.1 | 100 |      |     |     |      |     |
| TUA | P     | 08 | 48 | 24      |     | 1.7  | 99  | 5.36 | 214 |     | 5.1  |     |
| KRP | eP    | 08 | 48 | 26      |     | 0.5  | 100 | 5.62 | 230 |     | 3.0* |     |
| TRZ | eP    | 08 | 48 | 32      |     | 0.5  | 100 | 6.12 | 212 |     | 4.6  |     |
| MNG | eP    | 08 | 48 | 49.3    |     | -0.5 | 100 | 7.58 | 213 |     | 4.3  |     |

AMPLITUDES: WTZ 2.6 GNZ 2.0 1.6 TUA 1.3  
KRP 0.3 TRZ 0.3 MNG 0.7

JUN 01 09<sup>h</sup>01<sup>m</sup>37<sup>s</sup>.6 32°.06s 178°.99w 33 km 77/ 329  
M = 4.9  
± 3.2 0.30 0.73 R S.E. of RES. 2.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|-------|-----|-----|-----|-----|
| ECZ | P     | 09 | 03 | 05.2    |     | 2.5  | 100 | 5.98  | 199 |     | 5.2 |     |
| WTZ | P     | 09 | 03 | 14.0    |     | 0.4  | 100 | 6.78  | 208 |     | 5.3 |     |
| GNZ | eP    | 09 | 03 | 15      |     | -1.9 | 100 | 7.01  | 200 |     | 5.0 | 4.9 |
|     | eS    |    |    | 04 35.0 |     | 2.9  | 100 |       |     |     |     |     |
|     | e     |    |    | 37.0    |     |      |     |       |     |     |     |     |
| KRP | eP    | 09 | 03 | 25.5    |     | 3.6  | 99  | 7.38  | 216 |     | 4.9 |     |
| TUA | eP    | 09 | 03 | 23      |     | 0.3  | 100 | 7.44  | 204 |     | 5.1 |     |
| TRZ | eP    | 09 | 03 | 32      |     | -1.3 | 100 | 8.22  | 203 |     | 4.7 |     |
| MNG | eP    | 09 | 03 | 49      |     | -3.7 | 99  | 9.64  | 206 |     | 4.4 | 4.8 |
|     | eS    |    |    | 05 33   |     | -2.2 | 100 |       |     |     |     |     |
| WEL | eS    | 09 | 05 | 55      |     | -0.6 | 100 | 10.48 | 207 | 4.7 |     |     |

AMPLITUDES: ECZ 1.0 WTZ 4.5 GNZ 1.8 2.2  
KRP 0.4 TUA 0.8 TRZ 0.3  
MNG 0.5 1.6 WEL 0.2

JUN 01 09<sup>h</sup>36<sup>m</sup>42<sup>s</sup>.0 39°.65s 175°.66E 12 km 77/ 330  
M = 3.5  
± 0.4 0.02 0.04 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| GSZ | Pg    | 09 | 36 | 50.8    |     | 0.8  | 100 | 0.38 | 351 |     |     |     |
|     | Sg    |    |    | 56.2    |     | 0.9  | 100 |      |     |     |     |     |
| TRZ | eP*   | 09 | 36 | 58.2    |     | -0.4 | 100 | 0.90 | 84  |     | 3.0 | 3.5 |
|     | S*    |    |    | 37 13.5 |     | 2.7  | 99  |      |     |     |     |     |
| MNG | P*    | 09 | 36 | 58.5    |     | -1.4 | 100 | 0.97 | 188 |     |     |     |
|     | eS*   |    |    | 37 10   |     | -2.9 | 99  |      |     |     |     |     |
| TNZ | P*    | 09 | 37 | 00.0    |     | -1.9 | 100 | 1.10 | 295 |     | 3.2 | 3.5 |
|     | S*    |    |    | 18.2    |     | 1.7  | 100 |      |     |     |     |     |
| TUA | Pn    | 09 | 37 | 06.0    |     | -1.1 | 100 | 1.43 | 54  |     | 3.6 |     |
| KRP | ePn   | 09 | 37 | 09.5    |     | -1.6 | 100 | 1.73 | 357 |     | 3.7 | 3.8 |
|     | Sn    |    |    | 31.8    |     | -1.1 | 100 |      |     |     |     |     |

|             |     |            |          |                 |
|-------------|-----|------------|----------|-----------------|
| WEL         | ePn | 09 37 12   | 0.3 100  | 1.77 202 3.4    |
|             | eSn | 34         | 0.1 100  |                 |
|             | eS* | 39         | 2.3 99   |                 |
| WTZ         | ePn | 09 37 14.0 | -0.3 100 | 1.96 32 3.7     |
|             | eSn | 37         | -1.6 100 |                 |
| GNZ         | eP* | 09 37 20.5 | 1.5 100  | 2.10 62 3.3     |
| COB         | ePn | 09 37 24.5 | 0.7 100  | 2.65 236 4.0    |
|             | eP* | 30         | 1.4 100  |                 |
| AMPLITUDES: | TRZ | 0.5 2.3    | TNZ      | 0.4 1.2 TUA 0.7 |
|             | KRP | 0.7 0.8    | WEL      | 0.3 WTZ 1.0     |
|             | GNZ | 0.4        | COB      | 0.8             |

FELT: Moawhango (58) MM IV

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JUN 01 14<sup>h</sup>41<sup>m</sup>33<sup>s</sup>.2 39°.65s 175°.65E 12 km M = 3.4  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.4

| STN | PHASE | H     | M       | S | DIR | RES      | WT | DIST         | AZ | W-A     | W P W S |
|-----|-------|-------|---------|---|-----|----------|----|--------------|----|---------|---------|
| GSZ | Pg    | 14 41 | 41.9    |   |     | 0.8 100  |    | 0.38 352     |    |         |         |
|     | i     |       | 42.7    |   |     |          |    |              |    |         |         |
|     | Sg    |       | 47.5    |   |     | 1.1 100  |    |              |    |         |         |
| TRZ | Pg    | 14 41 | 50.7    |   |     | -1.0 100 |    | 0.91 84      |    | 2.9 3.3 |         |
|     | Sg    |       | 42 06.2 |   |     | 2.2 99   |    |              |    |         |         |
| MNG | P*    | 14 41 | 49.8    |   |     | -1.2 100 |    | 0.97 188     |    | 3.4 3.1 |         |
|     | S*    |       | 42 03.0 |   |     | -1.0 100 |    |              |    |         |         |
| TNZ | eP*   | 14 41 | 51      |   |     | -1.9 99  |    | 1.09 295     |    | 3.0 3.3 |         |
|     | S*    |       | 42 08.3 |   |     | 0.8 100  |    |              |    |         |         |
| TUA | P*    | 14 41 | 57      |   |     | -1.9 99  |    | 1.44 55      |    | 3.5     |         |
| KRP | ePn   | 14 42 | 01.0    |   |     | -1.2 100 |    | 1.73 357     |    | 3.4 3.8 |         |
|     | Sn    |       | 23.0    |   |     | -1.0 100 |    |              |    |         |         |
| WEL | ePn   | 14 42 | 04      |   |     | 1.2 100  |    | 1.76 202 3.3 |    |         |         |
|     | eSn   |       | 25      |   |     | 0.0 100  |    |              |    |         |         |
|     | e     |       | 30      |   |     |          |    |              |    |         |         |
| WTZ | ePn   | 14 42 | 06      |   |     | 0.5 100  |    | 1.97 33      |    | 3.5 3.6 |         |
|     | eSn   |       | 28.5    |   |     | -1.3 100 |    |              |    |         |         |
| GNZ | ePg   | 14 42 | 16.8    |   |     | 1.1 100  |    | 2.11 62      |    | 3.2     |         |
| COB | ePn   | 14 42 | 16.8    |   |     | 1.9 99   |    | 2.65 236     |    | 3.6     |         |
|     | eP*   |       | 20.2    |   |     | 0.6 100  |    |              |    |         |         |

|             |     |         |     |         |     |         |
|-------------|-----|---------|-----|---------|-----|---------|
| AMPLITUDES: | TRZ | 0.4 1.3 | MNG | 5.0 3.2 | TNZ | 0.3 0.8 |
|             | TUA | 0.5     | KRP | 0.4 0.8 | WEL | 0.2     |
|             | WTZ | 0.7 0.7 | GNZ | 0.3     | COB | 0.3     |

FELT: Moawhango (58) MM IV

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JUN 01 17<sup>h</sup>07<sup>m</sup>08<sup>s</sup>.1 37°.80s 176°.77E 12 km M = 4.7  
 ± 0.7 0.06 0.04 R S.E. of RES. 1.6

| STN | PHASE | H     | M    | S | DIR | RES      | WT | DIST     | AZ | W-A | W P W S |
|-----|-------|-------|------|---|-----|----------|----|----------|----|-----|---------|
| WTZ | Pg    | 17 07 | 11.8 |   |     | -1.8 100 |    | 0.25 138 |    |     |         |
| WNZ | P*    | 17 07 | 25.2 |   |     | -0.9 100 |    | 0.99 212 |    | 4.8 |         |
| KRP | P*    | 17 07 | 25.8 |   |     | -0.3 100 |    | 0.99 262 |    | 4.7 |         |
|     | ePg   |       | 31.0 |   |     | 2.8 99   |    |          |    |     |         |
|     | eS*   |       | 38   |   |     | -1.4 100 |    |          |    |     |         |
| TUA | P*    | 17 07 | 26.2 |   | U   | -1.0 100 |    | 1.05 164 |    | 5.0 |         |
| GNZ | P*    | 17 07 | 31.1 |   |     | -0.3 100 |    | 1.30 131 |    |     |         |
|     | i     |       | 32.3 |   |     |          |    |          |    |     |         |
|     | iPg   |       | 34.9 |   |     | 0.5 100  |    |          |    |     |         |
| ECZ | P*    | 17 07 | 34.6 |   |     | 1.3 100  |    | 1.41 86  |    |     |         |





|             |     |       |      |  |      |     |      |     |           |
|-------------|-----|-------|------|--|------|-----|------|-----|-----------|
|             | iS  |       | 48.0 |  | 1.5  | 100 |      |     |           |
| TRZ         | eS  | 00 20 | 00.8 |  | 2.8  | 99  | 2.32 | 63  | 3.8       |
| KRP         | P   | 00 19 | 38.2 |  | -0.1 | 100 | 2.92 | 22  | 3.5* 3.5* |
|             | S   | 20    | 11.9 |  | -0.6 | 100 |      |     |           |
| TUA         | e   | 00 19 | 44   |  |      |     | 2.95 | 53  | 4.2 4.3   |
|             | eS  | 20    | 12   |  | -1.5 | 100 |      |     |           |
| GPZ         | S   | 00 20 | 18   |  | -3.2 | 98  | 3.27 | 199 |           |
| GNZ         | i   | 00 20 | 25.8 |  |      |     | 3.60 | 58  | 4.2       |
|             | S   |       | 27.2 |  | -2.1 | 99  |      |     |           |
| AMPLITUDES: | WEL | 3.3   |      |  | COB  | 0.5 | 10   | TNZ | 0.6       |
|             | TRZ |       | 0.7  |  | KRP  | 1.8 | 1.9  | TUA | 0.6 0.7   |
|             | GNZ |       | 1.7  |  |      |     |      |     |           |

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JUN 02 00<sup>h</sup>44<sup>m</sup>13<sup>s</sup>.7 41°.59S 175°.42E 12 km M = 3.9  
 ± 0.8 0.04 0.06 R S.E. of RES. 1.8

| STN         | PHASE | H  | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|-----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WEL         | Pg    | 00 | 44  | 26.7 |     | 1.1  | 100 | 0.58 | 301 | 4.2 |     |     |   |   |
|             | Sg    |    |     | 33.2 |     | -0.3 | 100 |      |     |     |     |     |   |   |
| CAZ         | Pg    | 00 | 44  | 32.0 |     | -0.3 | 100 | 0.92 | 42  |     |     |     |   |   |
|             | i     |    |     | 34.6 |     |      |     |      |     |     |     |     |   |   |
|             | e     |    |     | 50.2 |     |      |     |      |     |     |     |     |   |   |
| MNG         | iPn   | 00 | 44  | 29.3 |     | -3.1 | 99  | 0.97 | 3   |     |     |     |   |   |
| KKY         | ePg   | 00 | 44  | 44.5 |     | -0.2 | 100 | 1.54 | 237 |     |     |     |   |   |
|             | eSn   |    |     | 58.5 |     | -1.4 | 100 |      |     |     |     |     |   |   |
|             | eSg   |    | 45  | 04.6 |     | -0.9 | 100 |      |     |     |     |     |   |   |
| COB         | P*    | 00 | 44  | 49.8 |     | -0.6 | 100 | 2.09 | 283 |     | 4.1 | 3.6 |   |   |
|             | ePg   |    |     | 54.0 |     | -1.9 | 100 |      |     |     |     |     |   |   |
|             | S*    |    | 45  | 18.5 |     | 0.6  | 100 |      |     |     |     |     |   |   |
| GSZ         | eP*   | 00 | 44  | 56.5 |     | 2.2  | 99  | 2.31 | 3   |     |     |     |   |   |
|             | eSn   |    | 45  | 19   |     | 0.3  | 100 |      |     |     |     |     |   |   |
| TNZ         | eSn   | 00 | 45  | 25   |     | 1.2  | 100 | 2.53 | 341 |     |     |     |   |   |
| GPZ         | eSn   | 00 | 45  | 37.5 |     | 3.8  | 97  | 2.94 | 223 | 3.4 |     |     |   |   |
| KRP         | eP*   | 00 | 45  | 16   |     | -1.4 | 100 | 3.66 | 1   |     | 4.1 |     |   |   |
|             | e     |    |     | 58.5 |     |      |     |      |     |     |     |     |   |   |
|             | eS*   |    | 46  | 06   |     | 0.8  | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: | WEL   | 17 |     |      |     | COB  | 1.5 | 1.9  | GPZ | 0.2 |     |     |   |   |
|             | KRP   |    | 0.4 |      |     |      |     |      |     |     |     |     |   |   |

FELT: Greater Wellington (68) MM IV

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JUN 02 03<sup>h</sup>03<sup>m</sup>50<sup>s</sup>.7 37°.84S 176°.73E 12 km M = 3.6  
 ± 0.9 0.06 0.04 R S.E. of RES. 1.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|---|---|---|
| WIZ | Pg    | 03 | 03 | 54.4 |     | -1.8 | 100 | 0.25 | 125 |     |     |   |   |   |
| KRP | Pn    | 03 | 04 | 08.3 |     | -0.8 | 100 | 0.94 | 265 |     | 3.4 |   |   |   |
|     | iPg   |    |    | 09.3 |     | -0.6 | 100 |      |     |     |     |   |   |   |
|     | Sg    |    |    | 24.2 |     | 1.4  | 100 |      |     |     |     |   |   |   |
| TUA | Pg    | 03 | 04 | 10.0 |     | -1.5 | 100 | 1.02 | 161 |     | 3.8 |   |   |   |
|     | i     |    |    | 13.9 |     |      |     |      |     |     |     |   |   |   |
|     | eSg   |    |    | 25.5 |     | 0.2  | 100 |      |     |     |     |   |   |   |
| GNZ | Pg    | 03 | 04 | 16.0 |     | -1.0 | 100 | 1.30 | 129 |     | 3.7 |   |   |   |
|     | Sg    |    |    | 37   |     | 2.4  | 99  |      |     |     |     |   |   |   |
| ECZ | ePg   | 03 | 04 | 21.0 |     | 0.9  | 100 | 1.45 | 85  |     | 3.6 |   |   |   |
| TRZ | Pg    | 03 | 04 | 24.2 |     | -1.2 | 100 | 1.71 | 178 |     | 3.8 |   |   |   |
| MNG | eP*   | 03 | 04 | 45   |     | 3.0  | 99  | 2.94 | 199 |     | 3.3 |   |   |   |

|             |       |                                                    |         |          |         |                  |         |             |
|-------------|-------|----------------------------------------------------|---------|----------|---------|------------------|---------|-------------|
| ePg         |       | 49                                                 | -1.1    | 100      |         |                  |         |             |
| AMPLITUDES: | KRP   | 2.1                                                | TUA     | 1.5      | GNZ     | 2.0              |         |             |
|             | ECZ   | 0.3                                                | TRZ     | 0.6      | MNG     | 0.3              |         |             |
| JUN 02      |       | 11 <sup>h</sup> 12 <sup>m</sup> 11 <sup>s</sup> .5 | 39°.19s | 175°.12E | 12 km   | M = 4.1          | 77/ 337 |             |
|             |       | ± 0.5                                              | 0.03    | 0.05     | R       | S.E. of RES. 1.9 |         |             |
| STN         | PHASE | H M S                                              | DIR     | RES      | WT      | DIST             | AZ      | W-A W P W S |
| GSZ         | iPg   | 11 12 16.7                                         |         | -2.6     | 99      | 0.37             | 103     |             |
| TNZ         | Pg    | 11 12 23.9                                         |         | 0.5      | 100     | 0.58             | 270     |             |
|             | e     | 34                                                 |         |          |         |                  |         |             |
| WNZ         | eP*   | 11 12 28.5                                         |         | -0.4     | 100     | 0.94             | 54      | 3.8         |
| KRP         | P*    | 11 12 33.3                                         |         | -1.7     | 100     | 1.30             | 14      | 4.5 4.7     |
|             | S*    | 51                                                 |         | -1.4     | 100     |                  |         |             |
|             | iSg   | 57.0                                               |         | 1.3      | 100     |                  |         |             |
| TRZ         | Pg    | 11 12 40.7                                         |         | 1.5      | 100     | 1.37             | 106     | 3.8         |
| MNG         | Pn    | 11 12 35.0                                         |         | -1.8     | 100     | 1.45             | 169     |             |
| CAZ         | P*    | 11 12 46.8                                         |         | 1.5      | 100     | 1.91             | 154     |             |
| WEL         | Pn    | 11 12 47.3                                         |         | 1.5      | 100     | 2.11             | 187     | 3.9         |
|             | Sn    | 13 10.0                                            |         | -1.6     | 100     |                  |         |             |
| GNZ         | ePn   | 11 12 51                                           |         | 2.2      | 100     | 2.33             | 77      | 3.6         |
|             | e     | 13 38                                              |         |          |         |                  |         |             |
| COB         | Pn    | 11 12 52.8                                         |         | -0.2     | 100     | 2.64             | 223     | 4.3 4.0     |
|             | i     | 55.0                                               |         |          |         |                  |         |             |
|             | eP*   | 13 00.5                                            |         | 2.8      | 99      |                  |         |             |
|             | S*    | 30.5                                               |         | -1.7     | 100     |                  |         |             |
| AMPLITUDES: |       | WNZ                                                | 0.3     | KRP      | 9.0     | 11               | TRZ     | 0.8         |
|             | WEL   | 0.7                                                |         | GNZ      | 0.3     |                  | COB     | 1.6 2.7     |
| JUN 02      |       | 12 <sup>h</sup> 14 <sup>m</sup> 46 <sup>s</sup> .3 | 34°.85s | 179°.21W | 223 km  | M = 4.2          | 77/ 338 |             |
|             |       | ± 2.7                                              | 0.16    | 0.16     | 34      | S.E. of RES. 2.4 |         |             |
| STN         | PHASE | H M S                                              | DIR     | RES      | WT      | DIST             | AZ      | W-A W P W S |
| WTZ         | P     | 12 15 52.0                                         |         | -2.3     | 100     | 4.38             | 223     | 4.5 4.2     |
|             | eS    | 16 48                                              |         | 1.0      | 100     |                  |         |             |
| GNZ         | P     | 12 15 52.2                                         |         | -2.2     | 100     | 4.39             | 210     | 4.2 4.0     |
|             | S     | 16 48                                              |         | 0.8      | 100     |                  |         |             |
| TUA         | P     | 12 15 59                                           |         | -1.8     | 100     | 4.91             | 215     | 4.4         |
| KRP         | eP    | 12 16 06                                           |         | 1.0      | 100     | 5.24             | 233     | 3.0*        |
|             | e     | 16.8                                               |         |          |         |                  |         |             |
| MNG         | eS    | 12 17 48.8                                         |         | -0.7     | 100     | 7.14             | 215     | 3.8         |
| COB         | eS    | 12 18 30                                           |         | -0.3     | 100     | 8.90             | 223     | 2.9*        |
| CIZ         | eP    | 12 17 01                                           |         | 3.6      | 99      | 9.32             | 168     |             |
|             | eS    | 18 38                                              |         | -1.9     | 100     |                  |         |             |
| AMPLITUDES: |       | WTZ                                                | 1.0 0.6 | GNZ      | 0.6 0.6 | TUA              | 0.3     |             |
|             | KRP   | 0.3                                                |         | MNG      | 0.3     | COB              | 0.2     |             |
| JUN 02      |       | 13 <sup>h</sup> 17 <sup>m</sup> 46 <sup>s</sup> .6 | 38°.37s | 177°.04E | 12 km   | M = 4.5          | 77/ 339 |             |
|             |       | ± 0.5                                              | 0.03    | 0.04     | R       | S.E. of RES. 1.6 |         |             |
| STN         | PHASE | H M S                                              | DIR     | RES      | WT      | DIST             | AZ      | W-A W P W S |
| WTZ         | Pg    | 13 17 55.9                                         |         | 1.3      | 100     | 0.38             | 354     |             |
| TUA         | Pg    | 13 17 57.0                                         |         | 1.1      | 100     | 0.45             | 169     |             |
| WNZ         | eP*   | 13 18 03.0                                         |         | 2.0      | 99      | 0.78             | 250     | 4.2         |
| GNZ         | P*    | 13 18 01.2                                         |         | -0.5     | 100     | 0.82             | 110     |             |
| TRZ         | P*    | 13 18 07.7                                         |         | -0.5     | 100     | 1.20             | 188     |             |



|             |     |            |          |          |         |
|-------------|-----|------------|----------|----------|---------|
| KRP         | P*  | 13 18 09.2 | -0.1 100 | 1.26 290 | 4.0 4.3 |
|             | S*  | 24.8       | -1.2 100 |          |         |
| ECZ         | P*  | 13 18 10.5 | -0.6 100 | 1.37 61  |         |
| GSZ         | P*  | 13 18 11.8 | -0.7 100 | 1.46 231 |         |
| TNZ         | P*  | 13 18 24.8 | -1.0 100 | 2.23 248 | 4.6     |
|             | e   | 19 02.5    |          |          |         |
|             | e   | 06.7       |          |          |         |
| AUC         | Pn  | 13 18 24.4 | 0.4 100  | 2.34 309 |         |
| MNG         | ePn | 13 18 24.5 | -2.4 99  | 2.56 208 |         |
|             | eP* | 33         | 1.7 100  |          |         |
|             | e   | 38         |          |          |         |
| WEL         | Sn  | 13 19 15.0 | -2.7 99  | 3.40 210 | 4.6     |
|             | S*  | 32.2       | 2.0 99   |          |         |
| COB         | ePn | 13 18 51.7 | 1.1 100  | 4.29 229 | 5.1 4.6 |
|             | i   | 55.0       |          |          |         |
|             | e   | 19 45.5    |          |          |         |
| GPZ         | eSn | 13 20 21   | -5.8     | 6.28 211 | 4.4     |
| AMPLITUDES: | WNZ | 1.6        | KRP      | 4.1 7.3  | TNZ 0.9 |
|             | WEL | 1.3        | COB      | 4.3 4.5  | GPZ 0.4 |

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JUN 02 13<sup>h</sup>46<sup>m</sup>43<sup>s</sup>.0 38°.37s 177°.02E 12 km M = 3.9  
 ± 0.5 0.03 0.04 R S.E. of RES. 1.5

| STN         | PHASE | H     | M    | S   | DIR | RES  | WT      | DIST | AZ  | W-A     | W P W S |
|-------------|-------|-------|------|-----|-----|------|---------|------|-----|---------|---------|
| WTZ         | iPg   | 13 46 | 52.0 |     |     | 0.9  | 100     | 0.39 | 356 |         |         |
| TUA         | Pg    | 13 46 | 53.0 |     |     | 0.7  | 100     | 0.45 | 167 | 3.5     | 3.8     |
|             | Sg    | 47    | 00.9 |     |     | 2.4  | 99      |      |     |         |         |
| WNZ         | ePg   | 13 47 | 00.8 |     |     | 2.1  | 99      | 0.76 | 250 | 3.6     |         |
| GNZ         | P*    | 13 46 | 57.0 |     |     | -1.3 | 100     | 0.83 | 110 |         |         |
|             | S*    | 47    | 10.0 |     |     | 0.4  | 100     |      |     |         |         |
| TRZ         | P*    | 13 47 | 03.2 |     |     | -1.3 | 100     | 1.20 | 187 | 3.5     |         |
|             | iPg   |       | 05.5 |     |     | -1.7 | 100     |      |     |         |         |
|             | e     | 23    |      |     |     |      |         |      |     |         |         |
| KRP         | P*    | 13 47 | 04.9 |     |     | -0.6 | 100     | 1.25 | 290 | 3.6     |         |
|             | eS*   |       | 23   |     |     | 0.8  | 100     |      |     |         |         |
| ECZ         | e(Pg) | 13 47 | 16   |     |     | 5.0  |         | 1.38 | 61  | 3.8     |         |
| GSZ         | P*    | 13 47 | 07.2 |     |     | -1.5 | 100     | 1.44 | 231 |         |         |
| TNZ         | eP*   | 13 47 | 21   |     |     | -1.0 | 100     | 2.22 | 248 | 4.3     |         |
| MNG         | ePn   | 13 47 | 24.2 |     |     | 1.0  |         | 2.55 | 207 | 3.8     |         |
|             | eP*   |       | 31.0 |     |     | 3.4  |         |      |     |         |         |
| WEL         | eSn   | 13 48 | 11.3 |     |     | -2.5 |         | 3.39 | 210 | 4.1     |         |
|             | eS*   |       | 29   |     |     | 2.7  |         |      |     |         |         |
| COB         | ePn   | 13 47 | 47   |     |     | 0.1  | 100     | 4.28 | 229 | 4.3 4.2 |         |
|             | e     |       | 51   |     |     |      |         |      |     |         |         |
|             | e     | 48    | 45   |     |     |      |         |      |     |         |         |
| GPZ         |       |       |      |     |     |      |         | 6.27 | 210 | 4.1     |         |
| AMPLITUDES: | TUA   | 5.7   | 12   | WNZ | 0.4 | TRZ  | 1.0     |      |     |         |         |
|             | KRP   | 1.5   |      | ECZ | 0.7 | TNZ  | 0.4     |      |     |         |         |
|             | MNG   | 1.9   |      | WEL | 0.4 | COB  | 0.7 1.6 |      |     |         |         |
|             | GPZ   | 0.2   |      |     |     |      |         |      |     |         |         |

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JUN 02 20<sup>h</sup>58<sup>m</sup>53<sup>s</sup>.1 37°.92s 176°.63E 12 km M = 3.6  
 ± 0.7 0.08 0.04 R S.E. of RES. 1.4

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A     | W P W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|---------|---------|
| WTZ | Pg    | 20 58 | 57.3 |   |     | -2.0 | 99  | 0.29 | 103 |         |         |
| KRP | Pg    | 20 59 | 10.1 |   |     | -0.6 | 100 | 0.86 | 269 | 3.4 3.5 |         |

|             |     |    |      |      |      |     |      |     |         |
|-------------|-----|----|------|------|------|-----|------|-----|---------|
|             | Sg  |    | 23.2 |      | 0.8  | 100 |      |     |         |
| TUA         | Pg  | 20 | 59   | 11.9 | -1.0 | 100 | 0.97 | 155 | 3.9     |
| GNZ         | ePn | 20 | 59   | 17.5 | 1.0  | 100 | 1.31 | 124 | 4.0 3.7 |
|             | iPg |    |      | 19.2 | -0.5 | 100 |      |     |         |
|             | Sg  |    |      | 39   | 1.5  | 100 |      |     |         |
| ECZ         | ePg | 20 | 59   | 25.0 | 0.8  | 100 | 1.54 | 82  | 3.7     |
| MNG         | ePg | 20 | 59   | 48   | -2.5 |     | 2.83 | 198 | 3.3     |
| AMPLITUDES: | KRP |    |      | 2.3  | 2.8  | TUA | 1.9  | GNZ | 3.5 2.6 |
|             | ECZ |    |      | 0.3  |      | MNG | 0.3  |     |         |

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JUN 02    21<sup>h</sup>46<sup>m</sup>51<sup>s</sup>.4    37°.62s    176°.37E    218 km    M = 3.9  
                  ± 1.0            0.05            0.06            6    S.E. of RES. 1.2

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W | P    | W    | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|------|---|------|------|---|
| WTZ         | P     | 21 | 47 | 20.5  |     | -0.7 | 100 | 0.61 | 127 |      |   | 3.7  | 3.7  |   |
|             | S     |    |    | 42.0  |     | -2.2 | 98  |      |     |      |   |      |      |   |
| KRP         | P     | 21 | 47 | 21.7  |     | 0.0  | 100 | 0.73 | 245 |      |   | 3.0* |      |   |
|             | S     |    |    | 46.1  |     | 0.9  | 100 |      |     |      |   |      |      |   |
| TUA         | eP    | 21 | 47 | 27    |     | 1.4  | 99  | 1.34 | 153 |      |   | 3.8  | 4.2  |   |
|             | S     |    |    | 52    |     | -0.2 | 100 |      |     |      |   |      |      |   |
| ECZ         | eP    | 21 | 47 | 28    |     | -1.0 | 100 | 1.73 | 93  |      |   | 3.6  | 3.9  |   |
|             | e     |    |    | 52.0  |     |      |     |      |     |      |   |      |      |   |
|             | eS    |    |    | 59.0  |     | 0.9  | 100 |      |     |      |   |      |      |   |
| TRZ         | S     | 21 | 48 | 03.2  |     | 1.2  | 100 | 1.96 | 170 |      |   | 4.1  | 4.4  |   |
| MNG         | iP    | 21 | 47 | 43.8  |     | 0.4  | 100 | 3.08 | 193 |      |   |      |      |   |
|             | e     |    |    | 48 16 |     |      |     |      |     |      |   |      |      |   |
|             | S     |    |    | 23.5  |     | -0.1 | 100 |      |     |      |   |      |      |   |
| WEL         | eS    | 21 | 48 | 39    |     | -1.5 | 99  | 3.87 | 198 | 4.2  |   |      |      |   |
| COB         | eP    | 21 | 48 | 00    |     | -0.3 | 100 | 4.47 | 218 |      |   | 3.3* | 3.2* |   |
|             | S     |    |    | 54.0  |     | 0.3  | 100 |      |     |      |   |      |      |   |
| GPZ         | eS    | 21 | 49 | 40    |     | -4.6 |     | 6.70 | 204 | 3.6* |   |      |      |   |
| AMPLITUDES: | WTZ   |    |    | 1.2   | 1.3 | KRP  | 0.9 | TUA  |     |      |   | 0.4  | 1.1  |   |
|             | ECZ   |    |    | 0.2   | 0.5 | TRZ  | 0.5 | 2.5  | WEL | 0.3  |   |      |      |   |
|             | COB   |    |    | 0.3   | 0.7 | GPZ  | 0.4 |      |     |      |   |      |      |   |

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JUN 03    07<sup>h</sup>17<sup>m</sup>56<sup>s</sup>.1    37°.84s    176°.64E    12 km    M = 3.6  
                  ± 1.7            0.13            0.06            R    S.E. of RES. 2.0

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WTZ         | Pg    | 07 | 18 | 00.7 |     | -2.1 | 100 | 0.31 | 118 |     |   |     |     |   |
| KRP         | Pg    | 07 | 18 | 13.2 |     | -0.7 | 100 | 0.87 | 264 |     |   | 2.9 | 3.4 |   |
|             | Sg    |    |    | 27.3 |     | 1.5  | 100 |      |     |     |   |     |     |   |
| TUA         | Pg    | 07 | 18 | 15.4 |     | -2.1 | 100 | 1.05 | 158 |     |   | 3.9 |     |   |
| GNZ         | ePn   | 07 | 18 | 21.8 |     | 1.6  | 100 | 1.36 | 127 |     |   | 4.1 |     |   |
|             | Pg    |    |    | 23.0 |     | -0.6 | 100 |      |     |     |   |     |     |   |
|             | Sg    |    |    | 45.0 |     | 3.0  | 99  |      |     |     |   |     |     |   |
| TRZ         | eP*   | 07 | 18 | 27   |     | 0.3  | 100 | 1.72 | 175 |     |   | 4.0 |     |   |
|             | ePg   |    |    | 30.0 |     | -1.0 | 100 |      |     |     |   |     |     |   |
| MNG         | eP*   | 07 | 18 | 48   |     | 0.8  |     | 2.92 | 198 |     |   | 3.4 |     |   |
|             | ePg   |    |    | 52.5 |     | -2.7 |     |      |     |     |   |     |     |   |
| AMPLITUDES: | KRP   |    |    | 0.8  | 2.2 | TUA  | 1.5 | GNZ  |     |     |   | 3.9 |     |   |
|             | TRZ   |    |    | 0.8  |     | MNG  | 0.3 |      |     |     |   |     |     |   |

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JUN 03    09<sup>h</sup>23<sup>m</sup>26<sup>s</sup>.8    37°.84s    176°.63E    12 km    M = 3.7  
                  ± 0.9            0.07            0.04            R    S.E. of RES. 1.7

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | iPg   | 09  | 23 | 32.0 |     | -1.7 | 100 | 0.32 | 117 |     |     |     |
| KRP         | Pg    | 09  | 23 | 44.0 |     | -0.4 | 100 | 0.86 | 264 |     | 3.2 | 3.5 |
|             | Sg    |     |    | 57.8 |     | 1.6  | 100 |      |     |     |     |     |
| TUA         | Pg    | 09  | 23 | 46.3 |     | -1.9 | 100 | 1.05 | 157 |     | 4.0 |     |
| GNZ         | ePn   | 09  | 23 | 51.9 |     | 1.0  | 100 | 1.36 | 127 |     | 4.2 |     |
|             | iPg   |     |    | 54.2 |     | -0.2 | 100 |      |     |     |     |     |
|             | eSg   |     | 24 | 16   |     | 3.1  | 98  |      |     |     |     |     |
| ECZ         | ePg   | 09  | 23 | 57.5 |     | -0.3 | 100 | 1.53 | 85  |     |     |     |
| TRZ         | ePg   | 09  | 24 | 01.2 |     | -0.4 | 100 | 1.72 | 175 |     | 4.0 |     |
| MNG         | ePg   | 09  | 24 | 25.0 |     | -0.8 | 100 | 2.92 | 197 |     | 3.4 |     |
| AMPLITUDES: |       | KRP |    | 1.6  | 2.5 | TUA  |     | 1.9  | GNZ |     | 5.0 |     |
|             |       | TRZ |    | 0.8  |     | MNG  |     | 0.3  |     |     |     |     |

JUN 03 11<sup>h</sup>40<sup>m</sup>20<sup>s</sup>.4 37°.85s 176°.89E 12 km M = 4.3  
 ± 0.5 0.03 0.03 R S.E. of RES. 1.3

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | Pg    | 11  | 40 | 23.2 |     | -1.1 | 100 | 0.16 | 150 |     |     |     |
| TUA         | Pn    | 11  | 40 | 39.8 |     | 0.4  | 100 | 0.98 | 168 |     | 4.4 | 4.5 |
|             | iPg   |     |    | 40.0 |     | -0.4 | 100 |      |     |     |     |     |
|             | Sg    |     |    | 52.0 |     | -1.7 | 99  |      |     |     |     |     |
| KRP         | ePn   | 11  | 40 | 39.0 |     | -1.5 | 100 | 1.07 | 265 |     | 4.5 |     |
|             | iPg   |     |    | 40.8 |     | -1.4 | 100 |      |     |     |     |     |
|             | Sg    |     |    | 55.0 |     | -1.7 | 100 |      |     |     |     |     |
| GNZ         | Pn    | 11  | 40 | 42.8 |     | 0.5  | 100 | 1.20 | 132 |     |     |     |
|             | iPg   |     |    | 44.8 |     | 0.1  | 100 |      |     |     |     |     |
| ECZ         | Pg    | 11  | 40 | 47.1 |     | -0.2 | 100 | 1.32 | 84  |     |     |     |
| TRZ         | Pn    | 11  | 40 | 51.0 |     | 1.8  | 99  | 1.71 | 182 |     | 4.6 | 4.1 |
|             | iPg   |     |    | 54.0 |     | -1.0 | 100 |      |     |     |     |     |
|             | e     |     | 41 | 23.2 |     |      |     |      |     |     |     |     |
| GSZ         | ePn   | 11  | 40 | 52   |     | 2.1  | 99  | 1.75 | 215 |     |     |     |
|             | ePg   |     |    | 55.5 |     | -0.5 | 100 |      |     |     |     |     |
|             | iSg   |     | 41 | 21.2 |     | 1.5  | 100 |      |     |     |     |     |
| AUC         | iPn   | 11  | 40 | 52.4 |     | -0.1 | 100 | 1.95 | 300 |     |     |     |
|             | iP*   |     |    | 56.5 |     | 1.6  | 100 |      |     |     |     |     |
|             | iPg   |     |    | 59.5 |     | -0.4 | 100 |      |     |     |     |     |
| TNZ         | eP*   | 11  | 41 | 04.0 |     | 1.8  | 99  | 2.38 | 235 |     | 4.1 |     |
| MNG         | ePn   | 11  | 41 | 10.0 |     | 3.4  |     | 2.98 | 201 |     | 4.6 |     |
|             | eP*   |     |    | 17   |     | 4.6  |     |      |     |     |     |     |
| WEL         |       |     |    |      |     |      |     | 3.81 | 205 | 4.0 |     |     |
| AMPLITUDES: |       | TUA |    | 8.0  | 10  | KRP  |     | 17   | TRZ |     | 4.2 | 1.9 |
|             |       | TNZ |    | 0.2  |     | MNG  |     | 6.0  | WEL |     | 0.2 |     |

FELT: Ohope Beach (35) MM IV

JUN 03 11<sup>h</sup>54<sup>m</sup>06<sup>s</sup>.3 37°.83s 176°.79E 12 km M = 3.8  
 ± 0.9 0.06 0.05 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | Pg    | 11 | 54 | 08.8 |     | -2.5 | 99  | 0.22 | 135 |     |     |     |
| KRP | Pn    | 11 | 54 | 25.5 |     | 0.1  | 100 | 1.00 | 264 |     | 3.5 | 3.6 |
|     | ePg   |    |    | 26.8 |     | 0.3  | 100 |      |     |     |     |     |
|     | Sg    |    |    | 41.0 |     | 1.0  | 100 |      |     |     |     |     |
| TUA | ePg   | 11 | 54 | 25.0 |     | -2.0 | 100 | 1.02 | 164 |     | 3.6 | 3.8 |
|     | e     |    |    | 37.8 |     |      |     |      |     |     |     |     |
|     | eSg   |    |    | 40   |     | -0.8 | 100 |      |     |     |     |     |



|     |     |       |       |      |     |      |     |     |     |
|-----|-----|-------|-------|------|-----|------|-----|-----|-----|
| GNZ | Pn  | 11 54 | 30.1  | 1.0  | 100 | 1.27 | 130 | 4.1 | 3.8 |
|     | iPg |       | 33.9  | 1.9  | 100 |      |     |     |     |
|     | Sg  |       | 52.5  | 3.3  | 98  |      |     |     |     |
| ECZ | Pg  | 11 54 | 33.0  | -1.7 | 100 | 1.40 | 85  | 4.4 |     |
| TRZ | ePn | 11 54 | 36    | 0.7  | 100 | 1.72 | 179 | 3.8 |     |
|     | ePg |       | 40    | -1.2 | 100 |      |     |     |     |
| MNG | eP* | 11 54 | 58    | -0.1 |     | 2.97 | 200 | 3.9 |     |
|     | e   |       | 55 03 |      |     |      |     |     |     |
|     | iPg |       | 07    | 0.7  |     |      |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | KRP | 2.1 | 2.3 | TUA | 1.0 | 1.6 | GNZ | 6.0 | 3.8 |
|             | ECZ | 2.2 |     | TRZ | 0.6 |     | MNG | 1.1 |     |

FELT: Oho Beach (35) MM IV

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JUN 03 16<sup>h</sup>57<sup>m</sup>23<sup>s</sup>.6 37°.92s 176°.80E 12 km M = 3.1  
 $\pm 0.4$  0.03 0.02 R S.E. of RES. 0.8

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | Pg    | 16 57 | 26.5 |   |     | -1.0 | 99  | 0.16 | 112 |     |     |     |
| TUA | ePg   | 16 57 | 42.0 |   |     | -0.4 | 100 | 0.93 | 163 | 3.0 | 2.9 |     |
|     | eSg   |       | 55.2 |   |     | 0.3  | 100 |      |     |     |     |     |
| KRP | ePg   | 16 57 | 43.0 |   |     | -0.9 | 99  | 1.00 | 270 | 2.8 |     |     |
|     | Sg    |       | 58.0 |   |     | 0.6  | 100 |      |     |     |     |     |
| GNZ | ePg   | 16 57 | 47.8 |   |     | -0.1 | 100 | 1.20 | 127 | 3.3 |     |     |
| ECZ | ePg   | 16 57 | 53.0 |   |     | 1.0  | 99  | 1.40 | 81  | 3.4 |     |     |
| MNG | ePg   | 16 58 | 22.0 |   |     | 0.2  | 100 | 2.88 | 200 | 3.1 |     |     |

|             |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TUA | 0.3 | 0.3 | KRP | 0.4 | GNZ | 1.0 |
|             | ECZ | 0.2 |     | MNG | 0.2 |     |     |

FELT: Oho Beach (35) MM III

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JUN 03 20<sup>h</sup>40<sup>m</sup>14<sup>s</sup>.3 37°.92s 177°.12E 12 km M = 3.3  
 $\pm 1.1$  0.06 0.08 R S.E. of RES. 2.7

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | Pg    | 20 40 | 15.8 |   |     | -1.8 | 100 | 0.13 | 240 |     |     |     |
|     | Sg    |       | 18.5 |   |     | -1.3 | 100 |      |     |     |     |     |
| WIZ | Pg    | 20 40 | 21.0 |   |     | -1.5 | 100 | 0.40 | 7   |     |     |     |
|     | Sg    |       | 28.0 |   |     | -0.1 | 100 |      |     |     |     |     |
| TUA | Pg    | 20 40 | 30.2 |   |     | -2.1 | 100 | 0.88 | 179 | 3.1 | 2.9 |     |
| GNZ | Pg    | 20 40 | 37.3 |   |     | 2.5  | 100 | 1.01 | 136 | 3.4 |     |     |
|     | e     |       | 38.2 |   |     |      |     |      |     |     |     |     |
|     | e     |       | 56.8 |   |     |      |     |      |     |     |     |     |
| ECZ | e     | 20 40 | 46.5 |   |     |      |     | 1.15 | 79  |     |     |     |
| KRP | Pg    | 20 40 | 44.0 |   |     | 4.3  | 98  | 1.26 | 269 | 3.6 | 3.5 |     |
|     | e     |       | 45.8 |   |     |      |     |      |     |     |     |     |
|     | Sg    |       | 56.8 |   |     | 0.1  | 100 |      |     |     |     |     |

|             |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WTZ | 15  | TUA | 0.5 | 0.4 | GNZ | 2.0 |
|             | KRP | 1.5 | 0.9 |     |     |     |     |

FELT: Kawerau (24)

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JUN 04 07<sup>h</sup>36<sup>m</sup>09<sup>s</sup>.4 37°.90s 176°.60E 12 km M = 3.9  
 $\pm 0.6$  0.04 0.03 R S.E. of RES. 1.5

| STN | PHASE | H     | M    | S | DIR | RES  | WT | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|----|------|-----|-----|-----|-----|
| WTZ | Pg    | 07 36 | 13.7 |   |     | -2.4 | 99 | 0.31 | 105 |     |     |     |

|             |     |       |         |      |     |      |     |     |     |
|-------------|-----|-------|---------|------|-----|------|-----|-----|-----|
| WNZ         | ePg | 07 36 | 25.8    | -0.5 | 100 | 0.83 | 208 | 3.5 | 3.5 |
|             | sSg |       | 37.8    | 0.2  | 100 |      |     |     |     |
| KRP         | Pg  | 07 36 | 25.8    | -0.8 | 100 | 0.85 | 268 | 3.8 | 3.9 |
|             | i   |       | 30.1    |      |     |      |     |     |     |
|             | Sg  |       | 39.5    | 1.4  | 100 |      |     |     |     |
| TUA         | Pg  | 07 36 | 28.3    | -1.5 | 100 | 1.00 | 155 | 4.3 |     |
| GNZ         | Pn  | 07 36 | 33.0    | -0.2 | 100 | 1.34 | 124 |     |     |
|             | iPg |       | 35.5    | -1.1 | 100 |      |     |     |     |
|             | eSg |       | 58      | 3.3  | 97  |      |     |     |     |
| ECZ         | ePn | 07 36 | 36.8    | 0.7  | 100 | 1.56 | 83  | 4.0 |     |
|             | ePg |       | 41.2    | 0.3  | 100 |      |     |     |     |
|             | e   |       | 37 06.5 |      |     |      |     |     |     |
| TRZ         | Pn  | 07 36 | 39.2    | 1.6  | 100 | 1.66 | 174 | 4.2 |     |
|             | iPg |       | 42.2    | -0.8 | 100 |      |     |     |     |
|             | eSg |       | 37 05   | -0.4 | 100 |      |     |     |     |
| AUC         | eP* | 07 36 | 45      | 3.9  |     | 1.79 | 305 |     |     |
|             | ePg |       | 49      | 3.4  |     |      |     |     |     |
|             | e   |       | 53      |      |     |      |     |     |     |
|             | eS* |       | 37 05   | 0.3  |     |      |     |     |     |
| TNZ         | eP* | 07 36 | 48      | 0.4  |     | 2.17 | 233 | 4.1 |     |
|             | ePg |       | 56      | 2.8  |     |      |     |     |     |
| MNG         | Pn  | 07 36 | 55      | 1.2  |     | 2.85 | 197 | 3.9 |     |
|             | ePg |       | 37 04.5 | -2.6 |     |      |     |     |     |
| AMPLITUDES: | WNZ |       | 0.2     | 0.3  | KRP | 6.0  | 8.3 | TUA | 4.8 |
|             | ECZ |       | 0.7     |      | TRZ | 1.6  |     | TNZ | 0.3 |
|             | MNG |       | 1.0     |      |     |      |     |     |     |

FELT: Mystery Valley (26) MM IV

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JUN 04 10<sup>h</sup>21<sup>m</sup>32<sup>s</sup>.4 40°.80S 172°.50E 12 km M = 2.5  
 ± R R R R S.E. of RES. 0.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| COB | Pg    | 10 | 21 | 40.1 |     | 0.5  | 100 | 0.34 | 148 |     | 2.6 2.5 |
|     | Sg    |    |    | 43.9 |     | -0.5 | 100 |      |     |     |         |

AMPLITUDES: COB 1.9 5.5

FELT: Bainham (72) Magnitude less than 3

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JUN 04 10<sup>h</sup>30<sup>m</sup>05<sup>s</sup>.0 38°.45S 178°.13E 12 km M = 3.2  
 ± 0.9 0.04 0.07 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| GNZ | iPg   | 10 | 30 | 11.3 |     | 1.4  | 100 | 0.22 | 204 |     |         |
| ECZ | eSg   | 10 | 30 | 32.5 |     | -0.4 | 100 | 0.82 | 24  |     | 3.0     |
| TUA | Pg    | 10 | 30 | 21.0 |     | -1.3 | 100 | 0.85 | 245 |     | 3.2 3.5 |
|     | Sg    |    |    | 33.1 |     | -0.7 | 100 |      |     |     |         |
| WTZ | Pg    | 10 | 30 | 25.2 |     | -0.4 | 100 | 1.02 | 297 |     | 3.5     |
| TRZ | ePg   | 10 | 30 | 35   |     | -0.5 | 100 | 1.50 | 222 |     | 3.0     |
| KRP | eSn   | 10 | 31 | 07   |     | 1.9  | 99  | 2.12 | 284 |     |         |

AMPLITUDES: ECZ 0.3 TUA 0.7 1.5 WTZ 3.0  
 TRZ 0.2

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JUN 04 17<sup>h</sup>25<sup>m</sup>01<sup>s</sup>.6 39°.32S 177°.78E 33 km M = 5.1  
 ± 0.5 0.03 0.05 R S.E. of RES. 1.2

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|---------|
| GNZ         | P     | 17  | 25 | 15.2 |     | 0.4  | 100 | 0.70 | 16  |     |         |
| TUA         | P     | 17  | 25 | 14.5 |     | -0.4 | 100 | 0.71 | 316 |     |         |
| TRZ         | iP    | 17  | 25 | 16.1 |     | 0.3  | 100 | 0.77 | 252 |     |         |
| WNZ         | eP    | 17  | 25 | 24.8 |     | -0.5 | 100 | 1.48 | 297 |     |         |
| WTZ         | P     | 17  | 25 | 24.0 |     | -1.3 | 100 | 1.48 | 335 |     |         |
| GSZ         | P     | 17  | 25 | 28.8 |     | 0.4  | 100 | 1.70 | 271 |     |         |
| ECZ         | P     | 17  | 25 | 29.1 |     | 0.2  | 100 | 1.74 | 21  |     |         |
| CAZ         | P     | 17  | 25 | 31.8 |     | -0.4 | 100 | 1.98 | 216 |     |         |
|             | S     |     |    | 57.0 |     | 1.9  | 99  |      |     |     |         |
| MNG         | iP    | 17  | 25 | 34.0 |     | -1.0 | 100 | 2.19 | 233 |     |         |
| KRP         | P     | 17  | 25 | 34.0 |     | -1.8 | 99  | 2.24 | 308 |     | 4.8     |
|             | i     |     |    | 36.1 |     |      |     |      |     |     |         |
|             | i     |     |    | 41.8 |     |      |     |      |     |     |         |
|             | e     |     |    | 48   |     |      |     |      |     |     |         |
| TNZ         | P     | 17  | 25 | 41.6 |     | 0.3  | 100 | 2.65 | 272 |     | 5.1 5.3 |
|             | eS    |     | 26 | 13.2 |     | 2.1  | 99  |      |     |     |         |
| WEL         | P     | 17  | 25 | 44.8 |     | -1.6 | 99  | 3.02 | 229 | 5.3 |         |
|             | S     |     | 26 | 19.3 |     | -0.9 | 100 |      |     |     |         |
| AUC         | eP    | 17  | 25 | 51.3 |     | -0.5 | 100 | 3.41 | 315 |     |         |
| COB         | P     | 17  | 26 | 01.1 |     | -2.0 | 99  | 4.25 | 244 |     | 4.9 4.7 |
|             | eS    |     |    | 50   |     | 0.3  | 100 |      |     |     |         |
| ONE         | eP    | 17  | 26 | 06.8 |     | 0.7  | 100 | 4.46 | 321 |     |         |
|             | eS    |     |    | 56   |     | 1.1  | 100 |      |     |     |         |
| KAI         | eP    | 17  | 26 | 26   |     | 1.8  |     | 5.79 | 234 | 5.2 |         |
|             | S     |     | 27 | 24   |     | -2.7 |     |      |     |     |         |
| GPZ         | eP    | 17  | 26 | 25   |     | 0.3  |     | 5.83 | 220 | 5.2 |         |
|             | S     |     | 27 | 23   |     | -4.6 |     |      |     |     |         |
| CIZ         | P     | 17  | 26 | 32.5 |     | 1.6  | 99  | 6.28 | 139 |     |         |
| CRZ         | eP    | 17  | 26 | 33   |     | 0.9  | 100 | 6.37 | 319 |     | 5.1     |
| MJZ         | P     | 17  | 26 | 40.8 |     | -2.5 |     | 7.19 | 227 |     | 5.0 5.0 |
|             | S     |     | 27 | 58   |     | -2.4 |     |      |     |     |         |
| AMPLITUDES: |       | KRP |    | 8.5  | TNZ |      | 2.8 | 5.2  | WEL | 8.2 |         |
|             |       | COB |    | 2.8  | KAI | 1.9  |     |      | GPZ | 3.0 |         |
|             |       | CRZ |    | 0.5  | MJZ |      | 3.6 | 6.9  |     |     |         |

FELT: Northern Hawkes Bay and eastern Bay of Plenty, MM IV

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JUN 04    19<sup>h</sup>26<sup>m</sup>22<sup>s</sup>.2    38°.56s    175°.79E    167 km    M = 3.9

± 1.2    0.05    0.07    9    S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S   |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----------|
| WNZ | eP    | 19 | 26 | 46.0 |     | 1.1  | 100 | 0.25 | 108 |     |           |
| KRP | P     | 19 | 26 | 47.7 |     | 1.3  | 100 | 0.66 | 342 |     | 2.9*      |
|     | S     |    | 27 | 05.0 |     | -0.1 | 100 |      |     |     |           |
| GSZ | P     | 19 | 26 | 48.8 |     | 1.9  | 100 | 0.74 | 193 |     |           |
|     | S     |    | 27 | 08.0 |     | 2.0  | 100 |      |     |     |           |
| WTZ | eP    | 19 | 26 | 49.6 |     | -0.0 | 100 | 1.10 | 59  |     | 3.3 3.6   |
|     | S     |    | 27 | 07   |     | -3.6 | 98  |      |     |     |           |
| TNZ | eP    | 19 | 26 | 53   |     | 1.9  |     | 1.27 | 240 |     | 3.0* 2.8* |
|     | eS    |    | 27 | 17.5 |     | 4.2  |     |      |     |     |           |
| TRZ | P     | 19 | 26 | 53.0 |     | 1.9  | 100 | 1.28 | 142 |     |           |
|     | eS    |    | 27 | 14.2 |     | 0.7  | 100 |      |     |     |           |
| GNZ | P     | 19 | 26 | 56.7 |     | 0.8  | 100 | 1.75 | 94  |     | 3.9 4.2   |
|     | S     |    | 27 | 20.0 |     | -1.9 | 100 |      |     |     |           |
| MNG | P     | 19 | 27 | 00.1 |     | 0.5  | 100 | 2.08 | 187 |     |           |
|     | eS    |    |    | 26.0 |     | -2.4 | 99  |      |     |     |           |
| ECZ | P     | 19 | 27 | 03.3 |     | 0.6  | 100 | 2.34 | 69  |     | 3.9 4.0   |



|             |    |       |      |         |      |     |         |     |      |      |      |
|-------------|----|-------|------|---------|------|-----|---------|-----|------|------|------|
| CAZ         | eS |       | 33.5 |         | -0.3 | 100 |         |     |      |      |      |
|             | P  | 19 27 | 04.0 |         | 0.9  | 100 | 2.37    | 172 |      |      |      |
|             | S  |       | 37.5 |         | 3.0  | 99  |         |     |      |      |      |
| WEL         | eP | 19 27 | 08   |         | -0.9 | 100 | 2.84    | 196 | 4.2  |      |      |
|             | S  |       | 42   |         | -2.7 | 99  |         |     |      |      |      |
| COB         | eP | 19 27 | 16   |         | -0.7 | 100 | 3.46    | 222 |      | 3.1* | 3.2* |
|             | S  |       | 57   |         | -1.6 | 100 |         |     |      |      |      |
| KAI         | eS | 19 28 | 34   |         | -4.8 |     | 5.19    | 219 | 3.5* |      |      |
| GPZ         | eS | 19 28 | 44   |         | -6.0 |     | 5.66    | 204 | 3.7* |      |      |
| AMPLITUDES: |    | WNZ   |      | 0.2     | KRP  |     | 1.0     | WTZ |      | 0.5  | 1.1  |
|             |    | TNZ   |      | 0.2 0.2 | GNZ  |     | 1.5 4.5 | ECZ |      | 0.4  | 0.5  |
|             |    | WEL   | 0.6  |         | COB  |     | 0.2 1.1 | KAI | 0.3  |      |      |
|             |    | GPZ   | 0.6  |         |      |     |         |     |      |      |      |

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JUN 05 01<sup>h</sup>57<sup>m</sup>31<sup>s</sup>.6 33°.42S 179°.57W 33 km M = 4.9  
 ± 2.9 0.20 0.36 R S.E. of RES. 2.8

| STN         | PHASE | H     | M   | S       | DIR | RES  | WT      | DIST  | AZ  | W-A     | W   | P   | W   | S |
|-------------|-------|-------|-----|---------|-----|------|---------|-------|-----|---------|-----|-----|-----|---|
| ECZ         | P     | 01 58 |     | 37.7    |     | 0.6  | 100     | 4.54  | 199 |         | 4.9 | 5.0 |     |   |
|             | eS    |       |     | 59 26.0 |     | -0.6 | 100     |       |     |         |     |     |     |   |
| WTZ         | eP    | 01 58 |     | 47.5    |     | -0.7 | 100     | 5.35  | 211 |         | 5.0 | 4.7 |     |   |
|             | i     |       |     | 49.0    |     |      |         |       |     |         |     |     |     |   |
| GNZ         | eS    |       |     | 59 48   |     | 1.8  | 100     |       |     |         |     |     |     |   |
|             | P     | 01 58 |     | 49.8    |     | -1.4 | 100     | 5.57  | 200 |         | 4.9 | 5.0 |     |   |
| TUA         | S     |       |     | 59 53   |     | 1.5  | 100     |       |     |         |     |     |     |   |
|             | P     | 01 58 |     | 57.0    |     | -0.1 | 100     | 6.00  | 205 |         | 5.2 | 5.0 |     |   |
| KRP         | S     | 02 00 |     | 07      |     | 5.2  | 98      |       |     |         |     |     |     |   |
|             | P     | 01 59 |     | 01.0    |     | 3.8  | 99      | 6.01  | 220 |         | 5.0 |     |     |   |
| MNG         | eP    | 01 59 |     | 24.8    |     | -2.4 | 100     | 8.21  | 207 |         | 4.4 | 4.7 |     |   |
|             | eS    | 02 00 |     | 55      |     | 0.2  | 100     |       |     |         |     |     |     |   |
| WEL         | eS    | 02 01 |     | 13      |     | -2.2 | 100     | 9.06  | 208 | 4.8     |     |     |     |   |
| COB         | eS    | 02 01 |     | 35      |     | 1.6  | 100     | 9.81  | 216 |         |     |     | 4.4 |   |
| KAI         | eS    | 02 02 |     | 12      |     | -3.1 | 100     | 11.55 | 215 | 4.8     |     |     |     |   |
| GPZ         | eS    | 02 02 |     | 20      |     | -4.4 | 99      | 11.93 | 208 | 4.8     |     |     |     |   |
| AMPLITUDES: |       | ECZ   |     | 0.8 1.3 | WTZ |      | 3.6 1.6 | GNZ   |     | 2.3 4.5 |     |     |     |   |
|             |       | TUA   |     | 1.6 1.1 | KRP |      | 0.7     | MNG   |     | 0.7 1.8 |     |     |     |   |
|             |       | WEL   | 0.3 |         | COB |      | 0.5     | KAI   | 0.2 |         |     |     |     |   |
|             |       | GPZ   | 0.3 |         |     |      |         |       |     |         |     |     |     |   |

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JUN 05 12<sup>h</sup>16<sup>m</sup>24<sup>s</sup>.3 45°.01S 167°.63E 97 km M = 3.3  
 ± 0.9 0.04 0.06 6 S.E. of RES. 0.9

| STN         | PHASE | H     | M | S       | DIR | RES  | WT      | DIST | AZ  | W-A     | W    | P    | W | S |
|-------------|-------|-------|---|---------|-----|------|---------|------|-----|---------|------|------|---|---|
| MSZ         | iP    | 12 16 |   | 39.9    | U   | 0.5  | 100     | 0.40 | 31  |         | 3.8* | 3.7* |   |   |
|             | S     |       |   | 50.4    |     | -0.4 | 100     |      |     |         |      |      |   |   |
| MNW         |       |       |   |         |     |      |         | 0.76 | 180 |         | 3.4* | 3.6* |   |   |
| ROX         |       |       |   |         |     |      |         | 1.29 | 112 |         | 3.4  | 3.6  |   |   |
| GSP         | P     | 12 16 |   | 56.0    |     | -0.2 | 100     | 1.93 | 64  |         |      |      |   |   |
|             | S     |       |   | 17 20.8 |     | 0.9  | 100     |      |     |         |      |      |   |   |
| OBZ         | P     | 12 16 |   | 56.0    |     | -0.2 | 100     | 1.93 | 170 |         |      |      |   |   |
|             | S     |       |   | 17 20.0 |     | 0.1  | 100     |      |     |         |      |      |   |   |
| MJZ         | eP    | 12 16 |   | 59.7    |     | -1.3 | 99      | 2.28 | 64  |         | 2.9  | 3.3  |   |   |
|             | S     |       |   | 17 28.3 |     | -0.0 | 100     |      |     |         |      |      |   |   |
| OMZ         | eP    | 12 17 |   | 03      |     | 1.2  | 99      | 2.33 | 93  |         | 3.2  | 3.2  |   |   |
|             | eS    |       |   | 29      |     | -0.6 | 100     |      |     |         |      |      |   |   |
| AMPLITUDES: |       | MSZ   |   | 17 23   | MNW |      | 2.7 9.3 | ROX  |     | 0.7 2.3 |      |      |   |   |

|             |                                                    |         |         |      |             |      |     |             |     |     |          |     |  |
|-------------|----------------------------------------------------|---------|---------|------|-------------|------|-----|-------------|-----|-----|----------|-----|--|
|             |                                                    | OBZ     |         |      | 0.7 1.7 MJZ |      |     | 0.3 1.1 OMZ |     |     | 0.2 0.3  |     |  |
|             |                                                    |         |         |      |             |      |     |             |     |     | 77/ 356  |     |  |
| JUN 05      | 15 <sup>h</sup> 33 <sup>m</sup> 43 <sup>s</sup> .1 | 37°.86s |         |      | 176°.63E    |      |     | 12 km       |     |     | M = 3.5  |     |  |
|             | ± 0.9                                              | 0.08    |         |      | 0.04        |      |     | R S.E. of   |     |     | RES. 1.7 |     |  |
| STN         | PHASE                                              | H       | M       | S    | DIR         | RES  | WT  | DIST        | AZ  | W-A | W P      | W S |  |
| WTZ         | Pg                                                 | 15      | 33      | 48.0 |             | -1.7 | 100 | 0.31        | 114 |     |          |     |  |
| KRP         | Pg                                                 | 15      | 34      | 00.2 |             | -0.5 | 100 | 0.86        | 265 |     | 3.0      | 3.2 |  |
|             | Sg                                                 |         |         | 13.8 |             | 1.4  | 100 |             |     |     |          |     |  |
| TUA         | Pg                                                 | 15      | 34      | 02.3 |             | -1.7 | 100 | 1.03        | 157 |     | 3.7      |     |  |
| GNZ         | ePn                                                | 15      | 34      | 07.8 |             | 0.8  | 100 | 1.35        | 126 |     | 4.0      |     |  |
|             | iPg                                                |         |         | 10.0 |             | -0.4 | 100 |             |     |     |          |     |  |
|             | eSg                                                |         |         | 31.5 |             | 2.9  | 98  |             |     |     |          |     |  |
| ECZ         | Pg                                                 | 15      | 34      | 14.0 |             | -0.0 | 100 | 1.53        | 84  |     | 3.5      |     |  |
| TRZ         | ePg                                                | 15      | 34      | 16.5 |             | -0.9 | 100 | 1.70        | 175 |     | 3.8      |     |  |
| AMPLITUDES: |                                                    | KRP     | 0.9 1.3 |      | TUA         | 1.2  |     | GNZ         | 3.6 |     |          |     |  |
|             |                                                    | ECZ     | 0.2     |      | TRZ         | 0.6  |     |             |     |     |          |     |  |

|             |                                                    |         |         |         |          |       |                  |      |         |     |     |     |
|-------------|----------------------------------------------------|---------|---------|---------|----------|-------|------------------|------|---------|-----|-----|-----|
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| JUN 05      | 17 <sup>h</sup> 37 <sup>m</sup> 04 <sup>s</sup> .0 | 39°.63s |         |         | 177°.17E | 12 km | M = 3.9          |      |         |     |     |     |
|             | ± 1.0                                              | 0.05    |         |         | 0.08     | R     | S.E. of RES. 2.0 |      |         |     |     |     |
| STN         | PHASE                                              | H       | M       | S       | DIR      | RES   | WT               | DIST | AZ      | W-A | W P | W S |
| TRZ         | Pg                                                 | 17      | 37      | 11.4    |          | 1.3   | 100              | 0.28 | 287     |     |     |     |
| TUA         | P*                                                 | 17      | 37      | 18.2    |          | -1.1  | 100              | 0.83 | 359     |     | 3.7 | 4.0 |
|             | S*                                                 |         |         | 30.3    |          | -0.1  | 100              |      |         |     |     |     |
| GNZ         | P*                                                 | 17      | 37      | 23.0    |          | -2.5  | 99               | 1.19 | 34      |     | 3.8 |     |
|             | e                                                  |         |         | 30.0    |          |       |                  |      |         |     |     |     |
|             | S*                                                 |         |         | 44      |          | 2.6   | 99               |      |         |     |     |     |
| GSZ         | P*                                                 | 17      | 37      | 28.2    |          | 1.2   | 100              | 1.28 | 286     |     |     |     |
|             | i                                                  |         |         | 29.8    |          |       |                  |      |         |     |     |     |
|             | i                                                  |         |         | 35.7    |          |       |                  |      |         |     |     |     |
|             | S*                                                 |         |         | 42.0    |          | -2.0  | 100              |      |         |     |     |     |
| WNZ         | eP*                                                | 17      | 37      | 26.7    |          | -0.7  | 100              | 1.30 | 320     |     | 4.2 |     |
| MNG         | eP*                                                | 17      | 37      | 36.1    |          | 3.1   | 99               | 1.63 | 232     |     |     |     |
|             | e                                                  |         |         | 40.3    |          |       |                  |      |         |     |     |     |
| WTZ         | iPn                                                | 17      | 37      | 30.8    |          | -1.3  | 100              | 1.66 | 355     |     | 3.8 |     |
|             | e                                                  |         |         | 35.2    |          |       |                  |      |         |     |     |     |
| KRP         | ePn                                                | 17      | 37      | 37.0    |          | -1.6  | 100              | 2.13 | 323     |     | 3.8 |     |
|             | eP*                                                |         |         | 42.8    |          | 1.2   | 100              |      |         |     |     |     |
| TNZ         | P*                                                 | 17      | 37      | 45.5    |          | 2.6   | 99               | 2.20 | 281     |     | 4.0 | 3.8 |
|             | e                                                  |         |         | 38 19.5 |          |       |                  |      |         |     |     |     |
| WEL         | e                                                  | 17      | 38      | 03      |          |       |                  | 2.47 | 227     | 3.6 |     |     |
|             | eSn                                                |         |         | 12.5    |          | -0.2  | 100              |      |         |     |     |     |
| GPZ         | eSn                                                | 17      | 39      | 18.0    |          | -2.5  | 99               | 5.29 | 218     | 4.1 |     |     |
| AMPLITUDES: |                                                    | TUA     | 2.3 5.2 |         | GNZ      | 3.8   |                  | WNZ  | 0.7     |     |     |     |
|             |                                                    | WTZ     | 2.2     |         | KRP      | 0.8   |                  | TNZ  | 0.6 0.6 |     |     |     |
|             |                                                    | WEL     | 0.3     |         | GPZ      | 0.3   |                  |      |         |     |     |     |

|        |                                                    |    |         |      |          |      |       |      |                  |     |      |         |  |
|--------|----------------------------------------------------|----|---------|------|----------|------|-------|------|------------------|-----|------|---------|--|
|        |                                                    |    |         |      |          |      |       |      |                  |     |      | 77/ 358 |  |
| JUN 05 | 21 <sup>h</sup> 19 <sup>m</sup> 21 <sup>s</sup> .0 |    | 45°.10s |      | 167°.65E |      | 97 km |      | M = 3.6          |     |      |         |  |
|        | ± 0.7                                              |    | 0.02    |      | 0.06     |      | 4     |      | S.E. of RES. 0.5 |     |      |         |  |
| STN    | PHASE                                              | H  | M       | S    | DIR      | RES  | WT    | DIST | AZ               | W-A | W P  | W S     |  |
| MSZ    | iP                                                 | 21 | 19      | 36.8 | U        | 0.3  | 100   | 0.47 | 24               |     | 3.7* | 3.7*    |  |
|        | S                                                  |    |         | 48.2 |          | -0.1 | 100   |      |                  |     |      |         |  |
| MNW    |                                                    |    |         |      |          |      |       | 0.68 | 182              |     | 3.6* |         |  |
| ROX    |                                                    |    |         |      |          |      |       | 1.23 | 109              |     | 3.8  | 3.7     |  |

|             |     |            |          |          |     |         |
|-------------|-----|------------|----------|----------|-----|---------|
| OBZ         | P   | 21 19 52.0 | 0.2 100  | 1.84 170 |     |         |
|             | S   | 20 14.5    | -0.3 100 |          |     |         |
| GSP         | P   | 21 19 53.0 | -0.2 100 | 1.94 61  |     |         |
|             | S   | 20 17.5    | 0.4 100  |          |     |         |
| MJZ         | P   | 21 19 57.4 | -0.6 99  | 2.29 62  | 3.3 | 3.6     |
|             | S   | 20 25.2    | -0.3 100 |          |     |         |
| OMZ         | P   | 21 19 59.0 | 0.8 99   | 2.31 91  |     |         |
| AMPLITUDES: | MSZ | 12 25      | MNW      | 4.3      | ROX | 1.8 3.0 |
|             | MJZ | 0.8 2.2    |          |          |     |         |

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JUN 07 00<sup>h</sup>07<sup>m</sup>23<sup>s</sup>.3 41°.24s 173°.96E 12 km M = 4.6  
 ± 0.4 0.03 0.04 R S.E. of RES. 1.8

| STN         | PHASE | H     | M       | S    | DIR | RES      | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-------|---------|------|-----|----------|-----|------|-----|-----|---------|
| WEL         | iPg   | 00 07 |         | 36.0 |     | 0.1 100  |     | 0.61 | 95  | 4.7 |         |
|             | Sg    |       |         | 45.3 |     | 1.0 100  |     |      |     |     |         |
| COB         | Pg    | 00 07 |         | 41.5 |     | -0.8 100 |     | 0.94 | 279 |     |         |
|             | e     |       |         | 54.8 |     |          |     |      |     |     |         |
| KKY         | Pg    | 00 07 |         | 47.2 |     | -0.4 100 |     | 1.20 | 189 |     |         |
|             | i     |       |         | 47.9 |     |          |     |      |     |     |         |
|             | i     |       |         | 54.6 |     |          |     |      |     |     |         |
|             | iSg   |       | 08      | 01.6 |     | -2.2 100 |     |      |     |     |         |
| MNG         | Pn    | 00 07 |         | 45.0 |     | -1.7 100 |     | 1.31 | 62  |     |         |
| CAZ         | Pg    | 00 07 |         | 58.0 |     | -0.7 100 |     | 1.75 | 80  |     |         |
|             | eSg   |       | 08      | 24   |     | 1.7 100  |     |      |     |     |         |
| KAI         | ePn   | 00 08 |         | 01   |     | 0.9 100  |     | 2.29 | 235 | 4.6 |         |
|             | Sn    |       |         | 28   |     | 0.1 100  |     |      |     |     |         |
| GSZ         | ePn   | 00 08 |         | 00.2 |     | -0.3 100 |     | 2.32 | 33  |     |         |
|             | eP*   |       |         | 05.8 |     | 1.7 100  |     |      |     |     |         |
|             | ePg   |       |         | 11.5 |     | 1.2 100  |     |      |     |     |         |
| TRZ         | e     | 00 08 |         | 16   |     |          |     | 2.76 | 53  |     | 4.5     |
|             | ePg   |       |         | 22   |     | 2.9 99   |     |      |     |     |         |
|             | e     |       |         | 27   |     |          |     |      |     |     |         |
| KRP         | ePn   | 00 08 |         | 17.0 |     | 0.1 100  |     | 3.53 | 21  |     | 4.4     |
|             | e     |       |         | 31   |     |          |     |      |     |     |         |
| WTZ         | eSn   | 00 09 |         | 06.0 |     | -2.9 99  |     | 4.00 | 37  |     | 4.8     |
| GNZ         | Sn    | 00 09 |         | 06.8 |     | -3.4 98  |     | 4.06 | 52  |     | 4.4     |
| GSP         | ePn   | 00 08 |         | 24.8 |     | 0.1 100  |     | 4.10 | 224 |     |         |
|             | i     |       |         | 29.8 |     |          |     |      |     |     |         |
|             | eSn   |       | 09      | 10   |     | -1.2 100 |     |      |     |     |         |
|             | i     |       |         | 19   |     |          |     |      |     |     |         |
| MSZ         | Pn    | 00 08 |         | 46.0 |     | 0.7 100  |     | 5.61 | 230 |     | 4.7 4.9 |
|             | e     |       | 09      | 45.0 |     |          |     |      |     |     |         |
|             | Sn    |       |         | 50.3 |     | 2.9 99   |     |      |     |     |         |
| AMPLITUDES: | WEL   | 50    |         |      | KAI | 3.1      |     | TRZ  |     | 1.6 |         |
|             | KRP   |       | 3.1     |      | WTZ |          | 1.0 | GNZ  |     |     | 1.8     |
|             | MSZ   |       | 2.3 6.2 |      |     |          |     |      |     |     |         |

FELT: Eastbourne (68) MM IV, and Wellington city

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JUN 07 02<sup>h</sup>14<sup>m</sup>47<sup>s</sup>.4 37°.75s 176°.70E 12 km M = 3.8  
 ± 1.1 0.09 0.04 R S.E. of RES. 1.8

| STN | PHASE | H     | M | S    | DIR | RES      | WT | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|---|------|-----|----------|----|------|-----|-----|---------|
| WTZ | Pg    | 02 14 |   | 52.2 |     | -2.1 100 |    | 0.32 | 136 |     |         |
| KRP | Pn    | 02 15 |   | 05.8 |     | 0.1 100  |    | 0.94 | 259 |     | 3.6 3.6 |
|     | iPg   |       |   | 08.0 |     | 1.5 100  |    |      |     |     |         |



|             |     |    |    |      |     |      |     |      |     |     |     |     |  |
|-------------|-----|----|----|------|-----|------|-----|------|-----|-----|-----|-----|--|
|             | Sg  |    |    | 20.0 |     | 0.8  | 100 |      |     |     |     |     |  |
| GNZ         | Pn  | 02 | 15 | 13.8 |     | 2.2  | 100 | 1.38 | 131 |     | 4.1 | 3.6 |  |
|             | iPg |    |    | 16.8 |     | 1.6  | 100 |      |     |     |     |     |  |
|             | Sg  |    |    | 35.2 |     | 1.4  | 100 |      |     |     |     |     |  |
| ECZ         | ePg | 02 | 15 | 15.0 |     | -2.1 | 100 | 1.47 | 88  |     | 4.0 |     |  |
|             | e   |    |    | 19.2 |     |      |     |      |     |     |     |     |  |
| TNZ         | ePg | 02 | 15 | 32   |     | -2.3 | 99  | 2.32 | 231 |     | 4.0 |     |  |
| MNG         | ePn | 02 | 15 | 35.3 |     | 1.2  | 100 | 3.02 | 198 |     | 3.6 |     |  |
|             | eP* |    |    | 39.2 |     | -0.9 | 100 |      |     |     |     |     |  |
|             | ePg |    |    | 47.0 |     | -1.4 | 100 |      |     |     |     |     |  |
| AMPLITUDES: | KRP |    |    | 3.1  | 2.5 | GNZ  |     | 4.1  | 2.1 | ECZ |     | 0.8 |  |
|             | TNZ |    |    | 0.2  |     | MNG  |     | 0.5  |     |     |     |     |  |

JUN 07 08<sup>h</sup>06<sup>m</sup>09<sup>s</sup>.7 33°.58s 178°.44w 275 km 77/ 361  
 ± 2.1 0.11 0.24 23 S.E. of RES. 1.9 M = 5.4

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A | W    | P    | W   | S |
|-------------|-------|----|----|---------|-----|------|-----|-------|-----|-----|------|------|-----|---|
| ECZ         | P     | 08 | 07 | 25      |     | 0.6  | 100 | 4.79  | 210 |     |      |      |     |   |
| WTZ         | P     | 08 | 07 | 33.2    |     | -2.9 | 99  | 5.77  | 219 |     | 5.2  |      |     |   |
|             | i     |    |    | 36.0    |     |      |     |       |     |     |      |      |     |   |
| GNZ         | P     | 08 | 07 | 36.2    |     | -0.5 | 100 | 5.81  | 209 |     | 5.1  |      |     |   |
|             | e     |    |    | 47      |     |      |     |       |     |     |      |      |     |   |
|             | S     |    |    | 08 46   |     | 1.0  | 100 |       |     |     |      |      |     |   |
| ONE         | eP    | 08 | 07 | 44      |     | 0.9  | 100 | 6.34  | 248 |     |      |      |     |   |
| AUC         | e     | 08 | 07 | 55      |     |      |     | 6.45  | 238 |     |      |      |     |   |
|             | i     |    |    | 08 02.5 |     |      |     |       |     |     |      |      |     |   |
|             | i     |    |    | 08.0    |     |      |     |       |     |     |      |      |     |   |
| KRP         | eP    | 08 | 07 | 46      |     | 0.2  | 100 | 6.55  | 227 |     | 3.8* |      |     |   |
| CRZ         | eP    | 08 | 07 | 56      |     | -0.8 | 100 | 7.43  | 261 |     | 3.8* |      |     |   |
| MNG         | eP    | 08 | 08 | 09      |     | -1.7 | 100 | 8.55  | 213 |     |      |      | 6.3 |   |
| WEL         | eS    | 08 | 10 | 04      |     | -1.1 | 100 | 9.40  | 213 | 5.0 |      |      |     |   |
| COB         | eP    | 08 | 08 | 31      |     | -1.3 | 100 | 10.28 | 221 |     | 3.7* | 3.4* |     |   |
|             | eS    |    |    | 10 25   |     | 0.2  | 100 |       |     |     |      |      |     |   |
| MJZ         | eP    | 08 | 09 | 16      |     | 3.5  | 97  | 13.53 | 216 |     | 3.6* |      |     |   |
|             | eS    |    |    | 11 36   |     | -1.1 | 100 |       |     |     |      |      |     |   |
| AMPLITUDES: | WTZ   |    |    | 2.9     |     | GNZ  |     | 2.5   |     | KRP |      | 1.5  |     |   |
|             | CRZ   |    |    | 0.4     |     | MNG  |     |       | 60  | WEL |      | 0.4  |     |   |
|             | COB   |    |    | 0.3     | 0.6 | MJZ  |     | 0.6   |     |     |      |      |     |   |

JUN 07 17<sup>h</sup>38<sup>m</sup>35<sup>s</sup>.0 37°.84s 176°.78E 12 km 77/ 362  
 ± 1.3 0.09 0.05 R S.E. of RES. 2.1 M = 3.5

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ         | Pg    | 17 | 38 | 37.7    |     | -2.2 | 100 | 0.22 | 132 |     |     |     |   |   |
|             | Sg    |    |    | 41.1    |     | -2.1 | 100 |      |     |     |     |     |   |   |
| KRP         | Pg    | 17 | 38 | 53.9    |     | -1.2 | 100 | 0.99 | 265 |     | 3.3 |     |   |   |
|             | Sg    |    |    | 39 09.7 |     | 1.1  | 100 |      |     |     |     |     |   |   |
| GNZ         | Pg    | 17 | 39 | 00.0    |     | -0.7 | 100 | 1.27 | 130 |     | 3.6 | 3.4 |   |   |
|             | i     |    |    | 06.9    |     |      |     |      |     |     |     |     |   |   |
|             | Sg    |    |    | 20.7    |     | 2.9  | 99  |      |     |     |     |     |   |   |
| ECZ         | ePg   | 17 | 39 | 05.0    |     | 1.5  | 100 | 1.40 | 85  |     | 3.7 |     |   |   |
| TRZ         | ePg   | 17 | 39 | 10      |     | 0.3  | 100 | 1.72 | 179 |     | 3.7 |     |   |   |
| MNG         | eP*   | 17 | 39 | 25      |     | -1.6 | 100 | 2.96 | 200 |     | 3.4 |     |   |   |
|             | ePg   |    |    | 37      |     | 2.2  | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: | KRP   |    |    | 1.2     |     | GNZ  |     | 1.6  | 1.7 | ECZ |     | 0.4 |   |   |
|             | TRZ   |    |    | 0.5     |     | MNG  |     | 0.4  |     |     |     |     |   |   |

JUN 07 18<sup>h</sup>11<sup>m</sup>04<sup>s</sup>.0 37°.76s 176°.72E 12 km 77/ 363  
 ± 0.6 0.05 0.03 R S.E. of RES. 1.5 M = 4.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | Pg    | 18 | 11 | 08.3    |     | -2.3 | 99  | 0.31 | 136 |     |     |     |
| KRP | Pn    | 18 | 11 | 22.0    |     | -0.4 | 100 | 0.94 | 260 |     | 4.0 |     |
|     | iPg   |    |    | 24.1    |     | 0.8  | 100 |      |     |     |     |     |
|     | Sg    |    |    | 35.8    |     | -0.3 | 100 |      |     |     |     |     |
| WNZ | ePg   | 18 | 11 | 23.0    |     | -1.2 | 100 | 1.00 | 209 |     | 3.9 |     |
| GNZ | Pn    | 18 | 11 | 28.9    |     | 0.9  | 100 | 1.36 | 131 |     | 4.3 | 4.0 |
|     | iPg   |    |    | 32.1    |     | 0.6  | 100 |      |     |     |     |     |
|     | Sg    |    |    | 52.0    |     | 2.2  | 99  |      |     |     |     |     |
| ECZ | Pg    | 18 | 11 | 31.8    |     | -1.6 | 100 | 1.45 | 88  |     | 4.1 |     |
| GSZ | ePg   | 18 | 11 | 40      |     | 0.5  | 100 | 1.75 | 210 |     |     |     |
| AUC | Pg    | 18 | 11 | 41.2    |     | 1.0  | 100 | 1.79 | 300 |     |     |     |
| TRZ | Pn    | 18 | 11 | 35.2    |     | 1.2  | 100 | 1.79 | 177 |     | 4.1 |     |
|     | iPg   |    |    | 38.8    |     | -1.5 | 100 |      |     |     |     |     |
|     | e     |    |    | 12 09   |     |      |     |      |     |     |     |     |
| ONE | ePg   | 18 | 12 | 02.0    |     | 2.6  |     | 2.74 | 316 |     |     |     |
| MNG | Pn    | 18 | 11 | 51.5    |     | 0.9  |     | 3.01 | 198 |     | 4.1 |     |
|     | eP*   |    |    | 55.3    |     | -1.2 |     |      |     |     |     |     |
|     | ePg   |    |    | 12 04.0 |     | -0.9 |     |      |     |     |     |     |

AMPLITUDES: KRP 7.5 WNZ 0.3 GNZ 6.8 5.5  
 ECZ 0.9 TRZ 1.1 MNG 1.5

FELT: Ohope Beach (35) MM IV

JUN 07 18<sup>h</sup>12<sup>m</sup>15<sup>s</sup>.2 37°.73s 176°.77E 12 km 77/ 364  
 ± 1.3 0.09 0.05 R S.E. of RES. 1.9 M = 3.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | Pg    | 18 | 12 | 20.5    |     | -1.2 | 100 | 0.31 | 145 |     | 3.1 | 3.5 |
|     | Sg    |    |    | 24.5    |     | -1.6 | 100 |      |     |     |     |     |
| KRP | Pg    | 18 | 12 | 37      |     | 1.6  | 100 | 0.99 | 258 |     | 3.4 | 3.3 |
|     | eSg   |    |    | 48      |     | -0.8 | 100 |      |     |     |     |     |
| GNZ | Pg    | 18 | 12 | 42.8    |     | 0.4  | 100 | 1.34 | 133 |     | 3.6 | 3.5 |
|     | e     |    |    | 45.8    |     |      |     |      |     |     |     |     |
|     | Sg    |    |    | 13 03.0 |     | 2.4  | 99  |      |     |     |     |     |
| ECZ | ePg   | 18 | 12 | 43      |     | -0.8 | 100 | 1.41 | 89  |     | 3.7 |     |

AMPLITUDES: WTZ 11 24 KRP 1.8 1.1 GNZ 1.6 1.6  
 ECZ 0.4

JUN 08 02<sup>h</sup>20<sup>m</sup>33<sup>s</sup>.6 39°.04s 175°.32E 223 km 77/ 365  
 ± 1.0 0.06 0.07 7 S.E. of RES. 1.3 M = 4.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| GSZ | P     | 02 | 21 | 04.2 |     | 1.2  | 100 | 0.31 | 139 |     |      |      |
|     | i     |    |    | 12.0 |     |      |     |      |     |     |      |      |
|     | iS    |    |    | 25.0 |     | -0.7 | 100 |      |     |     |      |      |
| TNZ | P     | 02 | 21 | 04.8 |     | 0.3  | 100 | 0.75 | 259 |     | 3.2* | 3.0* |
|     | e     |    |    | 26   |     |      |     |      |     |     |      |      |
|     | eS    |    |    | 30   |     | 1.5  | 100 |      |     |     |      |      |
| KRP | P     | 02 | 21 | 06.0 |     | -0.8 | 100 | 1.13 | 9   |     | 4.0* |      |
|     | e     |    |    | 29.2 |     |      |     |      |     |     |      |      |
| TUA | P     | 02 | 21 | 10.0 |     | 0.8  | 100 | 1.45 | 81  |     | 4.3  | 4.1  |
|     | S     |    |    | 36.2 |     | -0.5 | 100 |      |     |     |      |      |

|     |    |       |         |      |     |      |     |      |      |
|-----|----|-------|---------|------|-----|------|-----|------|------|
| MNG | P  | 02 21 | 12.0    | 1.7  | 99  | 1.57 | 176 |      |      |
| WTZ | P  | 02 21 | 10.2    | -1.0 | 100 | 1.68 | 52  | 4.3  |      |
| GNZ | P  | 02 21 | 16.2    | 0.5  | 100 | 2.15 | 80  | 4.5  | 4.0  |
|     | S  |       | 47.0    | -1.1 | 100 |      |     |      |      |
| WEL | P  | 02 21 | 18.2    | 1.2  | 100 | 2.28 | 191 | 4.0  | 3.7  |
|     | S  |       | 50.5    | -0.1 | 100 |      |     |      |      |
| COB | P  | 02 21 | 22.4    | -0.8 | 100 | 2.85 | 223 | 4.1* | 3.7* |
|     | S  |       | 59.2    | -2.5 | 98  |      |     |      |      |
| GPZ | eP | 02 21 | 49      | -1.1 |     | 5.07 | 203 | 3.9* |      |
|     | S  |       | 22 46.2 | -3.4 |     |      |     |      |      |
| MJZ | P  | 02 22 | 02.0    | -1.7 |     | 6.14 | 215 | 3.3* | 3.3* |
|     | S  |       | 23 09.5 | -4.5 |     |      |     |      |      |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TNZ | 0.3 | 0.3 | KRP | 7.4 | TUA | 1.2 | 0.8 |     |
|             | WTZ | 2.6 |     | GNZ | 3.6 | 1.8 | WEL | 0.8 | 1.0 |
|             | COB | 2.2 | 3.6 | GPZ | 1.0 |     | MJZ | 0.6 | 1.1 |

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JUN 08 04<sup>h</sup>23<sup>m</sup>39<sup>s</sup>.3 37°.85s 176°.70E 12 km M = 3.8  
 ± 1.2 0.08 0.05 R S.E. of RES. 1.9

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|---------|
| WTZ | Pg    | 04 23 | 43.8    |   |     | -1.2 | 100 | 0.26 | 121 |     |         |
|     | Sg    |       | 47.5    |   |     | -1.3 | 100 |      |     |     |         |
| WNZ | ePg   | 04 23 | 59.5    |   |     | 1.6  | 100 | 0.92 | 211 |     | 3.8     |
| KRP | ePn   | 04 23 | 57.3    |   |     | -0.2 | 100 | 0.93 | 265 |     | 3.6     |
|     | iPg   |       | 59.4    |   |     | 1.2  | 100 |      |     |     |         |
|     | Sg    |       | 24 11.3 |   |     | 0.6  | 100 |      |     |     |         |
| TUA | Pg    | 04 23 | 59.0    |   |     | -1.0 | 100 | 1.02 | 160 |     | 3.9 3.8 |
|     | i     |       | 24 01.2 |   |     |      |     |      |     |     |         |
|     | Sg    |       | 13.0    |   |     | -0.8 | 100 |      |     |     |         |
| GNZ | Pg    | 04 24 | 05.3    |   |     | -0.5 | 100 | 1.30 | 128 |     | 3.9 3.7 |
|     | Sg    |       | 26.8    |   |     | 3.3  | 98  |      |     |     |         |
| TRZ | eP*   | 04 24 | 10.9    |   |     | 1.3  | 100 | 1.70 | 177 |     | 3.9     |
| TNZ | ePg   | 04 24 | 22.0    |   |     | -3.0 | 99  | 2.26 | 233 |     |         |
| MNG | ePn   | 04 24 | 26.5    |   |     | 1.8  |     | 2.92 | 199 |     | 3.6     |
|     | eP*   |       | 31.0    |   |     | 0.6  |     |      |     |     |         |
|     | ePg   |       | 40.0    |   |     | 1.5  |     |      |     |     |         |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WNZ | 0.3 |     | KRP | 3.6 | TUA | 1.8 | 1.6 |
|             | GNZ | 2.8 | 3.2 | TRZ | 0.7 | MNG | 0.5 |     |

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JUN 08 04<sup>h</sup>33<sup>m</sup>28<sup>s</sup>.6 37°.87s 176°.72E 12 km M = 3.5  
 ± 1.3 0.10 0.05 R S.E. of RES. 1.7

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|---------|
| WTZ | Pg    | 04 33 | 33.0    |   |     | -1.0 | 100 | 0.24 | 119 |     |         |
|     | Sg    |       | 36.2    |   |     | -1.4 | 100 |      |     |     |         |
| KRP | ePn   | 04 33 | 47.0    |   |     | 0.1  | 100 | 0.94 | 266 |     | 3.4 3.2 |
|     | iPg   |       | 49.2    |   |     | 1.5  | 100 |      |     |     |         |
|     | Sg    |       | 34 00.0 |   |     | -0.4 | 100 |      |     |     |         |
| TUA | ePg   | 04 33 | 47.0    |   |     | -1.9 | 99  | 1.00 | 160 |     | 3.5     |
|     | e     |       | 50.0    |   |     |      |     |      |     |     |         |
| GNZ | Pg    | 04 33 | 54.7    |   |     | -0.0 | 100 | 1.29 | 128 |     | 3.8 3.5 |
|     | i     |       | 57.8    |   |     |      |     |      |     |     |         |
|     | Sg    |       | 34 15.5 |   |     | 3.4  | 97  |      |     |     |         |
| TRZ | eP*   | 04 33 | 58.0    |   |     | -0.6 | 100 | 1.69 | 177 |     | 3.8     |
|     | ePg   |       | 34 03.2 |   |     | 0.4  | 100 |      |     |     |         |
| MNG | P*    | 04 34 | 20.0    |   |     | 0.5  |     | 2.92 | 199 |     | 3.3     |
|     | ePg   |       | 27.8    |   |     | 0.3  |     |      |     |     |         |



|             |                                                    |         |          |       |              |      |     |      |     |     |     |     |
|-------------|----------------------------------------------------|---------|----------|-------|--------------|------|-----|------|-----|-----|-----|-----|
| e           |                                                    | 34.0    |          |       |              |      |     |      |     |     |     |     |
| AMPLITUDES: |                                                    | KRP     | 2.2      | 1.1   | TUA          | 0.8  | GNZ | 2.5  | 1.7 |     |     |     |
|             |                                                    | TRZ     | 0.6      |       | MNG          | 0.3  |     |      |     |     |     |     |
| 77/ 368     |                                                    |         |          |       |              |      |     |      |     |     |     |     |
| JUN 08      | 09 <sup>h</sup> 40 <sup>m</sup> 57 <sup>s</sup> .6 | 38°.06S | 178°.57E | 12 km | M = 3.5      |      |     |      |     |     |     |     |
|             | ± 1.3                                              | 0.04    | 0.07     | R     | S.E. of RES. | 1.0  |     |      |     |     |     |     |
| STN         | PHASE                                              | H       | M        | S     | DIR          | RES  | WT  | DIST | AZ  | W-A | W P | W S |
| GNZ         | P*                                                 | 09      | 41       | 10.3  |              | -0.9 | 100 | 0.73 | 216 |     | 3.5 | 3.6 |
|             | iPg                                                |         |          | 12.3  |              | -0.1 | 100 |      |     |     |     |     |
|             | S*                                                 |         |          | 22.2  |              | 1.1  | 99  |      |     |     |     |     |
| WTZ         | iP*                                                | 09      | 41       | 19.8  |              | -0.3 | 100 | 1.25 | 273 |     | 3.8 | 3.5 |
|             | eS*                                                |         |          | 37.3  |              | 0.5  | 100 |      |     |     |     |     |
| TUA         | P*                                                 | 09      | 41       | 22.8  |              | 1.1  | 100 | 1.35 | 236 |     | 3.8 | 3.5 |
|             | eS*                                                |         |          | 38.2  |              | -1.4 | 99  |      |     |     |     |     |
|             | eSg                                                |         |          | 43.0  |              | -0.0 | 100 |      |     |     |     |     |
| TRZ         | eP*                                                | 09      | 41       | 36    |              | 2.7  |     | 2.02 | 222 |     | 3.3 |     |
|             | ePg                                                |         |          | 41.0  |              | 2.4  |     |      |     |     |     |     |
| KRP         | ePg                                                | 09      | 41       | 51    |              | 4.8  |     | 2.40 | 272 |     |     |     |
| MNG         | ePg                                                | 09      | 42       | 09    |              | 0.5  |     | 3.51 | 222 |     |     | 3.2 |
|             | Sn                                                 |         |          | 31.5  |              | 0.3  |     |      |     |     |     |     |
| AMPLITUDES: |                                                    | GNZ     | 5.0      | 9.0   | WTZ          | 4.3  | 1.7 | TUA  | 1.1 | 0.6 |     |     |
|             |                                                    | TRZ     | 0.2      |       | MNG          | 0.3  |     |      |     |     |     |     |

|             |                                                    |     |         |      |          |      |       |      |                  |     |     |      |     |
|-------------|----------------------------------------------------|-----|---------|------|----------|------|-------|------|------------------|-----|-----|------|-----|
| 77/ 369     |                                                    |     |         |      |          |      |       |      |                  |     |     |      |     |
| JUN 08      | 10 <sup>h</sup> 37 <sup>m</sup> 23 <sup>s</sup> .2 |     | 38°.29s |      | 178°.65E |      | 76 km |      | M = 3.7          |     |     |      |     |
|             | ± 3.2                                              |     | 0.11    |      | 0.21     |      | 20    |      | S.E. of RES. 2.1 |     |     |      |     |
| STN         | PHASE                                              | H   | M       | S    | DIR      | RES  | WT    | DIST | AZ               | W-A | W P | W S  |     |
| GNZ         | P                                                  | 10  | 37      | 37.1 |          | -0.9 | 100   | 0.61 | 234              |     | 3.5 |      |     |
|             | i                                                  |     |         | 39.2 |          |      |       |      |                  |     |     |      |     |
|             | S                                                  |     |         | 48.8 |          | -0.3 | 100   |      |                  |     |     |      |     |
| TUA         | P                                                  | 10  | 37      | 48.8 |          | 2.7  | 99    | 1.29 | 246              |     | 4.1 | 3.6  |     |
|             | eS                                                 |     | 38      | 05.0 |          | 1.6  | 100   |      |                  |     |     |      |     |
|             | e                                                  |     |         | 10.2 |          |      |       |      |                  |     |     |      |     |
|             | e                                                  |     |         | 13.2 |          |      |       |      |                  |     |     |      |     |
| WTZ         | P                                                  | 10  | 37      | 46.2 |          | -0.7 | 100   | 1.35 | 282              |     | 4.2 | 3.8  |     |
|             | S                                                  |     | 38      | 04.0 |          | -0.7 | 100   |      |                  |     |     |      |     |
| KRP         | e(P)                                               | 10  | 38      | 05.5 |          | 3.1  |       | 2.48 | 277              |     |     | 2.6* |     |
|             | e                                                  |     |         | 13   |          |      |       |      |                  |     |     |      |     |
| MNG         | e                                                  | 10  | 38      | 33.5 |          |      |       | 3.38 | 225              |     |     | 3.1  |     |
|             | S                                                  |     |         | 52.8 |          | -1.4 | 100   |      |                  |     |     |      |     |
| AMPLITUDES: |                                                    | GNZ | 5.0     |      | TUA      | 2.1  |       | 0.8  | WTZ              | 6.0 |     |      | 2.6 |
|             |                                                    | KRP | 0.3     |      | MNG      | 0.3  |       |      |                  |     |     |      |     |

|         |                                                    |         |          |        |              |      |     |      |     |     |      |     |
|---------|----------------------------------------------------|---------|----------|--------|--------------|------|-----|------|-----|-----|------|-----|
| 77/ 370 |                                                    |         |          |        |              |      |     |      |     |     |      |     |
| JUN 08  | 18 <sup>h</sup> 28 <sup>m</sup> 32 <sup>s</sup> .2 | 34°.29s | 179°.00w | 246 km | M = 4.6      |      |     |      |     |     |      |     |
|         | ± 1.3                                              | 0.07    | 0.09     | 16     | S.E. of RES. | 1.6  |     |      |     |     |      |     |
| STN     | PHASE                                              | H       | M        | S      | DIR          | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
| WTZ     | P                                                  | 18      | 29       | 45.0   |              | -2.3 | 99  | 4.91 | 220 |     | 4.8  | 4.8 |
|         | eS                                                 |         | 30       | 45.5   |              | -0.6 | 100 |      |     |     |      |     |
| GNZ     | P                                                  | 18      | 29       | 46.8   |              | -1.1 | 100 | 4.97 | 208 |     | 4.8  | 4.4 |
|         | S                                                  |         | 30       | 49     |              | 1.8  | 100 |      |     |     |      |     |
| TUA     | P                                                  | 18      | 29       | 53.5   |              | -0.8 | 100 | 5.47 | 213 |     | 5.1  | 4.9 |
|         | eS                                                 |         | 30       | 58.5   |              | 0.1  | 100 |      |     |     |      |     |
| KRP     | eP                                                 | 18      | 29       | 56.8   |              | -0.6 | 100 | 5.72 | 229 |     | 3.1* |     |
| TRZ     | eP                                                 | 18      | 30       | 03     |              | -0.7 | 100 | 6.24 | 211 |     | 4.6  | 4.4 |

|             |      |            |          |         |     |         |  |
|-------------|------|------------|----------|---------|-----|---------|--|
|             | eS   | 31 17      | 1.6 100  |         |     |         |  |
| CRZ         | eP   | 18 30 14   | 1.9 99   | 6.89    | 266 | 3.4*    |  |
| TNZ         | e    | 18 30 25   |          | 7.23    | 225 |         |  |
| MNG         | eP   | 18 30 21.5 | -0.8 100 | 7.69    | 213 | 4.0 4.3 |  |
|             | S    | 31 49      | 0.3 100  |         |     |         |  |
| WEL         | eS   | 18 32 07   | -1.1 100 | 8.56    | 213 | 4.8     |  |
| COB         | eS   | 18 32 28   | -0.2 100 | 9.44    | 222 | 3.1*    |  |
| CIZ         | e(P) | 18 30 53   | 3.4 96   | 9.85    | 170 |         |  |
|             | eS   | 32 36      | -1.4 100 |         |     |         |  |
| MJZ         | eS   | 18 33 42   | 0.2 100  | 12.67   | 217 | 3.2*    |  |
| AMPLITUDES: | WTZ  | 1.7 1.7    | GNZ      | 2.0 1.2 | TUA | 1.2 0.7 |  |
|             | KRP  | 0.3        | TRZ      | 0.3 0.4 | CRZ | 0.2     |  |
|             | MNG  | 0.3 0.8    | WEL      | 0.3     | COB | 0.3     |  |
|             | MJZ  | 0.4        |          |         |     |         |  |

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JUN 09 05<sup>h</sup>30<sup>m</sup>57<sup>s</sup>.8 37°.81s 176°.67E 12 km M = 3.4

± 1.1 0.07 0.04 R S.E. of RES. 1.3

| STN         | PHASE | H       | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|---------|-----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ         | iPg   | 05      | 31  | 03.8    | U   | -0.6 | 100 | 0.31 | 126 |     |     |     |   |   |
| KRP         | Pg    | 05      | 31  | 16.6    |     | 0.3  | 100 | 0.91 | 262 |     | 3.1 | 3.2 |   |   |
|             | Sg    |         |     | 29.3    |     | 0.7  | 100 |      |     |     |     |     |   |   |
| TUA         | ePg   | 05      | 31  | 18.0    |     | -1.5 | 99  | 1.07 | 160 |     | 3.6 | 3.5 |   |   |
|             | eSg   |         |     | 34.5    |     | 0.5  | 100 |      |     |     |     |     |   |   |
| GNZ         | Pg    | 05      | 31  | 25.0    |     | -0.3 | 100 | 1.35 | 129 |     | 3.8 |     |   |   |
|             | Sg    |         |     | 45.5    |     | 1.9  | 99  |      |     |     |     |     |   |   |
| TRZ         | Pg    | 05      | 31  | 32.2    |     | -1.0 | 100 | 1.75 | 176 |     | 3.6 |     |   |   |
| MNG         | ePg   | 05      | 31  | 55      |     | -2.6 |     | 2.96 | 198 |     | 3.2 |     |   |   |
| AMPLITUDES: | KRP   | 1.0 1.1 | TUA | 0.8 0.7 | GNZ | 2.0  |     |      |     |     |     |     |   |   |
|             | TRZ   | 0.3     | MNG | 0.2     |     |      |     |      |     |     |     |     |   |   |

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JUN 09 09<sup>h</sup>03<sup>m</sup>48<sup>s</sup>.7 37°.82s 176°.66E 12 km M = 3.6

± 0.8 0.06 0.04 R S.E. of RES. 1.2

| STN         | PHASE | H       | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|---------|-----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ         | iPg   | 09      | 03  | 54.2    |     | -1.0 | 100 | 0.31 | 122 |     |     |     |   |   |
| KRP         | ePn   | 09      | 04  | 06.3    |     | -0.2 | 100 | 0.90 | 263 |     | 3.5 | 3.4 |   |   |
|             | iPg   |         |     | 07.0    |     | -0.0 | 100 |      |     |     |     |     |   |   |
|             | Sg    |         |     | 20.0    |     | 0.8  | 100 |      |     |     |     |     |   |   |
| TUA         | ePg   | 09      | 04  | 08.0    |     | -2.2 | 98  | 1.05 | 159 |     | 3.5 | 3.6 |   |   |
|             | eSg   |         |     | 25.0    |     | 0.5  | 100 |      |     |     |     |     |   |   |
| GNZ         | ePn   | 09      | 04  | 12.9    |     | 0.2  | 100 | 1.35 | 128 |     | 4.1 |     |   |   |
|             | iPg   |         |     | 16.2    |     | 0.1  | 100 |      |     |     |     |     |   |   |
|             | eSg   |         |     | 36.0    |     | 1.7  | 99  |      |     |     |     |     |   |   |
| TRZ         | ePn   | 09      | 04  | 19      |     | 1.1  | 100 | 1.74 | 176 |     | 3.7 |     |   |   |
|             | ePg   |         |     | 22.8    |     | -1.0 | 100 |      |     |     |     |     |   |   |
| AUC         | ePg   | 09      | 04  | 26      |     | 1.1  |     | 1.78 | 302 |     |     |     |   |   |
| MNG         | eP*   | 09      | 04  | 43      |     | 2.9  |     | 2.94 | 198 |     | 3.4 |     |   |   |
|             | ePg   |         |     | 48.0    |     | -0.2 |     |      |     |     |     |     |   |   |
|             | e     |         |     | 52.2    |     |      |     |      |     |     |     |     |   |   |
| AMPLITUDES: | KRP   | 2.5 1.8 | TUA | 0.7 0.8 | GNZ | 4.0  |     |      |     |     |     |     |   |   |
|             | TRZ   | 0.4     | MNG | 0.3     |     |      |     |      |     |     |     |     |   |   |

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JUN 09 14<sup>h</sup>17<sup>m</sup>35<sup>s</sup>.2 37°.77s 176°.53E 12 km M = 3.5

± 1.9 0.14 0.05 R S.E. of RES. 1.7

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | iPg   | 14  | 17 | 44.2 |     | 0.1  | 100 | 0.42 | 121 |     | 3.4 | 3.5 |
|             | eSg   |     |    | 50.1 |     | 0.1  | 100 |      |     |     |     |     |
| KRP         | Pg    | 14  | 17 | 52.0 |     | 0.5  | 100 | 0.80 | 258 |     | 3.6 | 3.5 |
|             | i     |     |    | 54.1 |     |      |     |      |     |     |     |     |
|             | Sg    |     | 18 | 03.0 |     | 0.6  | 100 |      |     |     |     |     |
| TUA         | ePg   | 14  | 17 | 57   |     | -1.6 | 100 | 1.15 | 155 |     | 3.4 |     |
| GNZ         | ePg   | 14  | 18 | 03.2 |     | -1.8 | 99  | 1.47 | 127 |     | 3.5 |     |
|             | eSg   |     |    | 27.6 |     | 2.7  | 98  |      |     |     |     |     |
| AUC         | ePg   | 14  | 18 | 10.5 |     | 1.6  |     | 1.66 | 302 |     |     |     |
| TRZ         | ePg   | 14  | 18 | 11.0 |     | -0.6 | 100 | 1.80 | 173 |     | 3.5 |     |
| MNG         | ePg   | 14  | 18 | 37   |     | 1.9  |     | 2.96 | 196 |     | 3.3 |     |
| AMPLITUDES: |       | WTZ |    | 11   | 11  | KRP  |     | 4.5  | 3.8 | TUA |     | 0.4 |
|             |       | GNZ |    | 0.9  |     | TRZ  |     | 0.2  |     | MNG |     | 0.2 |

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JUN 09 15<sup>h</sup>27<sup>m</sup>01<sup>s</sup>.4 37°.76s 176°.53E 12 km M = 3.8  
 $\pm 0.4$  0.03 0.03 R S.E. of RES. 1.0

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S     |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|---------|
| WTZ         | Pg    | 15  | 27 | 09.2 | U   | -1.0 | 100 | 0.42 | 122 |     |     |         |
|             | eSg   |     |    | 15.2 |     | -0.9 | 100 |      |     |     |     |         |
| KRP         | iPg   | 15  | 27 | 17.2 |     | -0.6 | 100 | 0.80 | 258 |     | 3.8 | 4.1     |
|             | i     |     |    | 19.8 |     |      |     |      |     |     |     |         |
|             | Sg    |     |    | 28.7 |     | -0.1 | 100 |      |     |     |     |         |
| WNZ         | e     | 15  | 27 | 26   |     |      |     | 0.94 | 201 |     | 3.9 |         |
| TUA         | ePg   | 15  | 27 | 22.9 |     | -1.9 | 98  | 1.15 | 155 |     | 3.6 | 3.7     |
|             | eSg   |     |    | 40.7 |     | 0.3  | 100 |      |     |     |     |         |
| GNZ         | ePn   | 15  | 27 | 27.8 |     | 0.8  | 100 | 1.47 | 127 |     | 4.0 | 3.8     |
|             | iPg   |     |    | 31.1 |     | -0.1 | 100 |      |     |     |     |         |
|             | eSg   |     |    | 52.5 |     | 1.5  | 99  |      |     |     |     |         |
| AUC         | ePn   | 15  | 27 | 29.5 |     | -0.1 | 100 | 1.66 | 302 |     |     |         |
|             | iPg   |     |    | 35.8 |     | 0.7  | 100 |      |     |     |     |         |
| TRZ         | eP*   | 15  | 27 | 34.5 |     | 1.1  | 100 | 1.81 | 173 |     | 3.6 |         |
|             | ePg   |     |    | 38.2 |     | 0.3  | 100 |      |     |     |     |         |
| MNG         | ePn   | 15  | 27 | 49   |     | 1.6  |     | 2.97 | 196 |     | 3.5 |         |
|             | eP*   |     |    | 57   |     | 3.7  |     |      |     |     |     |         |
|             | ePg   |     | 28 | 02   |     | 0.6  |     |      |     |     |     |         |
| AMPLITUDES: |       | KRP |    | 7.3  | 14  | WNZ  |     | 0.4  |     | TUA |     | 0.7 0.8 |
|             |       | GNZ |    | 2.7  | 2.3 | TRZ  |     | 0.3  |     | MNG |     | 0.3     |

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JUN 10 03<sup>h</sup>04<sup>m</sup>06<sup>s</sup>.2 39°.26s 175°.25E 12 km M = 3.4  
 $\pm 0.4$  0.02 0.03 R S.E. of RES. 1.2

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S     |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|---------|
| NGZ         | iP*   | 03  | 04 | 12.8 | D   | 0.5  | 100 | 0.29 | 74  |     |     |         |
|             | S*    |     |    | 17.3 |     | 0.7  | 100 |      |     |     |     |         |
| TNZ         | P*    | 03  | 04 | 19.2 |     | 0.2  | 100 | 0.68 | 276 |     | 2.8 | 3.0     |
|             | S*    |     |    | 30.5 |     | 2.2  | 98  |      |     |     |     |         |
| KRP         | iPn   | 03  | 04 | 29.9 | DSE | -0.3 | 100 | 1.36 | 10  |     | 4.0 | 3.9     |
|             | eSn   |     |    | 47   |     | -1.1 | 100 |      |     |     |     |         |
|             | eSg   |     |    | 51.5 |     | -0.5 | 100 |      |     |     |     |         |
| MNG         | Pn    | 03  | 04 | 30.7 |     | 0.4  | 100 | 1.37 | 173 |     | 3.5 | 3.4     |
|             | Sn    |     |    | 48.5 |     | 0.2  | 100 |      |     |     |     |         |
| COB         | ePn   | 03  | 04 | 47.5 |     | -0.4 | 100 | 2.65 | 226 |     | 3.6 | 3.0     |
|             | eS*   |     | 05 | 25.5 |     | -1.9 | 99  |      |     |     |     |         |
| AMPLITUDES: |       | TNZ |    | 0.4  | 0.7 | KRP  |     | 2.5  | 1.9 | MNG |     | 3.2 2.7 |



|             |       | COB                                                |     | 0.3 0.3 |     |          |     |        |     |                  |         |     |  | 77/ 376 |  |
|-------------|-------|----------------------------------------------------|-----|---------|-----|----------|-----|--------|-----|------------------|---------|-----|--|---------|--|
| JUN 11      |       | 18 <sup>h</sup> 17 <sup>m</sup> 39 <sup>s</sup> .8 |     | 38°.68s |     | 175°.64E |     | 142 km |     | M = 4.1          |         |     |  |         |  |
|             |       | ± 1.3                                              |     | 0.05    |     | 0.08     |     | 9      |     | S.E. of RES. 1.8 |         |     |  |         |  |
| STN         | PHASE | H                                                  | M   | S       | DIR | RES      | WT  | DIST   | AZ  | W-A              | W P     | W S |  |         |  |
| WNZ         | P     | 18                                                 | 17  | 59.5    |     | -0.3     | 100 | 0.37   | 82  |                  | 3.9     | 4.0 |  |         |  |
|             | S     |                                                    |     | 18 13   |     | -2.1     | 100 |        |     |                  |         |     |  |         |  |
| GSZ         | iP    | 18                                                 | 18  | 01.5    | D   | 0.6      | 100 | 0.59   | 184 |                  |         |     |  |         |  |
|             | eS    |                                                    |     | 20      |     | 3.0      | 99  |        |     |                  |         |     |  |         |  |
| KRP         | iP    | 18                                                 | 18  | 02.6    | DS  | 0.6      | 100 | 0.76   | 354 |                  | 3.8*    |     |  |         |  |
|             | S     |                                                    |     | 18.3    |     | -0.7     | 100 |        |     |                  |         |     |  |         |  |
| TUA         | P     | 18                                                 | 18  | 05.8    |     | 0.1      | 100 | 1.19   | 96  |                  | 4.1     | 4.3 |  |         |  |
|             | e     |                                                    |     | 07.8    |     |          |     |        |     |                  |         |     |  |         |  |
|             | e     |                                                    |     | 15.3    |     |          |     |        |     |                  |         |     |  |         |  |
|             | S     |                                                    |     | 28.0    |     | 2.4      | 99  |        |     |                  |         |     |  |         |  |
| WTZ         | iP    | 18                                                 | 18  | 06.2    | D   | -0.4     | 100 | 1.27   | 57  |                  | 3.6     | 4.0 |  |         |  |
|             | e     |                                                    |     | 23.6    |     |          |     |        |     |                  |         |     |  |         |  |
|             | S     |                                                    |     | 27.0    |     | -0.1     | 100 |        |     |                  |         |     |  |         |  |
|             | e     |                                                    |     | 29.8    |     |          |     |        |     |                  |         |     |  |         |  |
| TRZ         | iP    | 18                                                 | 18  | 07.3    | D   | 0.8      | 100 | 1.27   | 134 |                  | 4.3     | 4.3 |  |         |  |
|             | eS    |                                                    |     | 28.5    |     | 1.5      | 100 |        |     |                  |         |     |  |         |  |
| GNZ         | iP    | 18                                                 | 18  | 13.7    | U   | 0.5      | 100 | 1.86   | 90  |                  | 3.8     | 4.2 |  |         |  |
|             | e     |                                                    |     | 17.3    |     |          |     |        |     |                  |         |     |  |         |  |
|             | e     |                                                    |     | 23      |     |          |     |        |     |                  |         |     |  |         |  |
|             | S     |                                                    |     | 35.4    |     | -3.2     | 99  |        |     |                  |         |     |  |         |  |
|             | e     |                                                    |     | 46      |     |          |     |        |     |                  |         |     |  |         |  |
| MNG         | iP    | 18                                                 | 18  | 14.9    | U   | 0.9      | 100 | 1.93   | 184 |                  |         |     |  |         |  |
|             | eS    |                                                    |     | 37      |     | -3.1     | 99  |        |     |                  |         |     |  |         |  |
| WEL         | eP    | 18                                                 | 18  | 24      |     | 0.5      | 100 | 2.68   | 194 | 4.4              |         |     |  |         |  |
|             | S     |                                                    |     | 55.5    |     | -1.3     | 100 |        |     |                  |         |     |  |         |  |
|             | e     |                                                    | 19  | 07      |     |          |     |        |     |                  |         |     |  |         |  |
|             | e     |                                                    |     | 18      |     |          |     |        |     |                  |         |     |  |         |  |
| AMPLITUDES: |       | WNZ                                                |     | 0.3 0.3 | KRP | 9.0      |     | TUA    |     |                  | 1.7 2.5 |     |  |         |  |
|             |       | WTZ                                                |     | 1.2 3.0 | TRZ | 2.3 4.5  |     | GNZ    |     |                  | 1.2 4.6 |     |  |         |  |
|             |       | WEL                                                | 1.3 |         |     |          |     |        |     |                  |         |     |  |         |  |

|             |     |       |         |     |  |      |     |      |     |     |     |     |
|-------------|-----|-------|---------|-----|--|------|-----|------|-----|-----|-----|-----|
|             | e   | 36    | 11.7    |     |  |      |     |      |     |     |     |     |
|             | eSn |       | 31      |     |  | -0.8 | 100 |      |     |     |     |     |
| KRP         | iPn | 01 35 | 57.3    | U   |  | -0.4 | 100 | 3.09 | 9   |     | 4.4 | 4.6 |
|             | eSn |       | 36 32   |     |  | -0.1 | 100 |      |     |     |     |     |
| GPZ         | ePn | 01 35 | 59      |     |  | -0.4 | 100 | 3.21 | 212 | 4.2 |     |     |
|             | Sn  |       | 36 33.0 |     |  | -2.2 | 99  |      |     |     |     |     |
| WTZ         | Pn  | 01 35 | 59.9    |     |  | -1.8 | 100 | 3.38 | 28  |     | 4.2 | 4.0 |
|             | eSn |       | 36 38   |     |  | -1.2 | 100 |      |     |     |     |     |
| AMPLITUDES: | WEL | 30    |         |     |  | COB  |     | 3.5  | 7.0 | TRZ | 0.6 |     |
|             | TUA |       | 0.6     | 0.7 |  | KAI  | 0.8 |      |     | KRP | 1.2 | 1.4 |
|             | GPZ | 1.1   |         |     |  | WTZ  |     | 1.4  | 0.8 |     |     |     |

FELT: Wellington and Lower Hutt areas (68) MM IV

JUN 13 15<sup>h</sup>36<sup>m</sup>27<sup>s</sup>.4 45°.01S 167°.64E 117 km M = 3.6  
 ± 1.1 0.04 0.07 7 S.E. of RES. 1.2

| STN         | PHASE | H     | M       | S   | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-------|---------|-----|-----|------|-----|------|-----|------|------|------|
| MSZ         | iP    | 15 36 | 45.4    |     | D   | 0.8  | 100 | 0.40 | 30  |      | 3.6* | 3.9* |
|             | e     |       | 53.2    |     |     |      |     |      |     |      |      |      |
|             | S     |       | 57.4    |     |     | -0.4 | 100 |      |     |      |      |      |
| MNW         | iP!   | 15 36 | 47.3    |     |     | 0.1  | 100 | 0.76 | 181 | 3.8* |      |      |
|             | S     |       | 37 01.0 |     |     | -1.3 | 99  |      |     |      |      |      |
| ROX         | iP    | 15 36 | 53.5    |     | D   | 1.1  | 100 | 1.28 | 112 |      | 3.6  | 3.6  |
|             | S     |       | 37 11.4 |     |     | -0.0 | 100 |      |     |      |      |      |
| OBZ         | eS    | 15 37 | 25      |     |     | 0.3  | 100 | 1.92 | 170 |      |      |      |
| GSP         | P     | 15 37 | 00.3    |     |     | 0.2  | 100 | 1.92 | 63  |      |      |      |
|             | S     |       | 26.7    |     |     | 2.1  | 98  |      |     |      |      |      |
| MJZ         | P     | 15 37 | 05.0    |     |     | 0.3  | 100 | 2.27 | 64  |      | 3.6  | 3.7  |
|             | e     |       | 08.3    |     |     |      |     |      |     |      |      |      |
|             | S     |       | 32.7    |     |     | -0.0 | 100 |      |     |      |      |      |
| OMZ         | eS    | 15 37 | 33      |     |     | -0.9 | 100 | 2.32 | 93  |      |      | 3.4  |
| COB         | S     | 15 38 | 47      |     |     | -1.8 | 99  | 5.42 | 45  |      |      |      |
| AMPLITUDES: | MSZ   |       | 7.3     | 28  |     | MNW  | 2.8 |      |     | ROX  | 0.8  | 2.0  |
|             | MJZ   |       | 1.0     | 2.0 |     | OMZ  |     | 0.3  |     |      |      |      |

JUN 13 23<sup>h</sup>05<sup>m</sup>46<sup>s</sup>.6 40°.13S 174°.73E 33 km M = 4.0  
 ± 0.4 0.03 0.05 R S.E. of RES. 1.4

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| MNG | iPn!  | 23 06 | 02.8 |   |     | 2.3  | 99  | 0.76 | 131 |     |     |     |
| NGZ | Pn    | 23 06 | 06.4 |   |     | 0.3  | 100 | 1.16 | 36  |     |     |     |
|     | S*    |       | 22   |   |     | -1.7 | 100 |      |     |     |     |     |
| WEL | P*    | 23 06 | 10.0 |   |     | 2.1  | 99  | 1.16 | 178 | 3.5 |     |     |
|     | eS*   |       | 22.5 |   |     | -1.1 | 100 |      |     |     |     |     |
| COB | Pn    | 23 06 | 14.7 |   |     | 0.0  | 100 | 1.80 | 237 |     | 4.2 | 3.9 |
|     | e     |       | 15.2 |   |     |      |     |      |     |     |     |     |
|     | P*    |       | 19.9 |   |     | 1.3  | 100 |      |     |     |     |     |
|     | e     |       | 25.8 |   |     |      |     |      |     |     |     |     |
|     | eSn   |       | 36   |   |     | 0.2  | 100 |      |     |     |     |     |
| KRP | Pn    | 23 06 | 21.2 |   |     | -0.2 | 100 | 2.29 | 16  |     | 4.3 | 4.2 |
|     | Sn    |       | 48.0 |   |     | 0.5  | 100 |      |     |     |     |     |
| TUA | S*    | 23 06 | 56.5 |   |     | -0.6 | 100 | 2.29 | 56  |     |     | 3.9 |
| KKY | Pn    | 23 06 | 21.4 |   |     | -1.8 | 99  | 2.42 | 198 |     |     |     |
|     | e     |       | 38.6 |   |     |      |     |      |     |     |     |     |
| GNZ | Sn    | 23 07 | 04.2 |   |     | 0.7  | 100 | 2.95 | 61  |     |     | 3.8 |
| KAI | e     | 23 06 | 55   |   |     |      |     | 3.46 | 225 | 4.1 |     |     |

|             |     |          |      |     |      |     |     |     |  |
|-------------|-----|----------|------|-----|------|-----|-----|-----|--|
|             | eSn | 07 16    | 0.1  | 100 |      |     |     |     |  |
|             | e   | 23       |      |     |      |     |     |     |  |
| GPZ         | eSn | 23 07 24 | -2.2 | 99  | 3.90 | 203 | 4.1 |     |  |
| AMPLITUDES: | WEL | 0.9      | COB  | 2.8 | 4.6  | KRP | 1.8 | 1.0 |  |
|             | TUA |          | 0.5  | GNZ | 0.9  | KAI | 0.4 |     |  |
|             | GPZ | 0.5      |      |     |      |     |     |     |  |

JUN 14 02<sup>h</sup>03<sup>m</sup>54<sup>s</sup>.6 37°.93s 176°.67E 0 km M = 3.6  
 ± 1.3 0.08 0.06 14 S.E. of RES. 1.8

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ         | iPg!  | 02 | 03 | 57.7 |     | -2.2 | 99  | 0.26 | 103 |     |     |     |   |   |
| KRP         | P*    | 02 | 04 | 12.1 |     | -0.1 | 100 | 0.89 | 270 |     | 3.2 | 3.4 |   |   |
|             | S*    |    |    | 25.8 |     | 1.1  | 100 |      |     |     |     |     |   |   |
| TUA         | P*    | 02 | 04 | 12.3 |     | -1.0 | 100 | 0.95 | 157 |     | 3.6 |     |   |   |
| GNZ         | Pn    | 02 | 04 | 19.3 |     | 0.0  | 100 | 1.29 | 124 |     | 3.8 | 3.3 |   |   |
|             | eSg   |    |    | 40   |     | 2.1  | 99  |      |     |     |     |     |   |   |
| ECZ         | ePg   | 02 | 04 | 26   |     | 0.9  | 100 | 1.51 | 82  |     | 3.9 |     |   |   |
| TRZ         | Pg    | 02 | 04 | 27   |     | -0.5 | 100 | 1.63 | 176 |     | 3.8 |     |   |   |
| AMPLITUDES: | KRP   |    |    | 1.3  | 2.1 | TUA  | 1.0 | GNZ  |     |     | 2.5 | 1.3 |   |   |
|             | ECZ   |    |    | 0.5  |     | TRZ  | 0.7 |      |     |     |     |     |   |   |

FELT: Whakatane (27)

JUN 15 09<sup>h</sup>53<sup>m</sup>22<sup>s</sup>.6 36°.39s 177°.99E 250 km M = 4.1  
 ± 1.7 0.11 0.16 13 S.E. of RES. 1.7

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|------|-----|---|---|
| ECZ         | P     | 09 | 54 | 01.7    |     | 1.4  | 100 | 1.38 | 161 |     | 3.7  | 3.8 |   |   |
|             | S     |    |    | 27.5    |     | -2.0 | 99  |      |     |     |      |     |   |   |
| WTZ         | iP    | 09 | 54 | 03.0    | U   | -0.4 | 100 | 1.78 | 206 |     | 4.4  | 3.8 |   |   |
|             | eS    |    |    | 34      |     | -1.0 | 100 |      |     |     |      |     |   |   |
| GNZ         | iP    | 09 | 54 | 08.3    | D   | 0.6  | 100 | 2.25 | 179 |     | 4.2  | 4.1 |   |   |
|             | e     |    |    | 09.0    |     |      |     |      |     |     |      |     |   |   |
|             | S     |    |    | 43.0    |     | 0.3  | 100 |      |     |     |      |     |   |   |
| KRP         | iP    | 09 | 54 | 10.2    | D   | 0.1  | 100 | 2.49 | 231 |     | 3.0* |     |   |   |
| TRZ         | P     | 09 | 54 | 19.8    |     | 1.1  | 100 | 3.29 | 196 |     | 4.2  | 4.3 |   |   |
|             | eS    |    |    | 55 05   |     | 2.7  | 99  |      |     |     |      |     |   |   |
| NGZ         | eP    | 09 | 54 | 19      |     | -0.5 | 100 | 3.37 | 213 |     |      |     |   |   |
|             | eS    |    |    | 55 06   |     | 2.2  | 99  |      |     |     |      |     |   |   |
| MNG         | iP    | 09 | 54 | 33.1    | U   | -1.7 | 100 | 4.66 | 204 |     | 4.0  | 4.1 |   |   |
|             | S     |    |    | 55 29.5 |     | -1.6 | 100 |      |     |     |      |     |   |   |
| WEL         | S     | 09 | 55 | 48      |     | -1.5 | 100 | 5.50 | 206 | 4.4 |      |     |   |   |
| AMPLITUDES: | ECZ   |    |    | 0.3     | 0.4 | WTZ  | 2.8 | 0.8  | GNZ |     | 1.3  | 1.8 |   |   |
|             | KRP   |    |    | 0.5     |     | TRZ  | 0.3 | 0.9  | MNG |     | 0.8  | 1.2 |   |   |
|             | WEL   |    |    | 0.3     |     |      |     |      |     |     |      |     |   |   |

JUN 16 14<sup>h</sup>01<sup>m</sup>14<sup>s</sup>.6 45°.18s 167°.60E 120 km M = 3.4  
 ± 0.8 0.02 0.04 5 S.E. of RES. 0.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|-----|---|
| MSZ | iP    | 14 | 01 | 33.2 |     | 0.1  | 100 | 0.56 | 24  |      | 3.3* | 3.4* |     |   |
|     | S     |    |    | 47.0 |     | -0.2 | 100 |      |     |      |      |      |     |   |
| MNW | iP    | 14 | 01 | 33.8 |     | 0.5  | 100 | 0.60 | 179 | 3.8* | 3.4* | 3.9* |     |   |
|     | S     |    |    | 47.5 |     | -0.2 | 100 |      |     |      |      |      |     |   |
| ROX | S     | 14 | 01 | 59.1 |     | 0.6  | 100 | 1.25 | 104 |      |      |      | 3.3 |   |



|             |    |             |             |          |     |
|-------------|----|-------------|-------------|----------|-----|
| OBZ         | P  | 14 01 45.6  | 0.1 100     | 1.76 168 |     |
|             | S  | 02 08.3     | -0.6 100    |          |     |
| GSP         | S  | 14 02 14.9  | 0.6 100     | 2.02 60  |     |
| OMZ         | eS | 14 02 22    | 0.0 100     | 2.35 89  |     |
| MJZ         | e? | 14 01 56    |             | 2.38 61  | 3.5 |
|             | eS | 02 21.5     | -1.0 98     |          |     |
| AMPLITUDES: |    | MSZ 3.5 7.2 | MNW 3.0 2.3 | 15 ROX   | 0.8 |
|             |    | MJZ 1.1     |             |          |     |

JUN 17 09<sup>h</sup>24<sup>m</sup>38<sup>s</sup>.7 45°.35s 167°.42E 141 km M = 3.7  
 ± 1.1 0.03 0.06 6 S.E. of RES. 0.9

| STN | PHASE | H     | M    | S    | DIR | RES      | WT | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|-------|------|------|-----|----------|----|------|-----|------|------|------|
| MNW | iP    | 09 24 | 59.0 |      | U   | 0.1 100  |    | 0.45 | 162 | 3.3* | 3.1* | 3.4* |
|     | S     |       | 25   | 14.0 |     | -0.4 100 |    |      |     |      |      |      |
| MSZ | iP    | 09 25 | 01.2 |      | U   | 0.4 100  |    | 0.76 | 28  |      | 3.4* | 3.1* |
|     | S     |       | 18   |      |     | 0.2 100  |    |      |     |      |      |      |
| ROX | iP    | 09 25 | 07.0 |      | U   | 0.8 100  |    | 1.34 | 96  |      | 3.7  | 3.7  |
|     | S     |       | 28   |      |     | 0.8 100  |    |      |     |      |      |      |
| OBZ | P     | 09 25 | 09.2 |      |     | -0.1 100 |    | 1.63 | 163 |      |      |      |
|     | eS    |       | 32   |      |     | -0.7 100 |    |      |     |      |      |      |
| GSP | eS    | 09 25 | 45   |      |     | 0.1 100  |    | 2.21 | 58  |      |      |      |
| OMZ | eS?   | 09 25 | 51.5 |      |     | 0.5 100  |    | 2.48 | 85  |      |      |      |
| MJZ | eS?   | 09 25 | 51   |      |     | -1.9 94  |    | 2.56 | 59  |      |      |      |

AMPLITUDES: MNW 0.8 0.9 4.7 MSZ 2.5 2.0 ROX 0.7 1.5

JUN 17 09<sup>h</sup>34<sup>m</sup>23<sup>s</sup>.7 39°.21s 177°.26E 12 km M = 3.2  
 ± 0.6 0.04 0.05 R S.E. of RES. 1.7

| STN | PHASE | H     | M    | S    | DIR | RES      | WT | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|------|-----|----------|----|------|-----|-----|-----|-----|
| TUA | iP*   | 09 34 | 31.2 |      | U   | -0.7 100 |    | 0.41 | 348 |     | 3.1 | 3.3 |
|     | S*    |       | 39.0 |      |     | 1.3 100  |    |      |     |     |     |     |
| TRZ | P*    | 09 34 | 31.7 |      |     | -1.4 100 |    | 0.49 | 225 |     | 2.8 | 3.1 |
|     | eS*   |       | 41   |      |     | 1.2 100  |    |      |     |     |     |     |
| GNZ | P*    | 09 34 | 37.8 |      |     | -1.1 100 |    | 0.82 | 47  |     | 3.3 | 3.1 |
|     | ePg   |       | 41   |      |     | 0.6 100  |    |      |     |     |     |     |
|     | eS*   |       | 52   |      |     | 2.0 99   |    |      |     |     |     |     |
| WNZ | ePn   | 09 34 | 45   |      |     | 1.2 100  |    | 1.07 | 302 |     | 3.7 |     |
| WTZ | iPn   | 09 34 | 43.0 |      | U   | -3.1 98  |    | 1.24 | 350 |     | 3.2 | 3.4 |
|     | Sn    |       | 35   | 01.8 |     | -1.1 100 |    |      |     |     |     |     |
| NGZ | iPn   | 09 34 | 44.8 |      | D   | -1.9 100 |    | 1.28 | 271 |     |     |     |
|     | Sn    |       | 35   | 04.3 |     | 0.5 100  |    |      |     |     |     |     |
| KRP | P*    | 09 34 | 58.2 |      |     | 1.5 100  |    | 1.86 | 313 |     | 3.5 |     |
| MNG | Pg    | 09 35 | 04.3 |      |     | 0.9 100  |    | 1.96 | 224 |     | 3.0 | 3.0 |
|     | e     |       | 42   |      |     |          |    |      |     |     |     |     |

AMPLITUDES: TUA 2.5 4.5 TRZ 1.2 3.0 GNZ 2.3 2.7  
 WNZ 0.3 WTZ 1.1 1.6 KRP 0.5  
 MNG 0.5 0.6

JUN 17 15<sup>h</sup>29<sup>m</sup>37<sup>s</sup>.1 37°.77s 176°.79E 4 km M = 3.7  
 ± 0.6 0.03 0.03 6 S.E. of RES. 1.5

| STN | PHASE | H     | M    | S | DIR | RES      | WT | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|----------|----|------|-----|-----|-----|-----|
| WIZ | iPg   | 15 29 | 41.0 |   | U   | -1.6 100 |    | 0.27 | 145 |     |     |     |
| WIZ | iP*   | 15 29 | 45.4 |   | D   | -0.4 100 |    | 0.40 | 53  |     |     |     |
|     | Sg    |       | 51   |   |     | 0.5 100  |    |      |     |     |     |     |



|             |     |       |         |      |         |      |         |           |
|-------------|-----|-------|---------|------|---------|------|---------|-----------|
|             | eS  |       | 38.5    | -1.6 | 100     |      |         |           |
| WTZ         | P   | 06 09 | 10.7    | -1.3 | 100     | 2.83 | 248     | 4.4 4.5   |
|             | S   |       | 47.0    | -0.9 | 100     |      |         |           |
| TUA         | eP? | 06 09 | 17.5    | 2.2  | 100     | 3.11 | 233     | 4.1 4.2   |
|             | eS  |       | 56      | 2.0  | 100     |      |         |           |
| TRZ         | e?  | 06 09 | 06      |      |         | 3.78 | 226     | 4.1       |
|             | eS  |       | 10 12   | 2.9  | 99      |      |         |           |
| KRP         | P   | 06 09 | 27.0    | 1.3  | 100     | 3.92 | 254     | 3.0* 3.1* |
|             | eS  |       | 10 10   | -2.4 | 100     |      |         |           |
| NGZ         | eP  | 06 09 | 32.5    | 1.7  | 100     | 4.33 | 238     |           |
|             | eS  |       | 10 20   | -1.7 | 100     |      |         |           |
| ONE         | e?  | 06 09 | 44      |      |         | 4.95 | 282     |           |
| MNG         | P   | 06 09 | 43.0    | 0.0  | 100     | 5.26 | 224     | 3.9 4.1   |
|             | eS  |       | 10 45   | 1.6  | 100     |      |         |           |
| WEL         | eS  | 06 11 | 02      | -1.5 | 100     | 6.11 | 223     | 4.5       |
| CIZ         | eP  | 06 10 | 13      | 1.8  | 100     | 7.39 | 162     |           |
|             | eS  |       | 11 32   | -2.0 | 100     |      |         |           |
| AMPLITUDES: |     |       |         |      |         |      |         |           |
|             | GNZ |       | 1.8 3.8 | WTZ  | 2.0 2.5 | TUA  | 0.4 0.5 |           |
|             | TRZ |       | 0.5     | KRP  | 0.4 0.5 | MNG  | 0.5 1.2 |           |
|             | WEL | 0.3   |         | CIZ  | 0.3 0.5 |      |         |           |

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JUN 18    06<sup>h</sup>13<sup>m</sup>32<sup>s</sup>.6    37°.15s    179°.75w    151 km    M = 4.5

S.E. of RES. 1.5

± 0.8    0.05    0.07    12

| STN         | PHASE | H   | M  | S       | DIR | RES     | WT  | DIST    | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|----|---------|-----|---------|-----|---------|-----|------|------|------|
| ECZ         | eP    | 06  | 14 | 00.3    |     | -1.8    | 99  | 1.46    | 248 |      |      |      |
| GNZ         | P     | 06  | 14 | 10.3    |     | -1.6    | 100 | 2.30    | 229 |      | 4.5  | 4.6  |
|             | e     |     |    | 21.0    |     |         |     |         |     |      |      |      |
|             | e     |     |    | 39      |     |         |     |         |     |      |      |      |
|             | eS    |     |    | 43.5    |     | 1.5     | 100 |         |     |      |      |      |
| WIZ         | P     | 06  | 14 | 13.7    |     | -0.2    | 100 | 2.47    | 260 |      |      |      |
|             | e     |     |    | 27      |     |         |     |         |     |      |      |      |
|             | e     |     |    | 15 13   |     |         |     |         |     |      |      |      |
| WTZ         | P     | 06  | 14 | 15.3    |     | -1.9    | 99  | 2.73    | 251 |      | 4.7  | 5.0  |
|             | eS    |     |    | 51      |     | -0.2    | 100 |         |     |      |      |      |
| TUA         | eP    | 06  | 14 | 21.5    |     | 1.3     | 100 | 2.95    | 235 |      | 4.3  | 4.7  |
|             | eS    |     |    | 59      |     | 2.6     | 99  |         |     |      |      |      |
| TRZ         | eP    | 06  | 14 | 28      |     | -0.6    | 100 | 3.61    | 227 |      | 4.5  | 4.4  |
|             | eS    |     |    | 15 16.5 |     | 5.0     |     |         |     |      |      |      |
| KRP         | P     | 06  | 14 | 31.0    |     | -0.4    | 100 | 3.82    | 257 |      | 3.4* | 3.4* |
|             | eS    |     |    | 15 15   |     | -1.7    | 100 |         |     |      |      |      |
| GBZ         |       |     |    |         |     |         |     | 3.95    | 282 |      |      |      |
| NGZ         | eP?   | 06  | 14 | 36      |     | -0.1    | 100 | 4.18    | 240 |      |      |      |
|             | e     |     |    | 42.5    |     |         |     |         |     |      |      |      |
|             | eS    |     |    | 15 25.5 |     | 0.6     | 100 |         |     |      |      |      |
| AUC         | eP    | 06  | 14 | 39      |     | 0.2     | 100 | 4.39    | 272 |      |      |      |
| ONE         | eP    | 06  | 14 | 49      |     | 2.8     | 98  | 4.94    | 284 | 3.5* |      |      |
| MNG         | P     | 06  | 14 | 47.0    |     | -1.0    | 100 | 5.08    | 226 |      | 4.2  | 4.5  |
|             | eS    |     |    | 15 47.0 |     | 0.7     | 100 |         |     |      |      |      |
| WEL         | eS    | 06  | 16 | 05      |     | -1.6    | 100 | 5.93    | 224 |      |      |      |
| CRZ         | eP    | 06  | 15 | 11      |     | 1.0     | 100 | 6.73    | 292 |      |      |      |
| CIZ         | eP    | 06  | 15 | 17      |     | 0.4     | 100 | 7.22    | 161 |      |      |      |
|             | eS    |     |    | 16 38   |     | 0.5     | 100 |         |     |      |      |      |
| AMPLITUDES: |       |     |    |         |     |         |     |         |     |      |      |      |
|             | GNZ   |     |    | 3.7 8.0 | WTZ | 3.9 9.7 | TUA | 0.7 1.7 |     |      |      |      |
|             | TRZ   |     |    | 0.6 1.1 | KRP | 1.1 1.1 | GBZ | 1.7     |     |      |      |      |
|             | ONE   | 0.4 |    |         | MNG | 1.2 2.8 |     |         |     |      |      |      |

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|-------------|-------|----------------------------------------------------|----|---------|-----|----------|-----|--------|-----|------------------|-----------|
| JUN 18      |       | 12 <sup>h</sup> 21 <sup>m</sup> 38 <sup>s</sup> .8 |    | 37°.06s |     | 179°.58w |     | 148 km |     | M = 4.7          |           |
|             |       | ± 0.9                                              |    | 0.05    |     | 0.08     |     | 13     |     | S.E. of RES. 1.5 |           |
| STN         | PHASE | H                                                  | M  | S       | DIR | RES      | WT  | DIST   | AZ  | W-A              | W P W S   |
| ECZ         | iP!   | 12                                                 | 22 | 09.0    |     | -0.8     | 100 | 1.62   | 246 |                  |           |
| GNZ         | iP    | 12                                                 | 22 | 19.3    | U   | -0.7     | 100 | 2.47   | 229 |                  | 4.7 4.9   |
|             | S     |                                                    |    | 52      |     | 0.6      | 100 |        |     |                  |           |
| WIZ         | eP    | 12                                                 | 22 | 20      |     | -1.9     | 99  | 2.62   | 259 |                  |           |
| WTZ         | iP    | 12                                                 | 22 | 24.3    | U   | -1.0     | 100 | 2.88   | 250 |                  | 4.9 5.0   |
|             | e     |                                                    |    | 36.8    |     |          |     |        |     |                  |           |
|             | eS    |                                                    | 23 | 01      |     | 0.2      | 100 |        |     |                  |           |
| TUA         | P     | 12                                                 | 22 | 29      |     | 0.7      | 100 | 3.12   | 235 |                  | 4.6 4.8   |
|             | e     |                                                    |    | 42.0    |     |          |     |        |     |                  |           |
|             | eS    |                                                    | 23 | 08      |     | 1.7      | 100 |        |     |                  |           |
| TRZ         | P     | 12                                                 | 22 | 36.7    |     | -0.1     | 100 | 3.77   | 228 |                  | 4.6 4.7   |
|             | eS    |                                                    | 23 | 24      |     | 2.6      | 99  |        |     |                  |           |
| KRP         | P     | 12                                                 | 22 | 39.1    |     | -0.5     | 100 | 3.98   | 256 |                  | 3.7* 3.5* |
|             | eS    |                                                    | 23 | 23      |     | -3.3     | 96  |        |     |                  |           |
| NGZ         | eP    | 12                                                 | 22 | 45      |     | 0.6      | 100 | 4.35   | 239 |                  |           |
|             | eS    |                                                    | 23 | 34      |     | -0.9     | 100 |        |     |                  |           |
| AUC         | iP    | 12                                                 | 22 | 47.7    | U   | 0.9      | 100 | 4.53   | 271 |                  |           |
| CAZ         | eS    | 12                                                 | 23 | 52      |     | 0.5      | 100 | 5.04   | 219 |                  |           |
| ONE         | eP    | 12                                                 | 22 | 55      |     | 1.2      | 100 | 5.06   | 283 | 3.5*             |           |
| TNZ         | eP    | 12                                                 | 22 | 59      |     | 3.0      | 98  | 5.22   | 244 |                  | 3.8* 3.6* |
|             | e     |                                                    | 23 | 10      |     |          |     |        |     |                  |           |
|             | e     |                                                    |    | 27      |     |          |     |        |     |                  |           |
|             | e     |                                                    | 24 | 12      |     |          |     |        |     |                  |           |
| MNG         | P     | 12                                                 | 22 | 56.0    |     | -0.4     | 100 | 5.25   | 226 |                  | 4.3 4.5   |
|             | e     |                                                    | 23 | 27      |     |          |     |        |     |                  |           |
|             | eS    |                                                    |    | 56      |     | -0.4     | 100 |        |     |                  |           |
| WEL         | eS    | 12                                                 | 24 | 15      |     | -1.6     | 100 | 6.09   | 224 | 4.7              |           |
| CRZ         | eP    | 12                                                 | 23 | 18      |     | 0.6      | 100 | 6.82   | 290 |                  |           |
| CIZ         | e     | 12                                                 | 23 | 29      |     |          |     | 7.26   | 163 |                  |           |
|             | eS    |                                                    | 24 | 44      |     | -0.8     | 100 |        |     |                  |           |
| AMPLITUDES: |       | GNZ                                                |    | 5.5     | 16  | WTZ      |     | 5.5    | 8.5 | TUA              | 1.1 2.0   |
|             |       | TRZ                                                |    | 0.7     | 1.9 | KRP      |     | 1.8    | 1.3 | ONE              | 0.4       |
|             |       | TNZ                                                |    | 0.4     | 0.4 | MNG      |     | 1.5    | 2.8 | WEL              | 0.5       |
|             |       | CIZ                                                |    | 0.5     | 0.7 |          |     |        |     |                  |           |

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|---------|-------|----------------------------------------------------|----|---------|-----|----------|-----|--------|-----|------------------|-----------|
| JUN 18  |       | 13 <sup>h</sup> 02 <sup>m</sup> 11 <sup>s</sup> .8 |    | 38°.31s |     | 175°.93E |     | 213 km |     | M = 4.5          |           |
|         |       | ± 1.1                                              |    | 0.06    |     | 0.07     |     | 7      |     | S.E. of RES. 1.5 |           |
| STN     | PHASE | H                                                  | M  | S       | DIR | RES      | WT  | DIST   | AZ  | W-A              | W P W S   |
| WNZ     | eP    | 13                                                 | 02 | 44      |     | 4.0      | 84  | 0.35   | 158 |                  | 4.4       |
|         | e     |                                                    |    | 03 13   |     |          |     |        |     |                  |           |
| KRP     | iP    | 13                                                 | 02 | 40.2    | US  | -0.3     | 100 | 0.49   | 321 |                  | 3.5* 3.1* |
|         | eS    |                                                    |    | 03 02   |     | -0.6     | 100 |        |     |                  |           |
| WTZ     | P     | 13                                                 | 02 | 41.3    |     | -1.0     | 100 | 0.89   | 69  |                  | 4.8 4.6   |
|         | e     |                                                    |    | 51.9    |     |          |     |        |     |                  |           |
|         | eS    |                                                    | 03 | 03.5    |     | -2.5     | 99  |        |     |                  |           |
| NGZ     | iP    | 13                                                 | 02 | 43.3    | U   | 0.9      | 100 | 0.91   | 196 |                  |           |
|         | eS    |                                                    |    | 03 07   |     | 0.9      | 100 |        |     |                  |           |
| TUA     | P     | 13                                                 | 02 | 43.8    |     | 0.3      | 100 | 1.08   | 118 |                  | 4.1 4.6   |
|         | e     |                                                    |    | 03 02   |     |          |     |        |     |                  |           |
|         | S     |                                                    |    | 07.9    |     | -0.2     | 100 |        |     |                  |           |
| TRZ     | iP    | 13                                                 | 02 | 47.2    | D   | 1.0      | 100 | 1.42   | 151 |                  | 4.3 4.6   |



|     |     |            |     |      |     |      |     |         |
|-----|-----|------------|-----|------|-----|------|-----|---------|
|     | eS  | 03 14.5    |     | 1.7  | 100 |      |     |         |
| TNZ | P   | 13 02 47.7 |     | 0.9  | 100 | 1.50 | 234 | 3.6*    |
| GNZ | iP  | 13 02 48.5 | DNE | 0.1  | 100 | 1.67 | 102 | 4.8 4.7 |
|     | e   | 03 09.5    |     |      |     |      |     |         |
|     | S   | 16.0       |     | -0.8 | 100 |      |     |         |
| ECZ | P   | 13 02 52.8 |     | -0.3 | 100 | 2.15 | 74  | 4.4     |
|     | e   | 57.1       |     |      |     |      |     |         |
|     | eS  | 03 26      |     | 0.9  | 100 |      |     |         |
| MNG | iP! | 13 02 54.4 |     | -0.7 | 100 | 2.34 | 188 |         |
|     | e   | 03 13      |     |      |     |      |     |         |
| WEL | P   | 13 03 02.8 |     | -1.1 | 100 | 3.11 | 196 | 4.6     |
|     | eS  | 42         |     | -2.2 | 99  |      |     |         |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WNZ | 0.3 | KRP | 2.7 | 1.4 | WTZ | 12  | 9.5 |
|             | TUA | 1.2 | 3.6 | TRZ | 1.3 | 6.0 | TNZ | 0.6 |
|             | GNZ | 9.8 | 13  | ECZ | 1.0 | WEL | 1.4 |     |

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JUN 19 01<sup>h</sup>03<sup>m</sup>31<sup>s</sup>.4 36°.77s 177°.76E 12 km M = 4.4  
 ± 0.6 0.03 0.04 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WIZ | iP*   | 01 | 03 | 47.0 | U   | -0.6 | 100 | 0.88 | 211 |     |     |     |
|     | eS*   |    |    | 59   |     | -0.6 | 100 |      |     |     |     |     |
| ECZ | Pg    | 01 | 03 | 54.0 |     | -0.0 | 100 | 1.12 | 146 |     |     |     |
|     | e     |    |    | 56.0 |     |      |     |      |     |     |     |     |
| WTZ | iPn   | 01 | 03 | 54.1 | D   | -1.4 | 100 | 1.36 | 207 |     | 4.3 | 4.4 |
|     | eSn   |    | 04 | 14   |     | 0.6  | 100 |      |     |     |     |     |
| GNZ | iPn   | 01 | 04 | 03.8 |     | 1.2  | 100 | 1.88 | 174 |     |     |     |
| TUA | ePn   | 01 | 04 | 05   |     | -0.4 | 100 | 2.10 | 193 |     | 4.1 | 4.4 |
|     | ePg   |    |    | 11   |     | -2.7 | 98  |      |     |     |     |     |
|     | eSn   |    |    | 32   |     | 0.9  | 100 |      |     |     |     |     |
| KRP | iPn   | 01 | 04 | 04.6 | DNE | -1.1 | 100 | 2.12 | 236 |     | 4.6 | 5.0 |
|     | eSn   |    |    | 27   |     | -4.6 |     |      |     |     |     |     |
| WNZ | eP*   | 01 | 04 | 13   |     | 1.6  | 100 | 2.28 | 215 |     |     | 4.3 |
|     | eS*   |    |    | 42.7 |     | 1.4  | 100 |      |     |     |     |     |
| AUC | Pn    | 01 | 04 | 10.2 |     | 0.6  | 100 | 2.39 | 267 |     |     |     |
|     | eSg   |    |    | 49.5 |     | -2.7 | 98  |      |     |     |     |     |
| TRZ | Pn    | 01 | 04 | 17.1 |     | 0.9  | 100 | 2.88 | 195 |     | 4.4 | 4.2 |
|     | e     |    | 05 | 24   |     |      |     |      |     |     |     |     |
| ONE | ePn   | 01 | 04 | 19   |     | 2.2  | 99  | 2.92 | 289 | 4.4 |     |     |
| NGZ | Pn    | 01 | 04 | 20.4 |     | 3.3  |     | 2.95 | 214 |     |     |     |
|     | eS*   |    | 05 | 01   |     | -0.4 | 100 |      |     |     |     |     |
| TNZ | ePn   | 01 | 04 | 27   |     | 0.9  | 100 | 3.60 | 227 |     | 4.9 |     |
| MNG | Pn    | 01 | 04 | 35.1 |     | 0.3  | 100 | 4.24 | 204 |     | 4.3 | 4.3 |
|     | eSn   |    | 05 | 27   |     | 4.4  |     |      |     |     |     |     |
| CRZ | ePn   | 01 | 04 | 40.5 |     | -1.3 | 100 | 4.75 | 298 |     |     |     |
|     | eSn   |    | 05 | 36   |     | 1.0  | 100 |      |     |     |     |     |
| WEL | eP*   | 01 | 05 | 00   |     | 0.8  | 100 | 5.08 | 206 | 4.4 |     |     |
|     | eSn   |    |    | 44   |     | 1.2  | 100 |      |     |     |     |     |
| CIZ | ePn   | 01 | 05 | 29   |     | -2.3 | 99  | 8.39 | 151 |     |     |     |
|     | eSn   |    | 07 | 02   |     | -0.3 | 100 |      |     |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WTZ | 10  | 11  | TUA | 0.9 | 2.2 | KRP | 2.5 | 4.1 |
|             | WNZ |     | 0.3 | TRZ | 1.3 | 1.0 | ONE | 0.4 |     |
|             | TNZ | 0.5 |     | MNG | 2.2 | 2.6 | WEL | 0.4 |     |
|             | CIZ | 0.5 | 0.5 |     |     |     |     |     |     |

JUN 19 08<sup>h</sup>44<sup>m</sup>26<sup>s</sup>.6 45°.02S 167°.49E 12 km M = 3.7  
 ± 0.8 0.03 0.07 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W   | S   |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|---|-----|-----|
| MSZ | iP*   | 08 | 44 | 34.6 | U   | -1.1 | 100 | 0.46 | 41  |     |   |   | 3.8 | 3.5 |
|     | S*    |    |    | 40.3 |     | -1.8 | 99  |      |     |     |   |   |     |     |
| MNW | iP*   | 08 | 44 | 40.1 | U   | -0.7 | 100 | 0.76 | 173 |     |   |   | 3.9 | 3.6 |
|     | S*    |    |    | 50.5 |     | -0.7 | 100 |      |     |     |   |   |     |     |
| OBZ | Pn    | 08 | 44 | 58.8 |     | 0.2  | 100 | 1.93 | 167 |     |   |   |     |     |
|     | eSn   |    | 45 | 23   |     | 0.5  | 100 |      |     |     |   |   |     |     |
| GSP | P*    | 08 | 45 | 02.9 |     | 0.7  | 100 | 2.02 | 65  |     |   |   |     |     |
|     | eS*   |    |    | 29   |     | 0.4  | 100 |      |     |     |   |   |     |     |
| MJZ | Pn    | 08 | 45 | 05.2 |     | 0.8  | 100 | 2.37 | 65  |     |   |   | 3.7 |     |
|     | eP*   |    |    | 08   |     | -0.2 | 100 |      |     |     |   |   |     |     |
|     | Pg    |    |    | 16.7 |     | 2.2  | 98  |      |     |     |   |   |     |     |
|     | S*    |    |    | 39.5 |     | 0.2  | 100 |      |     |     |   |   |     |     |
| OMZ | ePn   | 08 | 45 | 06   |     | 0.7  | 100 | 2.43 | 92  |     |   |   | 3.5 |     |
|     | eS*   |    |    | 40   |     | -1.1 | 100 |      |     |     |   |   |     |     |
| KAI | eSg   | 08 | 46 | 40   |     | 6.0  |     | 3.78 | 50  | 4.0 |   |   |     |     |
| GPZ | eS*   | 08 | 46 | 31   |     | 4.9  |     | 3.93 | 72  | 3.7 |   |   |     |     |

AMPLITUDES: MSZ 41 38 MNW 12 14 MJZ 3.0  
 OMZ 0.6 KAI 0.3 GPZ 0.2

FELT: Te Anau Downs (130) MM IV

JUN 19 22<sup>h</sup>37<sup>m</sup>01<sup>s</sup>.8 38°.25S 177°.68E 70 km M = 3.8  
 ± 1.1 0.04 0.06 11 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W    | S    |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|---|------|------|
| GNZ | iP!   | 22 | 37 | 15.9 | NE  | 1.1  | 100 | 0.48 | 146 |     |   |   |      |      |
|     | eS    |    |    | 24   |     | -0.7 | 100 |      |     |     |   |   |      |      |
| WTZ | P     | 22 | 37 | 16.8 |     | 0.6  | 100 | 0.61 | 295 |     |   |   |      |      |
|     | eS    |    |    | 25   |     | -1.9 | 100 |      |     |     |   |   |      |      |
| TUA | iP    | 22 | 37 | 17.3 | D   | 0.2  | 100 | 0.70 | 217 |     |   |   | 3.8  | 3.9  |
|     | S     |    |    | 29.8 |     | 1.2  | 100 |      |     |     |   |   |      |      |
| WIZ | P     | 22 | 37 | 20.2 |     | 1.7  | 100 | 0.82 | 331 |     |   |   |      |      |
| ECZ | S     | 22 | 37 | 30.6 |     | -1.7 | 100 | 0.88 | 51  |     |   |   | 3.4  |      |
| TRZ | P     | 22 | 37 | 26.9 |     | 0.0  | 100 | 1.47 | 207 |     |   |   | 3.9  | 3.7  |
|     | eS    |    |    | 47   |     | 1.2  | 100 |      |     |     |   |   |      |      |
| KRP | eP    | 22 | 37 | 31   |     | 0.7  | 100 | 1.73 | 280 |     |   |   | 2.6* | 2.6* |
|     | eS    |    |    | 51   |     | -0.6 | 100 |      |     |     |   |   |      |      |
| NGZ | iP    | 22 | 37 | 33.3 | U   | 1.0  | 100 | 1.87 | 239 |     |   |   |      |      |
| WEL | eS    | 22 | 38 | 39   |     | -3.5 | 96  | 3.78 | 216 | 4.0 |   |   |      |      |

AMPLITUDES: TUA 3.6 4.8 ECZ 1.0 TRZ 1.0 1.4  
 KRP 0.4 0.4 WEL 0.3

JUN 20 06<sup>h</sup>36<sup>m</sup>28<sup>s</sup>.8 36°.93S 179°.71W 171 km M = 4.1  
 ± 1.9 0.11 0.15 13 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W   | S   |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|---|-----|-----|
| ECZ | P     | 06 | 37 | 00.8 |     | -0.4 | 100 | 1.58 | 241 |     |   |   | 4.1 | 4.1 |
|     | eS    |    |    | 25   |     | -1.0 | 100 |      |     |     |   |   |     |     |
| GNZ | P     | 06 | 37 | 11.6 |     | 0.4  | 100 | 2.48 | 226 |     |   |   | 4.3 | 4.3 |
|     | eS    |    |    | 43   |     | -0.9 | 100 |      |     |     |   |   |     |     |
| WTZ | P     | 06 | 37 | 15.0 |     | -0.6 | 100 | 2.83 | 247 |     |   |   | 4.3 | 4.4 |
|     | eS    |    |    | 51   |     | -0.5 | 100 |      |     |     |   |   |     |     |

|             |     |          |     |      |      |      |     |           |
|-------------|-----|----------|-----|------|------|------|-----|-----------|
| TUA         | e   | 06 37 34 |     |      | 3.11 | 232  | 4.0 | 4.2       |
|             | eS  | 38 01    |     | 3.3  | 97   |      |     |           |
| TRZ         | e   | 06 37 37 |     |      | 3.79 | 225  |     | 4.1       |
|             | eS  | 38 15    |     | 2.1  | 99   |      |     |           |
| KRP         | eP  | 06 37 31 |     | 1.7  | 100  | 3.91 | 254 | 3.1* 3.1* |
|             | eS  | 38 15    |     | -0.9 | 100  |      |     |           |
| MNG         | eP  | 06 37 46 |     | -0.8 | 100  | 5.26 | 224 | 3.6 3.9   |
|             | eS  | 38 46    |     | -1.3 | 100  |      |     |           |
| WEL         | eS  | 06 39 06 |     | -1.4 | 100  | 6.12 | 223 | 4.5       |
| AMPLITUDES: |     |          |     |      |      |      |     |           |
|             | ECZ | 1.0      | 0.9 | GNZ  | 2.0  | 3.0  | WTZ | 1.5 2.2   |
|             | TUA | 0.3      | 0.5 | TRZ  |      | 0.5  | KRP | 0.5 0.5   |
|             | MNG | 0.3      | 0.7 | WEL  | 0.3  |      |     |           |

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JUN 20    09<sup>h</sup>56<sup>m</sup>53<sup>s</sup>.1    37°.49s    177°.78E    29 km    M = 4.4

S.E. of RES. 1.4

± 0.8    0.03    0.04    5

| STN         | PHASE | H   | M   | S        | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|----------|-----|------|-----|------|-----|-----|---------|
| WIZ         | Pn    | 09  | 57  | 03.2     |     | -0.2 | 100 | 0.47 | 265 |     |         |
|             | eSn   |     |     | 13       |     | 2.0  | 99  |      |     |     |         |
| ECZ         | iPn!  | 09  | 57  | 07.2     |     | 1.3  | 100 | 0.65 | 109 |     |         |
| WTZ         | iPn!  | 09  | 57  | 07.8     |     | -0.1 | 100 | 0.80 | 231 |     |         |
| GNZ         | iPn   | 09  | 57  | 14.1     | DN  | 1.0  | 100 | 1.17 | 171 |     |         |
|             | e     |     |     | 21.5     |     |      |     |      |     |     |         |
|             | eS*   |     |     | 32       |     | 1.7  | 100 |      |     |     |         |
| TUA         | ePn   | 09  | 57  | 18       |     | 1.7  | 100 | 1.41 | 200 |     | 4.0 4.2 |
|             | e     |     |     | 28       |     |      |     |      |     |     |         |
|             | eSn   |     |     | 35       |     | 1.4  | 100 |      |     |     |         |
| WNZ         | ePn   | 09  | 57  | 21.0     |     | 0.1  | 100 | 1.75 | 229 |     | 4.1     |
|             | eS*   |     |     | 53       |     | 5.7  |     |      |     |     |         |
| KRP         | iPn   | 09  | 57  | 21.1     | DN  | -0.9 | 100 | 1.83 | 255 |     | 4.7 4.5 |
|             | P*    |     |     | 27.0     |     | 1.4  | 100 |      |     |     |         |
|             | eSn   |     |     | 43       |     | -0.7 | 100 |      |     |     |         |
| TRZ         | Pn    | 09  | 57  | 27.4     |     | 0.4  | 100 | 2.20 | 200 |     | 4.1 4.3 |
|             | eS*   |     |     | 58 00.5  |     | -0.2 | 100 |      |     |     |         |
| NGZ         | Pn    | 09  | 57  | 31.7     |     | 1.9  | 99  | 2.40 | 224 |     |         |
| AUC         | iPn   | 09  | 57  | 29.8     | U   | -1.0 | 100 | 2.47 | 284 |     |         |
| ONE         | ePn   | 09  | 57  | 40       |     | -1.2 | 100 | 3.23 | 301 | 4.4 |         |
| MNG         | Pn    | 09  | 57  | 44.3     |     | -1.9 | 99  | 3.60 | 209 |     | 4.3 4.5 |
|             | e     |     |     | 45.7     |     |      |     |      |     |     |         |
|             | eS*   |     |     | 58 41    |     | -1.8 | 99  |      |     |     |         |
| WEL         | ePn   | 09  | 58  | 04       |     | 6.1  |     | 4.45 | 211 | 4.4 |         |
|             | eSn   |     |     | 46.5     |     | -0.3 | 100 |      |     |     |         |
|             | eS*   |     |     | 59 07    |     | -1.2 | 100 |      |     |     |         |
| CRZ         | ePn   | 09  | 58  | 06       |     | -1.2 | 100 | 5.14 | 305 |     | 4.7     |
|             | eSn   |     |     | 59 04    |     | 0.8  | 100 |      |     |     |         |
| CIZ         | ePn   | 09  | 58  | 42       |     | -1.0 | 100 | 7.77 | 148 |     |         |
|             | eSn   |     |     | 10 00 04 |     | -2.3 | 99  |      |     |     |         |
| AMPLITUDES: |       |     |     |          |     |      |     |      |     |     |         |
|             | TUA   | 1.8 | 3.0 | WNZ      |     |      |     | 0.3  | KRP | 7.8 | 3.5     |
|             | TRZ   | 1.2 | 2.2 | ONE      | 0.4 |      |     |      | MNG | 2.7 | 6.0     |
|             | WEL   | 0.5 |     | CRZ      |     | 0.3  |     |      | CIZ | 1.0 | 1.2     |

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JUN 21    10<sup>h</sup>12<sup>m</sup>54<sup>s</sup>.1    37°.09s    179°.79w    160 km    M = 4.3

S.E. of RES. 1.4

± 1.1    0.06    0.08    15

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---------|
| GNZ | iP    | 10 | 13 | 33.6  | D   | -0.4 | 100 | 2.32 | 228 |     | 4.1 4.3 |
|     | eS    |    |    | 14 05 |     | 0.3  | 100 |      |     |     |         |

|             |     |            |         |      |         |      |         |     |     |     |
|-------------|-----|------------|---------|------|---------|------|---------|-----|-----|-----|
| WTZ         | P   | 10 13 37.0 |         | -1.9 | 99      | 2.71 | 250     |     | 4.4 | 4.4 |
|             | e   | 45.0       |         |      |         |      |         |     |     |     |
|             | eS  | 14 12      |         | -1.2 | 100     |      |         |     |     |     |
| TUA         | eP  | 10 13 43   |         | 1.0  | 100     | 2.96 | 234     |     | 4.3 | 4.4 |
|             | e   | 14 08.5    |         |      |         |      |         |     |     |     |
|             | eS  | 20         |         | 1.2  | 100     |      |         |     |     |     |
| TRZ         | eP? | 10 14 02   |         | 11.5 |         | 3.63 | 226     |     | 4.3 | 4.3 |
|             | e   | 37.5       |         |      |         |      |         |     |     |     |
| KRP         | P   | 10 13 53.8 |         | 0.9  | 100     | 3.81 | 256     |     |     |     |
| NGZ         | eP  | 10 14 13   |         | 15.2 |         | 4.18 | 239     |     |     |     |
|             | eS  | 48         |         | 1.2  | 100     |      |         |     |     |     |
| AUC         | P?  | 10 14 00.3 | D       | 0.3  | 100     | 4.36 | 271     |     |     |     |
| MNG         | eP  | 10 14 08   |         | -1.9 | 99      | 5.10 | 225     |     | 3.9 | 4.2 |
|             | eS  | 15 08      |         | -0.4 | 100     |      |         |     |     |     |
| WEL         | eS  | 10 15 28.5 |         | -0.2 | 100     | 5.95 | 224     | 4.4 |     |     |
| CIZ         | eP  | 10 14 41   |         | 2.1  | 99      | 7.29 | 161     |     |     |     |
|             | eS  | 15 59.5    |         | -1.1 | 100     |      |         |     |     |     |
| AMPLITUDES: |     | GNZ        | 1.6 4.0 | WTZ  | 2.3 2.6 | TUA  | 0.6 0.8 |     |     |     |
|             |     | TRZ        | 0.4 1.0 | MNG  | 0.6 1.5 | WEL  | 0.3     |     |     |     |
|             |     | CIZ        | 0.4 0.7 |      |         |      |         |     |     |     |

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JUN 21    21<sup>h</sup>01<sup>m</sup>52<sup>s</sup>.1    36°.83s    179°.90w    152 km    M = 4.2

S.E. of RES. 1.9

± 2.4    0.13    0.17    16

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|------|-----|---|---|
| ECZ         | eP    | 21  | 02  | 23   |     | 0.8  | 100 | 1.51 | 235 |     | 4.0  | 4.0 |   |   |
|             | eS    |     |     | 43   |     | -2.4 | 99  |      |     |     |      |     |   |   |
| GNZ         | iP    | 21  | 02  | 33.2 | U   | 0.0  | 100 | 2.45 | 222 |     | 4.2  | 4.1 |   |   |
|             | eS    |     | 03  | 04.5 |     | -0.2 | 100 |      |     |     |      |     |   |   |
| WTZ         | P     | 21  | 02  | 36.1 |     | -0.8 | 100 | 2.74 | 244 |     | 4.3  | 4.3 |   |   |
|             | eS    |     | 03  | 12.5 |     | 1.4  | 100 |      |     |     |      |     |   |   |
| TUA         | eP    | 21  | 02  | 51.5 |     | 10.4 |     | 3.06 | 229 |     |      | 4.3 |   |   |
|             | eS    |     | 03  | 21   |     | 2.6  | 99  |      |     |     |      |     |   |   |
| TRZ         | eS    | 21  | 03  | 36   |     | 1.5  | 100 | 3.75 | 223 |     | 4.7  |     |   |   |
| KRP         | eP    | 21  | 02  | 51.5 |     | 0.9  | 100 | 3.80 | 252 |     | 3.0* |     |   |   |
|             | eS    |     | 03  | 34   |     | -1.6 | 100 |      |     |     |      |     |   |   |
| NGZ         | eP    | 21  | 03  | 04   |     | 7.4  |     | 4.26 | 235 |     |      |     |   |   |
|             | eS    |     |     | 47   |     | 0.8  | 100 |      |     |     |      |     |   |   |
| MNG         |       |     |     |      |     |      |     | 5.24 | 222 |     | 3.7  | 3.9 |   |   |
| WEL         | eS    | 21  | 04  | 27   |     | -2.8 | 99  | 6.08 | 221 | 4.4 |      |     |   |   |
| AMPLITUDES: |       | ECZ | 0.9 | 1.0  | GNZ | 1.7  | 2.5 | WTZ  | 1.5 | 1.8 |      |     |   |   |
|             |       | TUA |     | 0.6  | TRZ | 1.0  |     | KRP  | 0.4 |     |      |     |   |   |
|             |       | MNG | 0.4 | 0.8  | WEL | 0.3  |     |      |     |     |      |     |   |   |

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JUN 22    12<sup>h</sup>08<sup>m</sup>28<sup>s</sup>.3    23°.19s    175°.92w    33 km

S.E. of RES. ND

± R    R    R    R

| STN | PHASE | H  | M  | S  | DIR | RES | WT | DIST  | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|----|-----|-----|----|-------|-----|-----|---|---|---|---|
| WEL | e     | 12 | 14 | 00 |     |     |    | 19.68 | 201 |     |   |   |   |   |

Tonga earthquake (USGS preliminary epicentre), Magnitude 7.2 Felt Wellington (68) MM III

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JUN 22    21<sup>h</sup>35<sup>m</sup>15<sup>s</sup>.3    37°.05s    177°.39E    196 km    M = 4.3

S.E. of RES. 1.6

± 1.1    0.05    0.08    7



| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|------|------|------|
| WIZ         | P     | 21  | 35  | 40.1 |     | -2.0 | 99  | 0.50 | 199 |      |      |      |
|             | eS    |     | 36  | 03   |     | 0.2  | 100 |      |     |      |      |      |
| WTZ         | P     | 21  | 35  | 43.9 |     | -0.8 | 100 | 0.98 | 199 |      | 4.2  | 4.2  |
|             | eS    |     | 36  | 07   |     | -0.4 | 100 |      |     |      |      |      |
| ECZ         | eP    | 21  | 35  | 46.5 |     | 0.8  | 100 | 1.12 | 125 |      | 4.1  | 4.3  |
|             | eS    |     | 36  | 09   |     | -0.2 | 100 |      |     |      |      |      |
| GNZ         | iP!   | 21  | 35  | 50.7 |     | 0.2  | 100 | 1.66 | 163 |      |      |      |
|             | eS    |     | 36  | 17   |     | -0.6 | 100 |      |     |      |      |      |
| KRP         | iP    | 21  | 35  | 51.7 | D   | 0.7  | 100 | 1.72 | 239 |      | 3.4* | 3.0* |
|             | eS    |     | 36  | 19   |     | 0.5  | 100 |      |     |      |      |      |
| TUA         | eP    | 21  | 35  | 51.5 |     | 0.1  | 100 | 1.76 | 186 |      | 4.1  | 4.3  |
|             | eS    |     | 36  | 18   |     | -1.4 | 100 |      |     |      |      |      |
| AUC         | iP    | 21  | 35  | 55.8 | U   | 0.8  | 100 | 2.11 | 274 |      |      |      |
| TRZ         | eS    | 21  | 36  | 37.5 |     | 3.3  | 97  | 2.54 | 190 |      |      | 4.5  |
| NGZ         | iP    | 21  | 36  | 01.7 | D   | 1.8  | 100 | 2.55 | 213 |      |      |      |
|             | e     |     |     | 09   |     |      |     |      |     |      |      |      |
|             | eS    |     |     | 39   |     | 4.6  |     |      |     |      |      |      |
| ONE         | eP    | 21  | 36  | 02   |     | -0.4 | 100 | 2.76 | 297 | 3.2* |      |      |
| MNG         | iP    | 21  | 36  | 14.4 | D   | -1.4 | 100 | 3.86 | 202 |      | 4.3  | 4.5  |
|             | eS    |     | 37  | 01   |     | -1.7 | 100 |      |     |      |      |      |
| CAZ         | eS    | 21  | 37  | 07   |     | 2.3  | 99  | 3.95 | 193 |      |      |      |
| WEL         | eS    | 21  | 37  | 19   |     | -2.5 | 99  | 4.70 | 205 | 4.4  |      |      |
| AMPLITUDES: |       | WTZ | 3.6 | 4.3  | ECZ | 1.3  | 1.7 | KRP  | 1.8 | 0.8  |      |      |
|             |       | TUA | 0.8 | 1.3  | TRZ |      | 2.5 | ONE  | 0.3 |      |      |      |
|             |       | MNG | 2.5 | 4.5  | WEL | 0.4  |     |      |     |      |      |      |

JUN 23 04<sup>h</sup>34<sup>m</sup>41<sup>s</sup>.5 42°.00S 174°.37E 12 km 77/ 400  
 ± 0.5 0.03 0.05 R S.E. of RES. 1.3 M = 3.8

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|
| WEL         | P*    | 04  | 34  | 56.2 |     | 0.3  | 100 | 0.77 | 23  | 3.8 |     |     |
|             | S*    |     | 35  | 06.3 |     | -0.0 | 100 |      |     |     |     |     |
| COB         | Pn    | 04  | 35  | 06.6 |     | -1.2 | 100 | 1.53 | 306 |     | 3.8 | 3.7 |
|             | Sn    |     |     | 25.7 |     | -1.8 | 99  |      |     |     |     |     |
| MNG         | iPn   | 04  | 35  | 08.0 | U   | -1.0 | 100 | 1.62 | 32  |     | 3.9 | 3.7 |
|             | eS*   |     |     | 32   |     | 0.4  | 100 |      |     |     |     |     |
| GPZ         | ePg   | 04  | 35  | 24   |     | -0.3 | 100 | 2.12 | 216 | 3.3 |     |     |
|             | eSn   |     |     | 42   |     | 0.2  | 100 |      |     |     |     |     |
|             | eSg   |     |     | 52   |     | -0.9 | 100 |      |     |     |     |     |
| KAI         | ePg   | 04  | 35  | 30   |     | 2.8  | 96  | 2.26 | 255 | 3.7 |     |     |
|             | eSg   |     |     | 58   |     | 0.4  | 100 |      |     |     |     |     |
| TNZ         | P*    | 04  | 35  | 32.2 |     | 1.6  | 99  | 2.81 | 0   |     |     | 3.7 |
|             | eS*   |     | 36  | 11.5 |     | 4.1  |     |      |     |     |     |     |
|             | e     |     |     | 39   |     |      |     |      |     |     |     |     |
| NGZ         | ePn   | 04  | 35  | 27   |     | -0.5 | 100 | 2.97 | 19  |     |     |     |
| KRP         | ePn   | 04  | 35  | 49   |     | 5.1  |     | 4.17 | 13  |     | 4.3 |     |
|             | S*    |     | 36  | 55   |     | 6.9  |     |      |     |     |     |     |
| AMPLITUDES: |       | WEL | 4.6 |      | COB | 1.7  | 4.7 | MNG  | 5.6 | 4.5 |     |     |
|             |       | GPZ | 0.3 |      | KAI | 0.4  |     | TNZ  |     | 0.3 |     |     |
|             |       | KRP | 0.5 |      |     |      |     |      |     |     |     |     |

JUN 23 04<sup>h</sup>42<sup>m</sup>41<sup>s</sup>.5 38°.34S 176°.61E 12 km 77/ 401  
 ± 0.5 0.02 0.03 4 S.E. of RES. 1.3 M = 3.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|-----|-----|
| WTZ | iP*   | 04 | 42 | 50.0 |     | -0.6 | 100 | 0.47 | 40 |     |     | 3.2 |
|     | S*    |    |    | 55.5 |     | -1.5 | 99  |      |    |     |     |     |

|     |     |    |    |         |   |      |     |      |     |  |     |     |  |
|-----|-----|----|----|---------|---|------|-----|------|-----|--|-----|-----|--|
| TUA | Sg  |    |    | 58.8    |   | 1.3  | 100 |      |     |  |     |     |  |
|     | P*  | 04 | 42 | 51.7    |   | -1.7 | 99  | 0.63 | 138 |  | 3.2 | 3.1 |  |
|     | eSg |    |    | 43 03   |   | -0.0 | 100 |      |     |  |     |     |  |
| KRP | iP* | 04 | 42 | 58.3    | D | -0.4 | 100 | 0.94 | 296 |  | 3.0 |     |  |
|     | eSg |    |    | 43 13.5 |   | 0.1  | 100 |      |     |  |     |     |  |
| NGZ | P*  | 04 | 43 | 01.4    |   | -0.8 | 100 | 1.14 | 222 |  |     |     |  |
|     | eSg |    |    | 19      |   | -1.2 | 100 |      |     |  |     |     |  |
| GNZ | eP* | 04 | 43 | 01      |   | -1.3 | 100 | 1.15 | 106 |  | 3.0 | 3.4 |  |
|     | eS* |    |    | 16.0    |   | -1.6 | 99  |      |     |  |     |     |  |
| TRZ | eSg | 04 | 43 | 24.5    |   | 1.7  | 99  | 1.22 | 172 |  | 3.6 |     |  |
| MNG | ePn | 04 | 43 | 19      |   | -1.2 | 100 | 2.44 | 201 |  | 3.4 | 3.5 |  |
|     | S*  |    |    | 56.0    |   | -0.2 | 100 |      |     |  |     |     |  |

|             |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| AMPLITUDES: | WTZ |     | 6.0 | TUA | 1.2 | 1.1 | KRP | 0.7 |     |  |  |  |  |
|             | GNZ | 0.6 | 2.3 | TRZ | 0.9 |     | MNG | 0.7 | 0.9 |  |  |  |  |

JUN 24 00<sup>h</sup>31<sup>m</sup>36<sup>s</sup>.0 37°.86s 176°.17E 206 km M = 4.0  
 ± 1.6 0.09 0.09 9 S.E. of RES. 1.2 77/ 402

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|---|---|
| KRP | iP    | 00 | 32 | 04.0    | UW  | 0.1  | 100 | 0.50 | 262 |     |      |      |   |   |
|     | S     |    |    | 24.5    |     | -0.9 | 100 |      |     |     |      |      |   |   |
| WTZ | iP    | 00 | 32 | 04.4    | D   | -0.1 | 100 | 0.66 | 101 |     | 3.7  | 3.7  |   |   |
|     | S     |    |    | 28      |     | 1.4  | 99  |      |     |     |      |      |   |   |
| TUA | P     | 00 | 32 | 08.3    |     | 0.2  | 100 | 1.22 | 141 |     | 4.1  | 4.1  |   |   |
|     | S     |    |    | 31.5    |     | -1.5 | 99  |      |     |     |      |      |   |   |
| CNZ | P     | 00 | 32 | 09.6    |     | -0.2 | 100 | 1.43 | 200 |     |      |      |   |   |
|     | S     |    |    | 37      |     | 1.0  | 100 |      |     |     |      |      |   |   |
| GNZ | iP    | 00 | 32 | 12.3    | D   | 0.4  |     | 1.66 | 119 |     | 4.2  | 4.1  |   |   |
|     | S     |    |    | 40      |     | 0.4  |     |      |     |     |      |      |   |   |
| TRZ | P     | 00 | 32 | 12.8    |     | -0.2 |     | 1.77 | 163 |     | 3.9  | 4.0  |   |   |
|     | S     |    |    | 40      |     | -1.5 |     |      |     |     |      |      |   |   |
| ECZ | P     | 00 | 32 | 16      |     | 1.8  |     | 1.89 | 86  |     | 4.3  | 3.7  |   |   |
|     | S     |    |    | 49      |     | 5.4  |     |      |     |     |      |      |   |   |
| MNG | iP    | 00 | 32 | 21      | U   | -3.2 |     | 2.81 | 191 |     | 4.0  | 4.1  |   |   |
|     | S     |    |    | 56      |     | -5.5 |     |      |     |     |      |      |   |   |
| WEL | S     | 00 | 33 | 12.5    |     | -5.5 |     | 3.59 | 197 | 3.8 |      |      |   |   |
| COB | P     | 00 | 32 | 38.5    |     | -2.4 |     | 4.18 | 218 |     | 3.3* | 3.0* |   |   |
|     | S     |    |    | 33 24.5 |     | -6.6 |     |      |     |     |      |      |   |   |

|             |     |     |     |     |     |     |     |     |     |     |  |  |  |  |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| AMPLITUDES: | WTZ |     | 1.2 | 1.3 | TUA | 1.0 | 1.1 | GNZ | 2.5 | 3.1 |  |  |  |  |
|             | TRZ |     | 0.4 | 1.1 | ECZ | 1.1 | 0.3 | MNG | 1.9 | 3.4 |  |  |  |  |
|             | WEL | 0.1 |     |     | COB | 0.3 | 0.5 |     |     |     |  |  |  |  |

JUN 24 19<sup>h</sup>49<sup>m</sup>01<sup>s</sup>.6 39°.62s 176°.30E 33 km M = 3.4  
 ± 0.2 0.02 0.02 R S.E. of RES. 1.0 77/ 403

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| TRZ | P*    | 19 | 49 | 10.5 |     | -0.2 | 100 | 0.40 | 81  |     | 2.8 | 3.2 |   |   |
|     | S*    |    |    | 18   |     | 0.6  | 100 |      |     |     |     |     |   |   |
|     | e     |    |    | 22   |     |      |     |      |     |     |     |     |   |   |
| CNZ | iP*   | 19 | 49 | 14.8 |     | -0.7 | 100 | 0.72 | 305 |     |     |     |   |   |
|     | S*    |    |    | 26   |     | 0.3  | 100 |      |     |     |     |     |   |   |
| WNZ | P*    | 19 | 49 | 19   |     | -1.1 | 100 | 1.00 | 351 |     | 4.3 | 3.8 |   |   |
|     | e     |    |    | 37   |     |      |     |      |     |     |     |     |   |   |
| TUA | P*    | 19 | 49 | 20.5 |     | -0.4 | 100 | 1.04 | 40  |     | 3.5 | 3.6 |   |   |
|     | S*    |    |    | 35.5 |     | 0.3  | 100 |      |     |     |     |     |   |   |
| MNG | iPn   | 19 | 49 | 20.6 | D   | -0.7 | 100 | 1.18 | 212 |     | 3.6 |     |   |   |
|     | P*    |    |    | 23   |     | -0.2 | 100 |      |     |     |     |     |   |   |

|             |     |       |         |      |         |      |         |         |
|-------------|-----|-------|---------|------|---------|------|---------|---------|
| TNZ         | eS* |       | 38.5    | -0.7 | 100     |      |         |         |
|             | ePn | 19 49 | 27      | 0.7  | 100     | 1.55 | 285     | 2.9 3.2 |
|             | P*  |       | 28.5    | -0.9 | 100     |      |         |         |
|             | Sn  |       | 47      | 2.2  | 96      |      |         |         |
| GNZ         | e   |       | 56.5    |      |         |      |         |         |
|             | eP* | 19 49 | 35.5    | 4.3  |         | 1.66 | 55      | 3.3 3.3 |
|             | Sn  |       | 48.5    | 1.1  | 100     |      |         |         |
|             | e   |       | 50 07   |      |         |      |         |         |
| WTZ         | Pn  | 19 49 | 27.8    | -0.8 | 100     | 1.72 | 18      | 3.5 3.2 |
|             | P*  |       | 35      | 2.8  |         |      |         |         |
|             | eSn |       | 49      | 0.1  |         |      |         |         |
|             | Pn  | 19 49 | 28.5    | -1.1 | 100     | 1.79 | 340     |         |
| KRP         | P*  |       | 32.5    | -1.0 |         |      |         |         |
|             | Sn  |       | 50      | -0.6 |         |      |         |         |
|             | eS* |       | 50 06   | 8.7  |         |      |         |         |
|             | P*  | 19 49 | 39      | 1.3  | 99      | 2.03 | 215     | 3.3     |
| WEL         | Sn  |       | 56      | -0.5 | 100     |      |         |         |
|             | S*  |       | 50 05   | 0.5  | 100     |      |         |         |
|             | Pn  | 19 49 | 46      | -1.4 |         | 3.10 | 241     | 3.9 3.6 |
|             | S*  |       | 50 46   | 9.8  |         |      |         |         |
| MJZ         | Sn  | 19 51 | 33.5    | -2.4 |         | 6.17 | 223     |         |
|             |     |       |         |      |         |      |         |         |
| AMPLITUDES: |     | TRZ   | 1.6 5.0 | WNZ  | 1.1 0.5 | TUA  | 1.0 1.2 |         |
|             |     | MNG   | 5.2     | TNZ  | 0.1 0.3 | GNZ  | 0.6 1.0 |         |
|             |     | WTZ   | 1.1 0.5 | WEL  | 0.2     | COB  | 0.5 0.8 |         |

JUN 24 23<sup>h</sup>39<sup>m</sup>45<sup>s</sup>.2 39°.66S 174°.25E 208 km 77/ 404  
 ± 1.0 0.04 0.06 7 S.E. of RES. 0.8 M = 3.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|
| TNZ | P     | 23 | 40 | 13   |     | -0.3 | 100 | 0.48 | 12  |      | 2.7* | 2.8* |
|     | S     |    |    | 36   |     | 1.0  | 99  |      |     |      |      |      |
| CNZ | P     | 23 | 40 | 16.7 |     | 0.1  | 100 | 1.11 | 66  |      |      |      |
|     | S     |    |    | 40   |     | -1.0 | 99  |      |     |      |      |      |
| MNG | iP    | 23 | 40 | 19.0 | U   | 0.5  | 100 | 1.35 | 136 |      | 4.0  | 3.9  |
|     | S     |    |    | 44   |     | -0.3 | 100 |      |     |      |      |      |
| WEL | S     | 23 | 40 | 50   |     | 0.6  | 100 | 1.67 | 167 | 3.1  |      |      |
| COB | iP    | 23 | 40 | 23.0 | U   | -0.1 | 100 | 1.84 | 219 |      | 3.6* | 3.0* |
|     | S     |    |    | 51.5 |     | -0.7 | 100 |      |     |      |      |      |
| GNZ | S     | 23 | 41 | 12.5 |     | -4.5 |     | 3.10 | 72  |      |      | 3.7  |
| KAI | eS    | 23 | 41 | 26   |     | -1.2 |     | 3.58 | 216 | 3.2* |      |      |
| GPZ | S     | 23 | 41 | 37   |     | -4.2 |     | 4.21 | 196 | 3.4* |      |      |
| MJZ | S     | 23 | 42 | 00   |     | -2.8 |     | 5.17 | 212 |      |      |      |

AMPLITUDES: TNZ 0.1 0.2 MNG 5.0 4.3 WEL 0.1  
 COB 1.0 1.0 GNZ 0.6 KAI 0.2  
 GPZ 0.4

JUN 25 22<sup>h</sup>35<sup>m</sup>36<sup>s</sup>.4 40°.04S 174°.80E 12 km 77/ 405  
 ± 0.4 0.02 0.03 R S.E. of RES. 1.3 M = 3.7

| STN | PHASE | H  | M  | S       | DIR | RES | WT | DIST | AZ  | W-A | W P  | W S     |
|-----|-------|----|----|---------|-----|-----|----|------|-----|-----|------|---------|
| MNG | iP*   | 22 | 35 | 48.9    | U   |     |    | -1.9 | 99  |     | 0.77 | 138     |
| GSZ | P*    | 22 | 35 | 53.7    |     |     |    | -0.5 | 100 |     | 0.97 | 39      |
|     | S*    |    |    | 36 07.5 |     |     |    | 0.2  | 100 |     |      |         |
|     | Sg    |    |    | 09      |     |     |    | -0.5 | 100 |     |      |         |
| CNZ | iP*   | 22 | 35 | 54.7    |     |     |    | -0.3 | 100 |     | 1.02 | 35      |
|     | Sg    |    |    | 36 12   |     |     |    | 1.0  | 100 |     |      |         |
| WEL | eP*   | 22 | 35 | 58      |     |     |    | -0.8 | 100 |     | 1.24 | 181 3.8 |

|     |     |            |      |     |      |     |     |     |
|-----|-----|------------|------|-----|------|-----|-----|-----|
| CAZ | S*  | 36 13      | -2.3 | 98  | 1.39 | 129 |     |     |
|     | P*  | 22 36 02   | 0.7  | 100 |      |     |     |     |
|     | S*  | 21.5       | 1.9  | 99  |      |     |     |     |
| COB | Sg  | 24         | 0.7  | 100 | 1.89 | 236 | 3.9 | 3.5 |
|     | ePn | 22 36 09   | 1.3  |     |      |     |     |     |
|     | P*  | 10.5       | 0.6  | 100 |      |     |     |     |
| KRP | S*  | 36.5       | 1.8  | 99  | 2.20 | 15  |     |     |
|     | P*  | 22 36 15   | 0.0  | 100 |      |     |     |     |
|     | S*  | 43         | -0.8 | 100 |      |     |     |     |
| GNZ | eP* | 22 36 24   | -2.4 |     | 2.86 | 62  | 3.5 |     |
|     | Pg  | 44         | 9.7  |     |      |     |     |     |
|     | Sn  | 22 37 20   | -1.7 |     |      |     |     |     |
| GPZ | Sn  | 22 37 20   | -1.7 |     | 4.00 | 203 |     |     |
|     | eP* | 22 37 00.5 | -4.1 |     |      |     |     |     |
| MJZ | eP* | 22 37 00.5 | -4.1 |     | 5.10 | 218 |     |     |
|     | eSn | 49         | 0.7  |     |      |     |     |     |

AMPLITUDES: WEL 1.5 COB 1.3 1.9 GNZ 0.3

JUN 26 01<sup>h</sup>52<sup>m</sup>34<sup>s</sup>.2 34°.14s 179°.68E 282 km M = 5.4  
 ± 1.2 0.10 0.14 21 S.E. of RES. 1.3 77/ 406

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|-------|-----|------|------|------|
| ECZ | P     | 01 | 53 | 37.6 |     | 1.4  | 100 | 3.66  | 194 |      | 5.4  | 5.4  |
|     | S     |    | 54 | 22.5 |     | -2.1 | 99  |       |     |      |      |      |
| WIZ | iP    | 01 | 53 | 40.5 |     | 1.1  | 100 | 3.94  | 210 |      |      |      |
|     | S     |    | 54 | 31   |     | 0.8  | 100 |       |     |      |      |      |
| WTZ | P     | 01 | 53 | 43.9 |     | -0.8 | 100 | 4.42  | 209 |      | 5.7  | 5.3  |
|     | e(S)  |    | 54 | 36.5 |     | -3.4 |     |       |     |      |      |      |
| ONE | P     | 01 | 53 | 46   |     | -1.5 | 99  | 4.67  | 248 | 3.4* |      |      |
|     | eS    |    | 54 | 41   |     | -4.2 |     |       |     |      |      |      |
| GNZ | iP    | 01 | 53 | 47.3 | D   | -0.6 | 100 | 4.70  | 196 |      |      |      |
|     | eS    |    | 54 | 46   |     | 0.3  | 100 |       |     |      |      |      |
| KRP | P     | 01 | 53 | 53.0 | DE  | 0.7  | 100 | 5.06  | 220 |      |      |      |
|     | S     |    | 54 | 53   |     | -0.3 | 100 |       |     |      |      |      |
| TUA | P     | 01 | 53 | 51.5 |     | -1.1 | 100 | 5.09  | 203 |      | 5.2  | 5.3  |
|     | S     |    | 54 | 55   |     | 1.0  | 100 |       |     |      |      |      |
| WNZ | P     | 01 | 53 | 57   |     | 1.4  | 100 | 5.34  | 212 |      | 5.4  |      |
| TRZ | P     | 01 | 54 | 00.5 | U   | -1.5 | 99  | 5.88  | 202 |      | 5.5  | 5.5  |
|     | S     |    | 55 | 10   |     | -0.9 | 100 |       |     |      |      |      |
| CNZ | P     | 01 | 54 | 04.4 |     | 0.2  | 100 | 6.05  | 212 |      |      |      |
| MNG | P     | 01 | 54 | 16   |     | -3.3 |     | 7.28  | 206 |      |      |      |
|     | S     |    | 55 | 39   |     | -3.0 |     |       |     |      |      |      |
| WEL | P     | 01 | 54 | 27.5 |     | -2.5 |     | 8.14  | 207 | 5.3  |      |      |
|     | S     |    | 55 | 54   |     | -6.8 |     |       |     |      |      |      |
| COB | P     | 01 | 54 | 35.5 |     | -3.5 |     | 8.86  | 216 |      | 4.2* | 4.0* |
|     | S     |    | 56 | 14   |     | -3.3 |     |       |     |      |      |      |
| CIZ | e(P)  | 01 | 55 | 07   |     | 10.9 |     | 10.23 | 165 |      |      |      |
|     | S     |    | 57 | 01   |     | 13.0 |     |       |     |      |      |      |
| KAI | S     | 01 | 56 | 49.5 |     | -6.8 |     | 10.60 | 215 | 4.0* |      |      |
| GPZ | eP    | 01 | 55 | 03   |     | -2.8 |     | 11.01 | 208 | 4.2* |      |      |
|     | S     |    | 56 | 59   |     | -6.4 |     |       |     |      |      |      |
| MJZ | P     | 01 | 55 | 16   |     | -4.0 |     | 12.17 | 213 |      | 3.8* | 3.5* |
|     | S     |    | 57 | 23   |     | -8.3 |     |       |     |      |      |      |
| MSZ | P     | 01 | 55 | 37.5 |     | -3.6 |     | 13.90 | 217 |      | 4.0* | 3.6* |
|     | S     |    | 58 | 27   |     | 17.5 |     |       |     |      |      |      |
| MNW | P     | 01 | 55 | 51   |     | -1.5 |     | 14.85 | 215 |      | 3.9* | 3.6* |
|     | S     |    | 58 | 27   |     | -3.1 |     |       |     |      |      |      |

AMPLITUDES: ECZ 4.5 4.7 WTZ 15 6.2 ONE 0.3  
 TUA 1.7 2.3 WNZ 0.3 TRZ 2.5 4.8



|     |         |     |     |     |     |         |
|-----|---------|-----|-----|-----|-----|---------|
| WEL | 1.1     | COB | 1.2 | 2.7 | KAI | 0.4     |
| GPZ | 1.0     | MJZ | 1.1 | 1.0 | MSZ | 1.1 0.8 |
| MNW | 0.5 0.6 |     |     |     |     |         |

JUN 26    02<sup>h</sup>14<sup>m</sup>25<sup>s</sup>.9    40°.58s    173°.97E    12 km    77/ 407  
                  ± 0.4            0.03            0.03            R    S.E. of RES. 1.2    M = 3.8

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| WEL         | iPg   | 02  | 14  | 45.0    | USE | 0.1  | 100 | 0.94 | 140 | 3.3 |     |     |     |   |
|             | Sg    |     |     | 59.5    |     | 1.9  | 99  |      |     |     |     |     |     |   |
| COB         | iPg   | 02  | 14  | 46.7    | D   | -0.9 | 100 | 1.07 | 241 |     | 4.0 | 3.7 |     |   |
|             | Sg    |     |     | 15 03   |     | 0.9  | 100 |      |     |     |     |     |     |   |
| MNG         | iPg   | 02  | 14  | 47.7    |     | -1.6 | 99  | 1.15 | 93  |     |     |     |     |   |
| CAZ         | Sn    | 02  | 15  | 15.5    |     | -1.8 | 99  | 1.75 | 102 |     |     |     |     |   |
| GSZ         | Pg    | 02  | 15  | 05      |     | 2.7  |     | 1.80 | 44  |     |     |     |     |   |
|             | Sn    |     |     | 20      |     | 1.5  | 99  |      |     |     |     |     |     |   |
| CNZ         | Pn    | 02  | 14  | 56.8    |     | 0.3  | 100 | 1.84 | 42  |     |     |     |     |   |
| KKY         | Pn    | 02  | 14  | 56.7    | D   | -0.1 | 100 | 1.85 | 186 |     |     |     |     |   |
|             | Pg    |     |     | 15 03.5 |     | 0.0  |     |      |     |     |     |     |     |   |
| TRZ         | P*    | 02  | 15  | 10.5    |     | 2.2  |     | 2.42 | 66  |     | 4.0 | 3.9 |     |   |
|             | eSg   |     |     | 50      |     | 2.6  |     |      |     |     |     |     |     |   |
| KAI         | Sn    | 02  | 15  | 40.5    |     | -0.6 | 100 | 2.74 | 224 | 3.6 |     |     |     |   |
| KRP         | Pn    | 02  | 15  | 11.3    | D   | 0.1  | 100 | 2.92 | 25  |     |     |     |     |   |
|             | Sn    |     |     | 45.5    |     | 0.1  | 100 |      |     |     |     |     |     |   |
| GPZ         | ePn   | 02  | 15  | 14      |     | -2.1 |     | 3.28 | 197 | 4.6 |     |     |     |   |
|             | ePn   |     |     | 30.5    |     | 14.4 |     |      |     |     |     |     |     |   |
|             | Sn    |     |     | 50      |     | -3.9 |     |      |     |     |     |     |     |   |
| WTZ         | e(P*) | 02  | 15  | 29      |     | 2.3  |     | 3.49 | 43  |     |     |     |     |   |
|             | e(Pg) |     |     | 36      |     | -0.5 |     |      |     |     |     |     |     |   |
| GNZ         | Sn    | 02  | 16  | 01      |     | -2.7 |     | 3.68 | 60  |     |     |     | 3.9 |   |
| MJZ         | Pn    | 02  | 15  | 28.5    |     | -1.5 |     | 4.29 | 216 |     |     |     | 3.5 |   |
|             | P*    |     |     | 43      |     | 2.7  |     |      |     |     |     |     |     |   |
|             | Sn    |     |     | 16 15   |     | -3.4 |     |      |     |     |     |     |     |   |
| MSZ         | ePn   | 02  | 15  | 51.5    |     | -2.6 |     | 6.06 | 225 |     | 3.9 | 3.6 |     |   |
|             | eSn   |     |     | 16 55   |     | -5.9 |     |      |     |     |     |     |     |   |
| AMPLITUDES: |       | WEL | 0.9 |         |     | COB  | 5.3 | 10   | TRZ | 0.7 | 0.8 |     |     |   |
|             |       | KAI | 0.2 |         |     | GPZ  | 2.5 |      | GNZ |     | 0.7 |     |     |   |
|             |       | MJZ |     |         | 0.6 | MSZ  | 0.3 | 0.3  |     |     |     |     |     |   |

JUN 26    04<sup>h</sup>51<sup>m</sup>32<sup>s</sup>.6    38°.20s    176°.20E    12 km    77/ 408  
                  ± R            R            R            R    S.E. of RES. 1.2    M = 2.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|---|---|---|
| KRP | eP*   | 04 | 51 | 43.5 |     | -0.3 | 100 | 0.59 | 297 |     |     |   |   |   |
|     | Pg    |    |    | 46.5 |     | 1.8  | 99  |      |     |     |     |   |   |   |
| WTZ | P*    | 04 | 51 | 44   |     | -0.9 | 100 | 0.66 | 71  |     | 2.2 |   |   |   |
|     | Pg    |    |    | 45.5 |     | -0.5 | 100 |      |     |     |     |   |   |   |

AMPLITUDES: WTZ 0.2

FELT: Rotorua (33) MM V

JUN 27    03<sup>h</sup>39<sup>m</sup>24<sup>s</sup>.3    40°.10s    174°.92E    12 km    77/ 409  
                  ± 0.3            0.01            0.02            R    S.E. of RES. 0.9    M = 3.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|---|---|---|
| MNG | iP*   | 03 | 39 | 36.5 |     | -0.5 | 100 | 0.67 | 140 |     |   |   |   |   |
| GSZ | P*    | 03 | 39 | 42   |     | -0.1 | 100 | 0.97 | 32  |     |   |   |   |   |

|             |     |            |     |      |     |      |     |     |     |
|-------------|-----|------------|-----|------|-----|------|-----|-----|-----|
|             | S*  | 56         |     | 0.8  | 100 |      |     |     |     |
| TNZ         | Pg  | 03 39 44.2 | U   | -0.6 | 100 | 1.01 | 335 |     |     |
|             | eSg | 59         |     | 0.6  | 100 |      |     |     |     |
| CNZ         | iP* | 03 39 42.9 |     | -0.1 | 100 | 1.03 | 29  |     |     |
|             | S*  | 57.5       |     | 0.7  | 100 |      |     |     |     |
| WEL         | P*  | 03 39 45.5 |     | -0.2 | 100 | 1.19 | 185 | 3.9 |     |
|             | S*  | 40 00.5    |     | -1.1 | 100 |      |     |     |     |
| CAZ         | Pg  | 03 39 49.5 |     | -0.8 | 100 | 1.28 | 129 |     |     |
|             | Sg  | 40 09      |     | 1.4  | 99  |      |     |     |     |
| TRZ         | ePg | 03 39 55   |     | -1.1 |     | 1.57 | 70  | 3.6 | 3.4 |
| COB         | iP* | 03 39 58.7 | U   | 0.2  | 100 | 1.93 | 239 | 4.0 | 3.6 |
|             | S*  | 40 25      |     | 1.1  | 100 |      |     |     |     |
| TUA         | P*  | 03 40 03   |     | 0.6  |     | 2.16 | 54  | 3.5 | 3.4 |
|             | Sg  | 39.5       |     | 2.3  |     |      |     |     |     |
| KRP         | P*  | 03 40 04   |     | 0.4  | 100 | 2.23 | 13  |     |     |
|             | S*  | 31         |     | -1.8 | 98  |      |     |     |     |
| WTZ         | ePn | 03 40 06.5 |     | 0.3  |     | 2.66 | 38  | 3.6 | 3.6 |
|             | eP* | 12         |     | 1.0  |     |      |     |     |     |
|             | eSn | 40.5       |     | 2.8  |     |      |     |     |     |
| KAI         |     |            |     |      |     | 3.58 | 226 | 3.5 |     |
| GPZ         | eSn | 03 41 08   |     | -1.2 |     | 3.97 | 205 |     |     |
| AMPLITUDES: | WEL | 2.2        |     | TRZ  | 0.6 | 0.6  | COB | 1.5 | 2.2 |
|             | TUA | 0.2        | 0.2 | WTZ  | 0.3 | 0.2  | KAI | 0.1 |     |

FELT: Wanganui (57) MM IV

77/ 410

JUN 28    16<sup>h</sup>20<sup>m</sup>28<sup>s</sup>.4    32°.57s    179°.05w    33 km    M = 4.4

± 0.2                      0.01                      0.03                      R    S.E. of RES. 0.1

| STN         | PHASE | H  | M  | S     | DIR | RES   | WT  | DIST  | AZ  | W-A | W P W S |
|-------------|-------|----|----|-------|-----|-------|-----|-------|-----|-----|---------|
| WTZ         | Pn    | 16 | 21 | 58    |     | 0.0   | 100 | 6.31  | 210 |     | 4.3 4.5 |
|             | Sn    |    | 23 | 06    |     | 0.1   | 100 |       |     |     |         |
| GNZ         | Pn    | 16 | 22 | 01    |     | 0.1   | 100 | 6.52  | 201 |     | 4.2 4.5 |
|             | Sn    |    | 23 | 11    |     | -0.1  | 100 |       |     |     |         |
| KRP         | Pn    | 16 | 22 | -06.7 |     | -0.0  | 100 | 6.95  | 218 |     |         |
| CRZ         | P*?   | 16 | 22 | 28    |     | -3.6  |     | 7.16  | 253 | 4.9 |         |
| TRZ         | ePn   | 16 | 22 | 13    |     | -4.5  |     | 7.74  | 204 |     | 4.6     |
|             | Sn    |    | 23 | 38    |     | -2.3  |     |       |     |     |         |
| MNG         | iPn   | 16 | 22 | 30.0  | D   | -7.0  |     | 9.17  | 207 |     | 4.8 4.5 |
|             | Sn    |    | 24 | 05    |     | -9.6  |     |       |     |     |         |
| WEL         | Sn    | 16 | 24 | 24    |     | -11.0 |     | 10.02 | 208 | 4.4 |         |
| COB         | ePn   | 16 | 22 | 48.5  |     | -10.3 |     | 10.76 | 215 |     | 4.3 4.1 |
|             | Sn    |    | 24 | 38    |     | -14.9 |     |       |     |     |         |
| AMPLITUDES: | WTZ   |    |    | 0.5   | 0.7 | GNZ   | 0.3 | 0.9   | CRZ |     | 0.1     |
|             | TRZ   |    |    |       | 0.4 | MNG   | 1.4 | 0.8   | WEL | 0.1 |         |
|             | COB   |    |    | 0.1   | 0.2 |       |     |       |     |     |         |

77/ 411

JUN 29    08<sup>h</sup>25<sup>m</sup>04<sup>s</sup>.9    41°.89s    174°.55E    33 km    M = 4.0

± 0.4                      0.04                      0.07                      R    S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| BHW | iPn   | 08 | 25 | 16.2 | D   | 0.4  | 100 | 0.54 | 27  |     |         |
| WEL | iPn   | 08 | 25 | 16.1 | DSW | -0.9 | 100 | 0.63 | 15  | 4.2 |         |
| KKY | iPn   | 08 | 25 | 20.4 | D   | 0.7  | 100 | 0.83 | 230 |     |         |
|     | e     |    |    | 28   |     |      |     |      |     |     |         |
| MNG | iPn   | 08 | 25 | 27.7 |     | -0.5 | 100 | 1.46 | 29  |     |         |
| COB | Pn    | 08 | 25 | 29   |     | -1.0 | 100 | 1.58 | 300 |     | 4.5 3.8 |

|             |       |       |      |      |     |      |     |     |     |     |     |  |
|-------------|-------|-------|------|------|-----|------|-----|-----|-----|-----|-----|--|
| CAZ         | e     |       | 31.5 |      |     |      |     |     |     |     |     |  |
|             | Pn    | 08 25 | 30   | -0.3 | 100 | 1.60 | 53  |     |     |     |     |  |
| GPZ         | P*    |       | 37   | 3.5  |     |      |     |     |     |     |     |  |
|             | Sn    | 08 26 | 05.5 | -0.2 | 100 | 2.29 | 217 | 3.8 |     |     |     |  |
| KAI         | S*    |       | 20   | 4.8  |     |      |     |     |     |     |     |  |
|             | eS*   | 08 26 | 25   | 5.8  |     | 2.42 | 254 | 3.8 |     |     |     |  |
| TNZ         | ePn   | 08 25 | 47   | 1.6  | 98  | 2.71 | 357 |     | 4.1 | 4.2 |     |  |
| GSZ         | Pn    | 08 25 | 46.0 | 0.3  | 100 | 2.73 | 17  |     |     |     |     |  |
|             | P*    |       | 55   | 2.4  |     |      |     |     |     |     |     |  |
| CNZ         | Pn    | 08 25 | 46   | -0.6 | 100 | 2.80 | 16  |     |     |     |     |  |
|             | P*    |       | 55   | 1.2  |     |      |     |     |     |     |     |  |
| TRZ         | e(Pn) | 08 25 | 48   | -0.1 |     | 2.91 | 37  |     | 3.9 | 3.6 |     |  |
|             | P*    |       | 56   | 0.3  |     |      |     |     |     |     |     |  |
| WNZ         |       |       |      |      |     | 3.46 | 21  |     | 4.6 |     |     |  |
| MJZ         | Pn    | 08 26 | 00   | 1.6  |     | 3.66 | 234 |     |     |     |     |  |
|             | Sn    |       | 42   | 3.2  |     |      |     |     |     |     |     |  |
| TUA         |       |       |      |      |     | 3.67 | 34  |     | 3.6 |     |     |  |
| KRP         | Pn    | 08 26 | 04   | 0.5  |     | 4.04 | 11  |     |     |     |     |  |
|             | P*    |       | 17   | 2.1  |     |      |     |     |     |     |     |  |
| GNZ         | S*    | 27    | 06   | -1.4 |     |      |     |     |     |     |     |  |
|             | ePn   | 08 26 | 08.5 | 2.8  |     | 4.19 | 40  |     | 3.9 |     |     |  |
| WTZ         | e     |       | 37   |      |     |      |     |     |     |     |     |  |
|             | Sn    |       | 53.5 | 1.9  |     |      |     |     |     |     |     |  |
| CIZ         | ePn   | 08 26 | 05.5 | -2.0 |     | 4.33 | 26  |     | 3.6 |     |     |  |
|             | eP*   |       | 26.5 | 6.6  |     |      |     |     |     |     |     |  |
|             | Sn    | 08 27 | 56   | 0.7  |     | 6.85 | 111 |     |     |     |     |  |
| AMPLITUDES: |       |       |      |      |     |      |     |     |     |     |     |  |
|             |       | WEL   | 14   |      | COB | 6.5  | 5.0 | GPZ | 0.8 |     |     |  |
|             |       | KAI   | 0.4  |      | TNZ | 0.5  | 1.0 | TRZ |     | 0.4 | 0.3 |  |
|             |       | WNZ   | 0.2  |      | TUA | 0.1  |     | GNZ |     | 0.4 |     |  |
|             |       | WTZ   | 0.2  |      | CIZ |      | 0.4 |     |     |     |     |  |

JUN 29 12<sup>h</sup>20<sup>m</sup>33<sup>s</sup>.6 35°.56S 179°.28E 33 km M = 5.0  
 ± 0.9 0.04 0.07 R S.E. of RES. 1.1

| STN | PHASE | H       | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|---------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | iP*   | 12 21   | 11.4 |   | D   | -1.2 | 100 | 2.21 | 195 |     | 5.5 | 5.3 |
|     | S*    |         | 41   |   |     | -0.8 | 100 |      |     |     |     |     |
| WIZ | Pn    | 12 21   | 13   |   |     | 0.4  | 100 | 2.59 | 220 |     |     |     |
|     | Sn    |         | 41   |   |     | -0.9 | 100 |      |     |     |     |     |
| WTZ | e     |         | 45.5 |   |     |      |     |      |     |     |     |     |
|     | iPn   | 12 21   | 19.0 |   | D   | 0.2  | 100 | 3.05 | 217 |     | 5.2 | 5.2 |
| GNZ | eSn   |         | 54   |   |     | 1.2  | 100 |      |     |     |     |     |
|     | iPn   | 12 21   | 21.9 |   | DSE | 0.4  | 100 | 3.25 | 198 |     | 5.0 | 5.1 |
| TUA | Sn    |         | 59   |   |     | 1.5  | 99  |      |     |     |     |     |
|     | Pn    | 12 21   | 27.0 |   | U   | -0.2 | 100 | 3.67 | 207 |     | 4.9 | 5.1 |
| KRP | eSn   | 22 09   |      |   |     | 1.3  |     |      |     |     |     |     |
|     | Pn    | 12 21   | 29.4 |   | DE  | -0.0 | 100 | 3.82 | 231 |     |     |     |
| AUC | eSn   | 22 10   |      |   |     | -1.6 | 99  |      |     |     |     |     |
|     | iPn   | 12 21   | 31.1 |   | D   | 1.1  | 100 | 3.87 | 249 |     |     |     |
| WNZ | eSn   | 22 14.5 |      |   |     | 1.9  | 99  |      |     |     |     |     |
|     | Pn    | 12 21   | 30.5 |   |     | -1.1 | 100 | 3.99 | 219 |     | 4.7 |     |
| ONE | Pn    | 12 21   | 31.5 |   |     | -0.5 | 100 | 4.01 | 265 | 5.0 |     |     |
|     | P*    |         | 44.5 |   |     | 1.2  |     |      |     |     |     |     |
| TRZ | Sn    | 22 17   |      |   |     | 0.9  |     |      |     |     |     |     |
|     | Pn    | 12 21   | 35.5 |   |     | -2.3 |     | 4.45 | 205 |     | 4.8 | 4.9 |
| CNZ | P*    |         | 52.5 |   |     | 1.9  |     |      |     |     |     |     |
|     | Sn    | 22 26.5 |      |   |     | 0.1  | 100 |      |     |     |     |     |
|     | Pn    | 12 21   | 40.5 |   |     | -0.8 | 100 | 4.70 | 218 |     |     |     |

|             |     |            |       |         |      |         |     |     |  |
|-------------|-----|------------|-------|---------|------|---------|-----|-----|--|
|             | P*  | 57         | 2.0   |         |      |         |     |     |  |
| GSZ         | Pn  | 12 21 41.0 | -0.9  | 4.74    | 217  |         |     |     |  |
|             | eSn | 22 37      | 3.5   |         |      |         |     |     |  |
| TNZ         | Pn  | 12 21 50   | 0.1   | 5.33    | 226  |         | 5.4 |     |  |
| CRZ         | ePn | 12 21 54   | 1.2   | 100     | 5.54 | 280     | 4.8 | 4.8 |  |
|             | P*  | 22 09      | -0.2  |         |      |         |     |     |  |
|             | eSn | 51         | -1.7  | 99      |      |         |     |     |  |
| CAZ         | Pn  | 12 21 54   | -3.1  | 5.86    | 203  |         |     |     |  |
|             | Sn  | 22 58      | -2.4  |         |      |         |     |     |  |
| MNG         | Pn  | 12 21 52   | -5.4  | 5.88    | 210  |         |     |     |  |
|             | eSn | 22 57      | -3.8  |         |      |         |     |     |  |
| WEL         | Pn  | 12 22 03   | -6.0  | 6.73    | 210  | 4.8     |     |     |  |
|             | Sn  | 23 14.5    | -6.9  |         |      |         |     |     |  |
| COB         | Pn  | 12 22 14   | -6.2  | 7.55    | 221  |         | 4.5 | 4.6 |  |
|             | Sn  | 23 34      | -7.1  |         |      |         |     |     |  |
| CIZ         | Pn  | 12 22 41.5 | 1.8   | 8.98    | 160  |         |     |     |  |
|             | Sn  | 24 15.5    | 0.1   |         |      |         |     |     |  |
| KAI         | eSn | 12 24 16   | -6.4  | 9.27    | 219  | 4.6     |     |     |  |
| MJZ         | Pn  | 12 22 57.5 | -7.3  | 10.82   | 216  |         |     |     |  |
|             | Sn  | 24 48      | -11.4 |         |      |         |     |     |  |
| AMPLITUDES: | ECZ | 13 10      | WTZ   | 16 14   | GNZ  | 8.0 14  |     |     |  |
|             | TUA | 2.1 3.1    | WNZ   | 0.2     | ONE  | 0.7     |     |     |  |
|             | TRZ | 1.3 2.6    | TNZ   | 0.6     | CRZ  | 0.3 0.2 |     |     |  |
|             | WEL | 0.5        | COB   | 0.3 1.3 | CIZ  | 0.8 2.1 |     |     |  |
|             | KAI | 0.2        |       |         |      |         |     |     |  |

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JUL 01 02<sup>h</sup>56<sup>m</sup>05<sup>s</sup>.6 45°.09s 167°.57E 130 km M = 4.0  
 ± 0.4 0.01 0.03 2 S.E. of RES. 0.3

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|
| MSZ | iP    | 02 | 56 | 24.7    | D   | 0.0  | 100 | 0.49 | 30  |      | 4.0* | 3.7* |
|     | S     |    |    | 39      |     | -0.3 | 100 |      |     |      |      |      |
| MNW | P     | 02 | 56 | 26      |     | 0.0  | 100 | 0.69 | 177 | 3.8* | 3.6* |      |
|     | S     |    |    | 42      |     | 0.3  | 100 |      |     |      |      |      |
| ROX | P     | 02 | 56 | 32      |     | 0.3  | 100 | 1.30 | 108 |      |      |      |
|     | S     |    |    | 51.5    |     | -0.1 | 100 |      |     |      |      |      |
| OBZ | P     | 02 | 56 | 38      |     | -0.2 | 100 | 1.85 | 168 |      |      |      |
|     | S     |    |    | 57 02.5 |     | -0.4 | 99  |      |     |      |      |      |
| MJZ | iP    | 02 | 56 | 42.6    | D   | -1.8 |     | 2.35 | 63  |      | 3.9  | 4.2  |
|     | S     |    |    | 57 11   |     | -2.7 |     |      |     |      |      |      |
| OMZ | eS    | 02 | 57 | 12      |     | -2.2 |     | 2.37 | 91  |      |      | 3.7  |
| COB |       |    |    |         |     |      |     | 5.51 | 45  |      |      | 4.0  |

AMPLITUDES: MSZ 13 14 MNW 2.5 3.0 MJZ 1.7 4.1  
 OMZ 0.5 COB 0.1

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JUL 01 22<sup>h</sup>41<sup>m</sup>36<sup>s</sup>.3 49°.54s 164°.57E 12 km M = 4.7  
 ± 0.8 0.02 0.11 R S.E. of RES. 0.5

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| CBZ | iPn   | 22 | 42 | 39.2  | U   | 0.3  | 100 | 4.18 | 138 |     |     |     |
|     | S     |    |    | 43 26 |     | -0.1 | 100 |      |     |     |     |     |
|     | eS*   |    |    | 52    |     | 8.7  |     |      |     |     |     |     |
| MNW | Pn    | 22 | 42 | 40    |     | -0.4 | 100 | 4.29 | 30  | 4.9 | 5.0 |     |
|     | Sn    |    |    | 43 29 |     | 0.2  | 100 |      |     |     |     |     |
| ROX | Pn    | 22 | 42 | 52    |     | -0.6 | 99  | 5.19 | 40  |     |     |     |
|     | eSn   |    |    | 43 50 |     | -0.3 |     |      |     |     |     |     |
| MSZ | Pn    | 22 | 42 | 55.5  |     | 0.2  | 100 | 5.38 | 26  |     | 5.0 | 4.9 |



|     |     |    |      |     |       |       |    |     |     |
|-----|-----|----|------|-----|-------|-------|----|-----|-----|
|     | eSn | 43 | 56   | 0.9 |       |       |    |     |     |
| OMZ | Pn  | 22 | 43   | 07  | 0.4   | 6.22  | 46 |     |     |
|     | eP* |    |      | 14  | -9.5  |       |    |     |     |
|     | eSn | 44 | 10   |     | -5.0  |       |    |     |     |
|     | eS* |    |      | 25  | -19.3 |       |    |     |     |
| MJZ | Pn  | 22 | 43   | 13  | -2.6  | 6.88  | 38 | 4.6 | 4.6 |
|     | eP* |    |      | 26  | -8.8  |       |    |     |     |
|     | eSn | 44 | 32   |     | 1.1   |       |    |     |     |
| GPZ | Pn  | 22 | 43   | 34  | 2.1   | 8.07  | 47 | 4.8 |     |
|     | eSn | 45 | 02   |     | 2.5   |       |    |     |     |
| KAI | eSn | 22 | 45   | 11  | 1.6   | 8.48  | 37 | 4.5 |     |
| COB | Pn  | 22 | 44   | 00  | -1.3  | 10.22 | 37 | 4.9 | 4.3 |
|     | Sn  | 45 | 51.5 |     | 0.2   |       |    |     |     |
| MNG | Pn  | 22 | 44   | 24  | 1.3   | 11.79 | 45 | 4.4 | 4.4 |
|     | eSn | 46 | 30   |     | 1.0   |       |    |     |     |
| CIZ | ePn | 22 | 44   | 55  | 1.0   | 14.08 | 74 |     |     |
|     | e   | 46 | 45   |     |       |       |    |     |     |
|     | Sn  | 47 | 29   |     | 4.9   |       |    |     |     |

|             |     |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | CBZ | 2.6 | 3.1 | MNW | 2.1 | 5.0 | MSZ | 5.0 | 6.5 |     |
|             | MJZ | 1.7 | 2.7 | GPZ | 0.7 |     | KAI | 0.2 |     |     |
|             | COB | 0.4 | 0.4 | MNG |     | 0.3 | 0.4 | CIZ | 0.9 | 0.3 |

JUL 02 03<sup>h</sup>32<sup>m</sup>25<sup>s</sup>.9 37°.36s 179°.36E 33 km M = 4.1  
 ± 0.7 0.04 0.05 R S.E. of RES. 0.7

| STN | PHASE | H  | M    | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|------|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | iPn   | 03 | 32   | 39.0 | U   | -0.4 | 100 | 0.73 | 243 |     | 4.9 |     |
|     | Sn    |    |      | 49   |     | -0.3 | 100 |      |     |     |     |     |
| GNZ | iPn   | 03 | 32   | 51.8 | D   | -0.3 | 100 | 1.66 | 219 |     | 4.1 | 4.0 |
|     | Sn    | 33 | 11.5 |      |     | -0.3 | 100 |      |     |     |     |     |
| WIZ | Pn    | 03 | 32   | 54   |     | 0.8  | 99  | 1.74 | 264 |     |     |     |
| WIZ | iPn   | 03 | 32   | 56.8 | D   | 0.3  | 100 | 1.98 | 251 |     | 4.8 | 4.3 |
|     | Sn    | 33 | 19.5 |      |     | -0.0 | 100 |      |     |     |     |     |
| TUA | Pn    | 03 | 33   | 01   |     | 0.6  | 100 | 2.27 | 230 |     | 4.2 | 4.1 |
|     | eSn   |    |      | 28.5 |     | 2.2  |     |      |     |     |     |     |
| TRZ | Pn    | 03 | 33   | 08.5 |     | -1.4 | 97  | 2.96 | 222 |     | 4.2 | 4.2 |
|     | Sn    |    |      | 44   |     | 0.9  | 99  |      |     |     |     |     |
| KRP | Pn    | 03 | 33   | 11.5 |     | -0.1 | 100 | 3.09 | 258 |     |     |     |
|     | Sn    |    |      | 45.5 |     | -0.6 | 100 |      |     |     |     |     |
| CNZ | Pn    | 03 | 33   | 17.5 |     | 0.0  | 100 | 3.52 | 237 |     |     |     |
| MNG | iPn   | 03 | 33   | 27.5 | D   | -2.6 |     | 4.45 | 222 |     | 4.2 | 4.0 |
|     | eSn   | 34 | 16.5 |      |     | -2.1 |     |      |     |     |     |     |
| WEL | Sn    | 03 | 34   | 36   |     | -3.2 |     | 5.30 | 221 | 4.0 |     |     |
| COB | Pn    | 03 | 33   | 53   |     | -3.2 |     | 6.35 | 232 |     | 3.8 | 3.6 |
|     | eSn   | 35 | 02   |      |     | -2.5 |     |      |     |     |     |     |
| CIZ | Sn    | 03 | 35   | 28   |     | 1.1  |     | 7.28 | 156 |     |     |     |
| GPZ | eSn   | 03 | 35   | 42   |     | -5.5 |     | 8.14 | 217 | 4.0 |     |     |
| MJZ | Pn    | 03 | 34   | 36   |     | -2.6 |     | 9.46 | 223 |     | 4.0 | 3.9 |
|     | Sn    | 36 | 12   |      |     | -7.2 |     |      |     |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 33  | GNZ | 3.8 | 4.3 | WTZ | 18  | 4.8 |     |
|             | TUA | 0.9 | 0.8 | TRZ | 0.7 | 1.0 | MNG | 1.6 | 1.3 |
|             | WEL | 0.1 |     | COB | 0.1 | 0.2 | CIZ |     | 0.6 |
|             | GPZ | 0.1 |     | MJZ | 0.2 | 0.3 |     |     |     |

JUL 02 13<sup>h</sup>12<sup>m</sup>17<sup>s</sup>.9 41°.03s 173°.99E 12 km M = 3.3  
 ± 0.3 0.02 0.02 R S.E. of RES. 0.8

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WEL         | P*    | 13  | 12  | 30.0 |     | 0.0  | 100 | 0.64 | 114 | 3.1 |     |     |   |   |
|             | Sg    |     |     | 40   |     | 0.2  | 100 |      |     |     |     |     |   |   |
| COB         | iP*   | 13  | 12  | 35.5 | D   | 0.2  | 100 | 0.95 | 266 |     | 3.7 | 3.4 |   |   |
|             | Sg    |     |     | 50.5 |     | 0.3  | 100 |      |     |     |     |     |   |   |
| MNG         | P*    | 13  | 12  | 39   |     | -0.6 | 100 | 1.21 | 71  |     | 3.4 | 3.5 |   |   |
|             | Pg    |     |     | 42   |     | -0.3 | 100 |      |     |     |     |     |   |   |
|             | eSg   |     | 13  | 00   |     | 1.4  | 98  |      |     |     |     |     |   |   |
| KKY         | Sn    | 13  | 13  | 00   |     | -1.1 | 99  | 1.41 | 189 |     |     |     |   |   |
| GSZ         | eP*   | 13  | 12  | 54   |     | -1.4 |     | 2.13 | 36  |     |     |     |   |   |
|             | Sg    |     | 13  | 27   |     | -2.8 |     |      |     |     |     |     |   |   |
| CNZ         | ePg   | 13  | 13  | 02.5 |     | 0.5  |     | 2.18 | 34  |     |     |     |   |   |
|             | Sg    |     |     | 30.5 |     | -0.9 | 100 |      |     |     |     |     |   |   |
| KAI         | eSn   | 13  | 13  | 26.5 |     | 0.5  | 100 | 2.45 | 231 | 3.2 |     |     |   |   |
| KRP         | P*    | 13  | 13  | 13   |     | -2.7 |     | 3.32 | 22  |     |     |     |   |   |
|             | S*    |     |     | 53   |     | -6.1 |     |      |     |     |     |     |   |   |
| GNZ         | Sn    | 13  | 14  | 00   |     | -1.2 |     | 3.91 | 54  |     |     |     |   |   |
| MJZ         | Sn    | 13  | 13  | 56   |     | -6.0 |     | 3.94 | 220 |     | 2.9 |     |   |   |
| AMPLITUDES: |       | WEL | 1.1 |      |     | COB  | 3.0 | 5.5  | MNG |     | 3.0 | 4.5 |   |   |
|             |       | KAI | 0.1 |      |     | MJZ  | 0.1 |      |     |     |     |     |   |   |

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JUL 03    14<sup>h</sup>58<sup>m</sup>27<sup>s</sup>.5    35°.03s    178°.29w    33 km    M = 4.6  
                  ± 1.4            0.08            0.14            R    S.E. of RES. 1.4

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST  | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|------|-----|------|-----|-------|-----|-----|-----|-----|---|---|
| ECZ         | Pn    | 14  | 59  | 22   |     | 0.6  | 100 | 3.69  | 223 |     | 4.9 | 4.8 |   |   |
|             | Sn    | 15  | 00  | 03.5 |     | 1.4  | 100 |       |     |     |     |     |   |   |
| GNZ         | Pn    | 14  | 59  | 34.5 |     | -0.2 | 100 | 4.67  | 218 |     | 4.6 | 4.6 |   |   |
|             | Sn    | 15  | 00  | 26   |     | 0.4  | 100 |       |     |     |     |     |   |   |
| WTZ         | Pn    | 14  | 59  | 35   |     | -1.8 | 99  | 4.81  | 231 |     | 4.8 | 4.7 |   |   |
|             | Sn    | 15  | 00  | 28   |     | -1.2 | 100 |       |     |     |     |     |   |   |
| TUA         | ePn   | 14  | 59  | 42   |     | -0.7 | 100 | 5.26  | 223 |     | 4.7 | 4.6 |   |   |
|             | Sn    | 15  | 00  | 40   |     | 0.3  | 100 |       |     |     |     |     |   |   |
| KRP         | Pn    | 14  | 59  | 49   |     | -0.6 | 100 | 5.76  | 238 |     |     |     |   |   |
|             | Sn    | 15  | 00  | 50   |     | -1.8 | 99  |       |     |     |     |     |   |   |
| TRZ         | Pn    | 14  | 59  | 52   |     | -0.5 | 100 | 5.97  | 219 |     | 4.2 | 4.6 |   |   |
|             | Sn    | 15  | 00  | 58.5 |     | 1.6  | 100 |       |     |     |     |     |   |   |
| MNG         | Pn    | 15  | 00  | 10.5 |     | -2.2 |     | 7.45  | 220 |     | 4.4 | 4.4 |   |   |
|             | Sn    |     | 01  | 32.5 |     | 0.1  |     |       |     |     |     |     |   |   |
| CRZ         | Pn    | 15  | 00  | 15.2 |     | 2.3  | 99  | 7.46  | 272 |     | 5.1 |     |   |   |
| WEL         | Sn    | 15  | 01  | 47   |     | -6.0 |     | 8.31  | 219 | 4.5 |     |     |   |   |
| CIZ         | e(Pn) | 15  | 00  | 39   |     | 4.9  |     | 9.02  | 172 |     |     |     |   |   |
|             | Sn    |     | 02  | 08.5 |     | -1.7 |     |       |     |     |     |     |   |   |
| COB         | Pn    | 15  | 00  | 39   |     | 0.8  |     | 9.31  | 227 |     | 4.5 | 4.1 |   |   |
|             | Sn    |     | 02  | 13   |     | -4.3 |     |       |     |     |     |     |   |   |
| GPZ         | eSn   | 15  | 02  | 56   |     | -5.2 |     | 11.14 | 216 | 4.3 |     |     |   |   |
| MJZ         | Pn    | 15  | 01  | 18   |     | -3.1 |     | 12.46 | 221 |     |     |     |   |   |
|             | Sn    |     | 03  | 24.5 |     | -8.5 |     |       |     |     |     |     |   |   |
| AMPLITUDES: |       | ECZ | 1.3 | 1.1  |     | GNZ  | 1.6 | 2.3   | WTZ |     | 2.7 | 1.9 |   |   |
|             |       | TUA | 0.6 | 0.5  |     | TRZ  | 0.2 | 0.6   | MNG |     | 0.8 | 1.0 |   |   |
|             |       | CRZ | 0.3 |      |     | WEL  | 0.2 |       | COB |     | 0.2 | 0.3 |   |   |
|             |       | GPZ | 0.1 |      |     |      |     |       |     |     |     |     |   |   |

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JUL 04    03<sup>h</sup>04<sup>m</sup>58<sup>s</sup>.5    38°.84s    176°.23E    12 km    M = 2.1  
                  ± ND            ND            ND            R    S.E. of RES. ND

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|-----|---|---|
| WNZ | iPg   | 03 | 05 | 03.4 |     | -0.2 | 100 | 0.22 | 333 |     |   |     |   |   |
| WTZ | Pg    | 03 | 05 | 19.5 |     | -0.0 | 100 | 1.03 | 35  |     |   | 2.1 |   |   |
| KRP | Pg    | 03 | 05 | 20   |     | -0.0 | 100 | 1.06 | 329 |     |   |     |   |   |

AMPLITUDES: WTZ 0.1

FELT: Wairakei (41)

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JUL 04 06<sup>h</sup>27<sup>m</sup>44<sup>s</sup>.0 37°.84s 177°.39E 33 km M = 3.7  
 ± 0.3 0.03 0.02 R S.E. of RES. 0.8

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WTZ | iP*   | 06 | 27 | 52.8    |     | 0.5  | 100 | 0.35 | 245 |     |     |     |   |   |
| ECZ | iPn   | 06 | 27 | 59.4    | U   | -0.8 | 99  | 0.93 | 81  |     | 4.1 | 4.2 |   |   |
|     | eS*   |    | 28 | 15      |     | 0.8  | 99  |      |     |     |     |     |   |   |
| GNZ | Pn    | 06 | 27 | 59.8    | U   | -0.6 | 100 | 0.94 | 148 |     | 3.8 | 4.0 |   |   |
|     | P*    |    | 28 | 02      |     | 0.3  |     |      |     |     |     |     |   |   |
|     | S*    |    |    | 15      |     | 0.3  | 100 |      |     |     |     |     |   |   |
| TUA | e(P*) | 06 | 28 | 03      |     | 0.7  |     | 0.98 | 191 |     | 3.2 | 3.4 |   |   |
|     | eSn   |    |    | 15      |     | 1.4  |     |      |     |     |     |     |   |   |
| KRP | iPn   | 06 | 28 | 07.2    | DE  | -0.4 | 100 | 1.47 | 266 |     |     |     |   |   |
|     | Sn    |    |    | 25.5    |     | 0.2  | 100 |      |     |     |     |     |   |   |
| TRZ | Pn    | 06 | 28 | 16      |     | 4.3  |     | 1.77 | 194 |     | 3.5 | 3.6 |   |   |
|     | P*    |    |    | 21.5    |     | 6.0  |     |      |     |     |     |     |   |   |
|     | Sn    |    |    | 37.5    |     | 5.0  |     |      |     |     |     |     |   |   |
|     | S*    |    |    | 43      |     | 4.0  |     |      |     |     |     |     |   |   |
| CNZ | Pn    | 06 | 28 | 16      |     | 1.4  |     | 1.98 | 226 |     |     |     |   |   |
|     | eSn   |    |    | 42      |     | 4.4  |     |      |     |     |     |     |   |   |
|     | eS*   |    |    | 47      |     | 1.6  |     |      |     |     |     |     |   |   |
| GSZ | e(Pn) | 06 | 28 | 17      |     | 1.9  |     | 2.02 | 224 |     |     |     |   |   |
|     | P*    |    |    | 18      |     | -1.7 |     |      |     |     |     |     |   |   |
|     | Sn    |    |    | 35.5    |     | -2.9 |     |      |     |     |     |     |   |   |
|     | eS*   |    |    | 46      |     | -0.3 |     |      |     |     |     |     |   |   |
| WEL | Sn    | 06 | 29 | 25.5    |     | -0.5 |     | 4.00 | 210 | 3.6 |     |     |   |   |
|     | S*    |    |    | 47.5    |     | 2.1  |     |      |     |     |     |     |   |   |
| COB | Pn    | 06 | 28 | 52      |     | -1.8 |     | 4.85 | 227 |     | 3.9 | 3.5 |   |   |
|     | Sn    |    |    | 29 50.5 |     | 4.0  |     |      |     |     |     |     |   |   |
| GPZ | e(Sn) | 06 | 30 | 39      |     | 3.9  |     | 6.88 | 210 |     |     |     |   |   |
| CIZ | e     | 06 | 30 | 49      |     |      |     | 7.64 | 145 |     |     |     |   |   |
|     | Sn    |    |    | 54      |     | 0.5  |     |      |     |     |     |     |   |   |
| MJZ | ePn   | 06 | 29 | 35      |     | -2.8 |     | 8.08 | 218 |     |     |     |   |   |
|     | Sn    |    |    | 31 02   |     | -2.0 |     |      |     |     |     |     |   |   |

AMPLITUDES: ECZ 3.3 5.0 GNZ 5.5 14 TUA 0.5 1.0  
 TRZ 0.4 0.7 WEL 0.1 COB 0.2 0.3  
 CIZ 0.6

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JUL 04 12<sup>h</sup>29<sup>m</sup>23<sup>s</sup>.9 31°.63s 177°.42W 33 km M = 5.4  
 ± 1.3 0.06 0.16 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| ECZ | Pn    | 12 | 31 | 03.5    |     | 1.7  | 99  | 6.91 | 208 |     | 5.1 | 6.0 |   |   |
|     | Sn    |    |    | 32 17.5 |     | 1.6  | 99  |      |     |     |     |     |   |   |
| WTZ | Pn    | 12 | 31 | 13.8    | U   | -0.6 | 100 | 7.84 | 214 |     | 5.2 | 5.6 |   |   |
|     | Sn    |    |    | 32 37   |     | -1.2 | 100 |      |     |     |     |     |   |   |
| GNZ | Pn    | 12 | 31 | 15      |     | -0.8 | 100 | 7.94 | 207 |     | 5.1 | 5.7 |   |   |
|     | Sn    |    |    | 32 41.5 |     | 0.8  | 100 |      |     |     |     |     |   |   |
| ONE | Pn    | 12 | 31 | 18.5    |     | 1.8  | 99  | 8.01 | 237 |     |     |     |   |   |

|             |       |            |       |         |       |         |         |
|-------------|-------|------------|-------|---------|-------|---------|---------|
| TUA         | eSn   | 12 32 51   | -1.6  | 99      | 8.43  | 210     | 5.7     |
| KRP         | Pn    | 12 31 23.5 | -0.7  | 100     | 8.55  | 221     |         |
|             | e(Sn) | 33 00      | 4.7   |         |       |         |         |
| CRZ         | Pn    | 12 31 27   | -0.2  | 100     | 8.77  | 249     | 5.9     |
| TRZ         | ePn   | 12 31 32   | -1.0  | 100     | 9.20  | 209     | 4.6 5.8 |
|             | Sn    | 33 11      | 0.1   | 100     |       |         |         |
| CNZ         | ePn   | 12 31 36.5 | -0.5  | 100     | 9.49  | 215     |         |
|             | eSn   | 33 18      | 0.0   | 100     |       |         |         |
| MNG         | Pn    | 12 31 48   | -4.9  |         | 10.66 | 211     | 5.1 5.6 |
|             | Sn    | 33 39      | -6.9  |         |       |         |         |
| WEL         | Sn    | 12 33 59.5 | -7.0  |         | 11.51 | 211     | 5.7     |
| COB         | e(Pn) | 12 32 13   | -2.8  |         | 12.34 | 217     | 4.9 5.1 |
|             | Sn    | 34 16      | -10.3 |         |       |         |         |
| CIZ         | Pn    | 12 32 27   | 11.2  |         | 12.34 | 177     |         |
|             | Sn    | 34 35      | 8.7   |         |       |         |         |
| KAI         |       |            |       |         | 14.07 | 216     | 5.0     |
| GPZ         | Sn    | 12 35 04   | -11.6 |         | 14.39 | 210     | 5.6     |
| MJZ         | Pn    | 12 32 52.5 | -7.9  |         | 15.61 | 214     |         |
|             | Sn    | 35 30      | -14.9 |         |       |         |         |
| AMPLITUDES: |       |            |       |         |       |         |         |
|             | ECZ   | 0.6 5.0    | WTZ   | 2.5 6.5 | GNZ   | 1.7 11  |         |
|             | TUA   | 2.5        | CRZ   | 0.6     | TRZ   | 0.2 4.0 |         |
|             | MNG   | 2.2 7.5    | WEL   | 1.5     | COB   | 0.3 1.7 |         |
|             | CIZ   | 0.5 1.4    | KAI   | 0.2     | GPZ   | 1.4     |         |

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JUL 05 08<sup>h</sup>42<sup>m</sup>58<sup>s</sup>.6 41°.68S 174°.17E 12 km M = 3.0  
 ± 0.3 0.02 0.03 R S.E. of RES. 0.8

| STN | PHASE | H     | M     | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|-------|------|-----|------|-----|------|-----|-----|---------|
| WEL | P*    | 08 43 | 10    |      |     | 0.0  | 100 | 0.60 | 49  | 2.5 |         |
|     | Sg    |       | 20    |      |     | 0.9  | 99  |      |     |     |         |
| KKY | P*    | 08 43 | 13.3  |      |     | -0.4 | 100 | 0.82 | 206 |     |         |
|     | Sg    |       | 27    |      |     | 0.6  | 100 |      |     |     |         |
| COB | P*    | 08 43 | 20.6  |      |     | -0.2 | 100 | 1.23 | 298 |     | 3.2 3.0 |
|     | S*    |       | 37.5  |      |     | 0.3  | 100 |      |     |     |         |
| MNG | Pn    | 08 43 | 22.6  |      | D   | -1.3 | 98  | 1.45 | 43  |     | 3.1 3.0 |
|     | P*    |       | 24.5  |      |     | -0.0 | 100 |      |     |     |         |
|     | Sg    |       | 48.5  |      |     | 0.8  |     |      |     |     |         |
| CNZ | e(P*) | 08 43 | 48    |      |     | 2.3  |     | 2.69 | 23  |     |         |
|     | e(S*) |       | 44    | 22.5 |     | 1.5  |     |      |     |     |         |
|     | e(Sg) |       | 30    |      |     | 0.6  |     |      |     |     |         |
| MJZ | (P*)  | 08 44 | 00.5  |      |     | -0.1 |     | 3.57 | 229 |     |         |
| KRP | eP*   | 08 44 | 10    |      |     | 3.7  |     | 3.90 | 16  |     |         |
|     | eSg   |       | 45 05 |      |     | -4.9 |     |      |     |     |         |

AMPLITUDES: WEL 0.3 COB 0.6 1.5 MNG 1.0 1.1

FELT: Seddon (84) MM IV

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JUL 05 08<sup>h</sup>51<sup>m</sup>42<sup>s</sup>.4 45°.43S 167°.36E 33 km M = 4.3  
 ± 1.5 0.07 0.18 R S.E. of RES. 1.3

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|---------|
| MNW | P*    | 08 51 | 51.5 |   |     | 0.2  | 100 | 0.40 | 152 |     |         |
| MSZ | Pn    | 08 51 | 58.4 |   | U   | 0.7  | 100 | 0.86 | 28  |     |         |
| ROX | Pn    | 08 52 | 05   |   |     | 0.2  | 100 | 1.39 | 92  |     |         |
|     | e(Sn) |       | 23   |   |     | 1.4  |     |      |     |     |         |
| MJZ | iPn   | 08 52 | 20.4 |   | DSE | -1.7 | 99  | 2.65 | 58  |     | 4.2 4.9 |
|     | Sn    |       | 52.5 |   |     | 0.5  | 100 |      |     |     |         |



|             |     |          |      |      |     |     |     |
|-------------|-----|----------|------|------|-----|-----|-----|
| KAI         | eP* | 08 52 56 | 2.1  | 4.13 | 47  | 4.2 |     |
|             | Sn  | 53 30    | 2.5  |      |     |     |     |
| GPZ         | ePn | 08 52 40 | -2.7 | 4.17 | 67  | 4.3 |     |
|             | eSn | 53 27    | -1.3 |      |     |     |     |
| COB         | Pn  | 08 53 04 | -1.9 | 5.86 | 44  | 4.3 | 4.0 |
|             | Sn  | 54 09    | -0.1 |      |     |     |     |
| WEL         | Sn  | 08 54 31 | -1.0 | 6.81 | 55  | 4.1 |     |
| MNG         | Pn  | 08 53 27 | -3.4 | 7.66 | 54  |     |     |
|             | Sn  | 54 50    | -2.4 |      |     |     |     |
| KRP         | Sn  | 08 55 41 | -0.0 | 9.68 | 42  |     |     |
| AMPLITUDES: |     | MJZ      | 4.2  | 37   | KAI | 0.4 |     |
|             |     | COB      | 0.3  | 0.6  | WEL | 0.1 |     |
|             |     |          |      |      | GPZ | 0.7 |     |

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JUL 05    10<sup>h</sup>22<sup>m</sup>31<sup>s</sup>.0    41°.69s    174°.16E    12 km    M = 2.9

± 0.3    0.02    0.03    R    S.E. of RES. 0.8

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WEL | P*    | 10 | 22 | 43    |     | 0.5  | 100 | 0.61 | 48  | 2.4 |     |     |   |   |
|     | Sg    |    |    | 52.5  |     | 0.7  | 100 |      |     |     |     |     |   |   |
| KKY | P*    | 10 | 22 | 45.5  |     | -0.4 | 100 | 0.81 | 206 |     |     |     |   |   |
|     | Sg    |    |    | 59    |     | 0.6  | 100 |      |     |     |     |     |   |   |
| COB | P*    | 10 | 22 | 52.9  |     | -0.3 | 100 | 1.23 | 299 |     | 3.1 | 2.9 |   |   |
|     | S*    |    |    | 23 10 |     | 0.4  | 100 |      |     |     |     |     |   |   |
| MNG | Pn    | 10 | 22 | 55    |     | -1.4 | 98  | 1.47 | 43  |     | 3.0 | 2.9 |   |   |
|     | P*    |    |    | 57    |     | -0.1 | 100 |      |     |     |     |     |   |   |
|     | (Sn)  |    |    | 23 15 |     | -0.5 |     |      |     |     |     |     |   |   |
|     | Sg    |    |    | 21    |     | 0.6  |     |      |     |     |     |     |   |   |
| CNZ | ePg   | 10 | 23 | 28    |     | 2.3  |     | 2.71 | 23  |     |     |     |   |   |
|     | eSg   |    |    | 24 02 |     | -0.1 |     |      |     |     |     |     |   |   |
| MJZ | P*    | 10 | 23 | 33    |     | 0.1  |     | 3.56 | 229 |     |     |     |   |   |
| KRP | eP*   | 10 | 23 | 45    |     | 6.2  |     | 3.91 | 16  |     |     |     |   |   |

AMPLITUDES:    WEL    0.3    COB    0.5    1.0    MNG    0.9    0.8

FELT: Seddon (84)

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JUL 05    11<sup>h</sup>34<sup>m</sup>40<sup>s</sup>.9    38°.87s    175°.67E    12 km    M = 2.8

± 0.4    0.02    0.04    R    S.E. of RES. 1.2

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| CNZ | iPg   | 11 | 34 | 47.1  |     | -1.0 | 100 | 0.34 | 196 |     |     |     |   |   |
|     | Sg    |    |    | 54    |     | 1.0  | 100 |      |     |     |     |     |   |   |
| WNZ | Pg    | 11 | 34 | 51.5  |     | 2.0  | 99  | 0.41 | 55  |     | 2.4 | 2.6 |   |   |
|     | Sg    |    |    | 54    |     | -1.3 | 100 |      |     |     |     |     |   |   |
| KRP | P*    | 11 | 34 | 58    |     | -0.3 | 100 | 0.95 | 354 |     |     |     |   |   |
|     | Pg    |    |    | 59    |     | -1.2 | 100 |      |     |     |     |     |   |   |
|     | Sg    |    |    | 35 14 |     | 0.9  | 100 |      |     |     |     |     |   |   |
| TNZ | P*    | 11 | 35 | 02    |     | 1.9  |     | 1.05 | 252 |     | 2.7 | 2.6 |   |   |
|     | Sg    |    |    | 20    |     | 3.4  |     |      |     |     |     |     |   |   |
| TRZ | P*    | 11 | 35 | 00    |     | -1.3 | 100 | 1.13 | 128 |     | 2.7 | 3.1 |   |   |
|     | Sg    |    |    | 19.5  |     | 0.5  | 100 |      |     |     |     |     |   |   |
| WTZ | P*    | 11 | 35 | 05    |     | -0.3 | 100 | 1.36 | 50  |     | 2.6 |     |   |   |
|     | Pg    |    |    | 09    |     | 0.5  | 100 |      |     |     |     |     |   |   |
| MNG | Pn    | 11 | 35 | 11    |     | 0.7  |     | 1.75 | 185 |     | 3.4 | 3.0 |   |   |
|     | P*    |    |    | 12    |     | 0.0  |     |      |     |     |     |     |   |   |
|     | eS*   |    |    | 38.5  |     | 3.4  |     |      |     |     |     |     |   |   |
|     | eSg   |    |    | 43.5  |     | 3.4  |     |      |     |     |     |     |   |   |
| GNZ | ePg   | 11 | 35 | 19.5  |     | 1.1  |     | 1.85 | 84  |     | 3.3 |     |   |   |

|             |     |    |    |      |     |     |  |      |     |     |  |     |     |
|-------------|-----|----|----|------|-----|-----|--|------|-----|-----|--|-----|-----|
| COB         | eP* | 11 | 35 | 39.5 |     | 3.4 |  | 3.17 | 225 |     |  |     |     |
| AMPLITUDES: | WNZ |    |    | 0.1  | 0.2 | TNZ |  | 0.1  | 0.1 | TRZ |  | 0.1 | 0.3 |
|             | WTZ |    |    | 0.1  |     | MNG |  | 1.1  | 0.4 | GNZ |  |     | 0.3 |

FELT: Wairakei (41)

JUL 06 13<sup>h</sup>39<sup>m</sup>52<sup>s</sup>.9 40°.85S 172°.80E 175 km 77/ 425  
 ± 0.6 0.02 0.04 6 S.E. of RES. 0.6 M = 3.9

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W    | S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|------|---|
| COB         | e(P)  | 13 | 40 | 19      |     | 2.6  |     | 0.25 | 192 |      |      |      |      |   |
| MRW         | iP    | 13 | 40 | 24.8    | U   | 0.2  |     | 1.49 | 106 |      |      |      |      |   |
| WHW         | iP    | 13 | 40 | 25.2    | U   | 0.2  |     | 1.53 | 108 |      |      |      |      |   |
| WEL         | P     | 13 | 40 | 25.5    |     | 0.3  | 100 | 1.55 | 107 | 4.2  |      |      |      |   |
|             | S     |    |    | 50.5    |     | 0.4  | 100 |      |     |      |      |      |      |   |
| BHW         | iP    | 13 | 40 | 26.2    | U   | -0.1 | 100 | 1.66 | 111 |      |      |      |      |   |
| KKY         | P     | 13 | 40 | 26.0    | U   | -0.8 | 99  | 1.71 | 157 |      |      |      |      |   |
|             | S     |    |    | 52.6    |     | -0.3 | 100 |      |     |      |      |      |      |   |
| WDW         | iP    | 13 | 40 | 26.6    | U   | -0.2 |     | 1.71 | 105 |      |      |      |      |   |
| CPW         | iP    | 13 | 40 | 27.0    | U   | -0.1 | 100 | 1.74 | 99  |      |      |      |      |   |
| KAI         | P     | 13 | 40 | 30.5    |     | 0.8  | 99  | 1.98 | 211 | 3.8* |      |      |      |   |
|             | S     |    |    | 58      |     | -0.1 | 100 |      |     |      |      |      |      |   |
| MNG         | P     | 13 | 40 | 29.9    | U   | -0.6 | 100 | 2.05 | 85  |      | 3.7  | 4.1  |      |   |
|             | eS    |    |    | 41 00   |     | 0.5  | 100 |      |     |      |      |      |      |   |
| TNZ         | P     | 13 | 40 | 30.9    | U   | 0.4  | 100 | 2.05 | 37  |      | 2.8* | 3.5* |      |   |
|             | S     |    |    | 59      |     | -0.6 | 100 |      |     |      |      |      |      |   |
| GSZ         | P     | 13 | 40 | 37.5    |     | -0.1 |     | 2.65 | 55  |      |      |      |      |   |
|             | S     |    |    | 41 12   |     | 0.0  |     |      |     |      |      |      |      |   |
| CNZ         | P     | 13 | 40 | 36.7    |     | -1.2 |     | 2.67 | 53  |      |      |      |      |   |
|             | S     |    |    | 41 13   |     | 0.5  |     |      |     |      |      |      |      |   |
| GPZ         | S     | 13 | 41 | 12.5    |     | -3.9 |     | 2.85 | 182 | 3.6* |      |      |      |   |
| TRZ         | P     | 13 | 40 | 44      |     | -2.1 |     | 3.34 | 69  |      | 3.6  | 4.0  |      |   |
|             | S     |    |    | 41 26.5 |     | -0.6 |     |      |     |      |      |      |      |   |
| MJZ         | P     | 13 | 40 | 47.3    | D   | -2.0 |     | 3.59 | 208 |      | 3.1* | 3.2* |      |   |
|             | S     |    |    | 41 30   |     | -2.7 |     |      |     |      |      |      |      |   |
| KRP         | eP    | 13 | 40 | 48      |     | -1.5 |     | 3.61 | 37  |      |      |      |      |   |
|             | S     |    |    | 41 35.5 |     | 2.3  |     |      |     |      |      |      |      |   |
| WTZ         | eP    | 13 | 40 | 55      |     | -3.7 |     | 4.32 | 50  |      | 3.7  | 3.7  |      |   |
|             | S     |    |    | 41 46   |     | -3.6 |     |      |     |      |      |      |      |   |
| GNZ         | P     | 13 | 40 | 59      |     | -3.2 |     | 4.59 | 63  |      | 4.5  | 4.0  |      |   |
|             | S     |    |    | 41 53.5 |     | -2.2 |     |      |     |      |      |      |      |   |
| MSZ         | P     | 13 | 41 | 07.5    |     | -3.3 |     | 5.26 | 222 |      | 3.7* | 3.5* |      |   |
|             | S     |    |    | 42 05.5 |     | -5.7 |     |      |     |      |      |      |      |   |
| ROX         | e(P)  | 13 | 41 | 06.5    |     | -4.8 |     | 5.28 | 208 |      |      |      | 3.3* |   |
|             | S     |    |    | 42 04   |     | -8.0 |     |      |     |      |      |      |      |   |
| MNW         | e(P)  | 13 | 41 | 20      |     | -3.5 |     | 6.22 | 216 |      |      |      |      |   |
|             | eS    |    |    | 42 34   |     | 0.0  |     |      |     |      |      |      |      |   |
| AMPLITUDES: | WEL   |    |    | 1.5     |     | KAI  | 1.1 |      |     | MNG  |      | 1.7  | 5.0  |   |
|             | TNZ   |    |    | 0.1     | 0.6 | GPZ  | 0.9 |      |     | TRZ  |      | 0.1  | 0.5  |   |
|             | MJZ   |    |    | 0.6     | 1.4 | WTZ  |     | 0.2  | 0.2 | GNZ  |      | 1.1  | 0.6  |   |
|             | MSZ   |    |    | 1.4     | 1.5 | ROX  |     |      | 0.6 |      |      |      |      |   |

JUL 06 16<sup>h</sup>59<sup>m</sup>37<sup>s</sup>.8 38°.03S 176°.23E 209 km 77/ 426  
 ± 0.5 0.02 0.03 4 S.E. of RES. 0.6 M = 4.1

| STN | PHASE | H  | M  | S    | DIR | RES | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|------|-----|-----|-----|------|-----|-----|---|---|---|---|
| KRP | iP    | 17 | 00 | 06.5 | UW  | 0.2 | 100 | 0.56 | 281 |     |   |   |   |   |

|             |      |       |         |     |      |     |      |     |      |      |      |
|-------------|------|-------|---------|-----|------|-----|------|-----|------|------|------|
|             | S    |       | 28      |     | -0.3 | 100 |      |     |      |      |      |
| WTZ         | iP   | 17 00 | 05.6    | U   | -0.9 | 99  | 0.60 | 86  |      | 3.8  | 3.8  |
|             | (S)  |       | 24.5    |     | -4.1 |     |      |     |      |      |      |
|             | e    |       | 26.5    |     |      |     |      |     |      |      |      |
| TUA         | e(P) | 17 00 | 10      |     | 1.0  |     | 1.06 | 137 |      | 3.7  | 4.3  |
|             | S    |       | 33.5    |     | 0.3  | 100 |      |     |      |      |      |
| CNZ         | P    | 17 00 | 11.7    |     | 1.0  | 98  | 1.29 | 204 |      |      |      |
| GSZ         | eP   | 17 00 | 12.2    |     | 1.0  |     | 1.34 | 202 |      |      |      |
|             | S    |       | 40.5    |     | 3.5  |     |      |     |      |      |      |
| GNZ         | iP   | 17 00 | 13.4    | D   | 0.6  |     | 1.54 | 114 |      |      |      |
|             | S    |       | 40      |     | 0.0  |     |      |     |      |      |      |
| TRZ         | P    | 17 00 | 14.3    |     | 1.0  |     | 1.59 | 163 |      | 4.0  | 4.3  |
|             | S    |       | 42.5    |     | 1.7  |     |      |     |      |      |      |
| ECZ         | P    | 17 00 | 16      |     | 0.1  | 100 | 1.87 | 80  |      | 4.2  | 4.0  |
|             | S    |       | 45.5    |     | 0.0  | 100 |      |     |      |      |      |
| MNG         | iP   | 17 00 | 23.9    |     | -0.4 | 100 | 2.65 | 192 |      | 4.4  | 4.3  |
|             | eS   |       | 01 00   |     | -0.3 | 100 |      |     |      |      |      |
| ONE         | P    | 17 00 | 25      |     | 0.0  | 100 | 2.71 | 326 |      |      |      |
| WEL         | eP   | 17 00 | 32.8    |     | -0.8 |     | 3.44 | 199 | 4.2  |      |      |
|             | S    |       | 01 15.5 |     | -1.3 |     |      |     |      |      |      |
| COB         | eP   | 17 00 | 40.5    |     | -1.0 |     | 4.08 | 220 |      | 2.8* | 3.4* |
|             | S    |       | 01 29   |     | -1.8 |     |      |     |      |      |      |
| KAI         | eS   | 17 02 | 06.5    |     | -3.6 |     | 5.81 | 218 | 3.4* |      |      |
| GPZ         | e(P) | 17 01 | 07      |     | -2.5 |     | 6.28 | 204 | 3.7* |      |      |
|             | S    |       | 02 16   |     | -5.0 |     |      |     |      |      |      |
| MJZ         | eP   | 17 01 | 22      |     | -1.7 |     | 7.38 | 214 |      |      |      |
|             | S    |       | 02 41.5 |     | -5.0 |     |      |     |      |      |      |
| MSZ         | eS   | 17 03 | 23      |     | -3.8 |     | 9.12 | 221 |      | 2.5* |      |
| AMPLITUDES: |      |       |         |     |      |     |      |     |      |      |      |
|             | WTZ  |       | 1.6     | 1.6 | TUA  |     | 0.5  | 1.7 | TRZ  | 0.6  | 2.4  |
|             | ECZ  |       | 0.8     | 0.6 | MNG  |     | 5.0  | 5.0 | WEL  | 0.4  |      |
|             | COB  |       | 0.1     | 1.2 | KAI  | 0.2 |      |     | GPZ  | 0.5  |      |
|             | MSZ  |       |         | 0.1 |      |     |      |     |      |      |      |

JUL 07 05<sup>h</sup>01<sup>m</sup>39<sup>s</sup>.9 38°.35s 177°.01E 33 km 77/ 427  
 ± 0.3 0.02 0.03 R S.E. of RES. 0.9 M = 3.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP*   | 05 | 01 | 49.1 | D   | 0.6  | 100 | 0.37 | 358 |     | 3.2 | 3.5 |
|     | S*    |    |    | 56.5 |     | 1.8  | 98  |      |     |     |     |     |
| TUA | P*    | 05 | 01 | 49.6 |     | -0.3 | 100 | 0.47 | 166 |     | 3.1 | 3.6 |
|     | S*    |    |    | 57.5 |     | 0.3  | 100 |      |     |     |     |     |
| WNZ | Sn    | 05 | 02 | 04.5 |     | 0.3  |     | 0.76 | 248 |     | 3.4 |     |
|     | eS*   |    |    | 09   |     | 3.7  |     |      |     |     |     |     |
| WIZ | Pn    | 05 | 01 | 53.6 |     | -1.3 | 99  | 0.84 | 10  |     |     |     |
|     | Sn    |    | 02 | 05.5 |     | -0.5 | 100 |      |     |     |     |     |
| GNZ | iPn   | 05 | 01 | 54.0 |     | -1.0 | 100 | 0.85 | 110 |     | 3.9 | 3.8 |
|     | Sn    |    | 02 | 06.5 |     | 0.3  | 100 |      |     |     |     |     |
| TRZ | P*    | 05 | 02 | 05   |     | 3.1  |     | 1.21 | 187 |     | 3.4 | 3.5 |
|     | S*    |    |    | 19   |     | 0.8  | 100 |      |     |     |     |     |
| KRP | P*    | 05 | 02 | 02   |     | -0.4 | 100 | 1.23 | 290 |     |     |     |
|     | e     |    |    | 10   |     |      |     |      |     |     |     |     |
|     | Sn    |    |    | 16   |     | 0.4  |     |      |     |     |     |     |
| ECZ | Pn    | 05 | 02 | 02.5 |     | 0.2  | 100 | 1.39 | 62  |     | 3.7 | 3.6 |
|     | P*    |    |    | 06.5 |     | 1.6  |     |      |     |     |     |     |
|     | S*    |    |    | 28   |     | 4.6  |     |      |     |     |     |     |
| CNZ | eP*   | 05 | 02 | 05   |     | -0.5 | 100 | 1.42 | 233 |     |     |     |
|     | e     |    |    | 12.5 |     |      |     |      |     |     |     |     |
|     | e     |    |    | 31   |     |      |     |      |     |     |     |     |

|             |     |            |         |      |         |     |         |
|-------------|-----|------------|---------|------|---------|-----|---------|
| GSZ         | P*  | 05 02 05.5 | -0.4    | 1.44 | 230     |     |         |
| MNG         | Pn  | 05 02 20   | 1.7     | 2.56 | 207     | 3.7 | 3.7     |
|             | P*  | 25         | 0.3     |      |         |     |         |
|             | S*  | 03 02      | 3.8     |      |         |     |         |
| WEL         | eS* | 05 03 27   | 3.5     | 3.40 | 210     | 3.5 |         |
| COB         | ePn | 05 02 44   | 2.1     | 4.28 | 229     | 4.0 | 3.6     |
|             | S*  | 03 46      | -3.8    |      |         |     |         |
| GPZ         | eSn | 05 04 16   | -0.7    | 6.27 | 210     |     |         |
|             | S*  | 37.5       | -12.0   |      |         |     |         |
| MJZ         | eSn | 05 04 45   | -0.8    | 7.49 | 219     |     |         |
| AMPLITUDES: |     | WTZ        | 12 21   | TUA  | 1.8 7.5 | WNZ | 0.4     |
|             |     | GNZ        | 10 12   | TRZ  | 0.7 1.3 | ECZ | 0.6 0.5 |
|             |     | MNG        | 1.3 1.6 | WEL  | 0.1     | COB | 0.3 0.5 |

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JUL 07 16<sup>h</sup>20<sup>m</sup>26<sup>s</sup>.8 33°.68s 179°.55w 33 km M = 4.5  
 ± 1.6 0.11 0.25 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S       | DIR | RES   | WT  | DIST  | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|-------|-----|-------|-----|-----|-----|-----|---|---|
| ECZ | ePn   | 16 | 21 | 29      |     | 0.0   | 100 | 4.29  | 201 |     | 4.6 | 4.6 |   |   |
|     | Sn    |    |    | 22 17.5 |     | 1.5   | 99  |       |     |     |     |     |   |   |
|     | S*    |    |    | 37      |     | -0.2  |     |       |     |     |     |     |   |   |
| WTZ | Pn    | 16 | 21 | 39.5    |     | -0.9  | 100 | 5.14  | 212 |     | 4.8 | 4.8 |   |   |
|     | Sn    |    |    | 22 35   |     | -1.2  | 100 |       |     |     |     |     |   |   |
| GNZ | Pn    | 16 | 21 | 42      |     | -1.1  | 100 | 5.33  | 201 |     | 4.5 | 4.6 |   |   |
|     | Sn    |    |    | 22 39   |     | -1.9  | 99  |       |     |     |     |     |   |   |
| TUA | Pn    | 16 | 21 | 49.5    |     | 0.3   | 100 | 5.78  | 207 |     | 4.5 | 4.7 |   |   |
|     | Sn    |    |    | 22 51.5 |     | 0.0   | 100 |       |     |     |     |     |   |   |
| KRP | Pn    | 16 | 21 | 50.5    |     | 0.7   | 100 | 5.82  | 222 |     |     |     |   |   |
|     | eSn   |    |    | 22 50   |     | -2.7  |     |       |     |     |     |     |   |   |
| CRZ | e(Pn) | 16 | 22 | 02      |     | 3.0   |     | 6.50  | 261 |     |     |     |   |   |
| TRZ | Pn    | 16 | 21 | 57.5    |     | -2.3  |     | 6.55  | 205 |     | 4.3 | 4.5 |   |   |
|     | Sn    |    |    | 23 08   |     | -2.2  |     |       |     |     |     |     |   |   |
| MNG | Pn    | 16 | 22 | 13.5    |     | -5.8  |     | 7.98  | 208 |     | 4.3 | 4.5 |   |   |
|     | Sn    |    |    | 23 36   |     | -8.6  |     |       |     |     |     |     |   |   |
| WEL | Sn    | 16 | 23 | 55      |     | -10.1 |     | 8.84  | 209 | 4.3 |     |     |   |   |
| COB | eSn   | 16 | 24 | 15      |     | -8.8  |     | 9.61  | 217 |     |     | 4.1 |   |   |
| GPZ | Sn    | 16 | 25 | 06      |     | -8.3  |     | 11.72 | 209 | 4.3 |     |     |   |   |
| MJZ | Sn    | 16 | 25 | 28      |     | -14.8 |     | 12.90 | 214 |     |     |     |   |   |

|             |  |     |         |     |         |     |         |
|-------------|--|-----|---------|-----|---------|-----|---------|
| AMPLITUDES: |  | ECZ | 0.4 0.5 | WTZ | 2.6 2.0 | GNZ | 0.9 1.9 |
|             |  | TUA | 0.3 0.5 | TRZ | 0.2 0.4 | MNG | 0.6 1.1 |
|             |  | WEL | 0.1     | COB | 0.3     | GPZ | 0.1     |

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JUL 08 04<sup>h</sup>17<sup>m</sup>27<sup>s</sup>.6 45°.31s 167°.23E 12 km M = 3.7  
 ± 1.2 0.03 0.10 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MNW | P*    | 04 | 17 | 37.0    |     | -1.1 | 100 | 0.55 | 150 |     |     |     |   |   |
|     | S*    |    |    | 46.8    |     | 1.1  | 100 |      |     |     |     |     |   |   |
| MSZ | P*    | 04 | 17 | 40.8    |     | -1.6 | 100 | 0.80 | 38  |     | 3.5 | 3.7 |   |   |
|     | S*    |    |    | 55.8    |     | 2.5  | 99  |      |     |     |     |     |   |   |
|     | e     |    |    | 58.2    |     |      |     |      |     |     |     |     |   |   |
| ROX | P*    | 04 | 17 | 54.2    |     | 0.1  | 100 | 1.48 | 97  |     |     |     |   |   |
| OBZ | Pn    | 04 | 17 | 56.5    |     | 0.0  | 100 | 1.72 | 159 |     |     |     |   |   |
|     | iP*   |    |    | 58.7    |     | 0.7  | 100 |      |     |     |     |     |   |   |
|     | S*    |    |    | 18 20.5 |     | -0.2 | 100 |      |     |     |     |     |   |   |
| OMZ | P*    | 04 | 18 | 11.5    |     | -1.9 | 99  | 2.62 | 86  |     |     |     |   |   |
|     | eS*   |    |    | 48      |     | 0.2  | 100 |      |     |     |     |     |   |   |



|             |       |       |      |      |     |      |     |     |     |     |
|-------------|-------|-------|------|------|-----|------|-----|-----|-----|-----|
| MJZ         | ePn   | 04 18 | 10.3 | 0.9  | 100 | 2.66 | 61  | 3.8 | 3.7 |     |
|             | eP*   |       | 14.0 | -0.2 | 100 |      |     |     |     |     |
|             | e     |       | 18.7 |      |     |      |     |     |     |     |
|             | S*    |       | 46.3 | -2.8 | 99  |      |     |     |     |     |
| KAI         | e(Sn) | 04 19 | 23   | 7.4  |     | 4.10 | 49  | 3.9 |     |     |
| GPZ         | eSn   | 04 19 | 20   | 2.2  | 99  | 4.20 | 69  | 3.7 |     |     |
| AMPLITUDES: |       |       |      |      |     |      |     |     |     |     |
|             | MSZ   |       | 7.5  | 21   | OBZ | 1.4  | 2.0 | MJZ | 1.6 | 2.2 |
|             | KAI   | 0.2   |      |      | GPZ | 0.2  |     |     |     |     |

JUL 08 10<sup>h</sup>31<sup>m</sup>52<sup>s</sup>.3 45°.11s 167°.91E 33 km M = 3.2  
 ± 0.8 0.03 0.08 R S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MSZ | iP*   | 10 | 32 | 01.0 |     | -0.9 | 100 | 0.44 | 1   |     | 3.3 | 3.1 |   |   |
|     | iS*   |    |    | 11.0 |     | 2.1  | 99  |      |     |     |     |     |   |   |
| MNW | S*    | 10 | 32 | 16.0 |     | 0.1  | 100 | 0.70 | 197 |     |     |     |   |   |
| ROX | P*    | 10 | 32 | 11.0 |     | -0.9 | 100 | 1.06 | 111 |     | 3.2 | 3.1 |   |   |
|     | S*    |    |    | 27.8 |     | 1.5  | 100 |      |     |     |     |     |   |   |
| OBZ | eSn   | 10 | 32 | 42.5 |     | 0.9  | 100 | 1.80 | 176 |     |     |     |   |   |
| OMZ | Pn    | 10 | 32 | 24.0 |     | -0.9 | 100 | 2.13 | 90  |     |     |     |   |   |
| MJZ | Pn    | 10 | 32 | 22.4 |     | -2.7 | 99  | 2.14 | 59  |     | 3.4 | 3.1 |   |   |
|     | Sn    |    |    | 50.2 |     | 0.4  | 100 |      |     |     |     |     |   |   |

AMPLITUDES: MSZ 16 18 ROX 0.8 1.6 MJZ 1.1 0.9

JUL 08 11<sup>h</sup>40<sup>m</sup>08<sup>s</sup>.4 41°.59s 173°.33E 12 km M = 3.9  
 ± 0.4 0.03 0.04 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| KKY | P*    | 11 | 40 | 24.7    |     | 0.2  | 100 | 0.87 | 162 |     |     |     |     |   |
|     | i     |    |    | 26.3    |     |      |     |      |     |     |     |     |     |   |
|     | S*    |    |    | 37.9    |     | 1.7  | 100 |      |     |     |     |     |     |   |
| WEL | P*    | 11 | 40 | 26.8    |     | -1.9 | 100 | 1.13 | 75  | 3.7 |     |     |     |   |
|     | S*    |    |    | 42.0    |     | -1.7 | 100 |      |     |     |     |     |     |   |
| KAI | eP*   | 11 | 40 | 40      |     | 1.2  | 100 | 1.71 | 236 | 3.9 |     |     |     |   |
|     | Sn    |    |    | 58.3    |     | -0.6 | 100 |      |     |     |     |     |     |   |
| MNG | Pn    | 11 | 40 | 39.7    |     | -0.1 | 100 | 1.90 | 60  |     |     |     |     |   |
|     | Sn    |    |    | 41 05   |     | 1.7  | 100 |      |     |     |     |     |     |   |
| GPZ | eP*   | 11 | 40 | 46      |     | -0.5 | 100 | 2.17 | 193 | 4.0 |     |     |     |   |
|     | Sn    |    |    | 41 05.8 |     | -4.0 | 93  |      |     |     |     |     |     |   |
| GSZ | ePn   | 11 | 40 | 55      |     | 1.8  | 100 | 2.88 | 37  |     |     |     |     |   |
|     | eSn   |    |    | 41 27.8 |     | 0.7  | 100 |      |     |     |     |     |     |   |
| MJZ | ePn   | 11 | 40 | 59.0    |     | 1.5  | 100 | 3.19 | 220 |     | 3.6 | 3.8 |     |   |
|     | eP*   |    |    | 41 03.9 |     | -0.1 | 100 |      |     |     |     |     |     |   |
|     | e     |    |    | 08.0    |     |      |     |      |     |     |     |     |     |   |
|     | Sn    |    |    | 36.0    |     | 1.5  | 100 |      |     |     |     |     |     |   |
| TRZ | eP*   | 11 | 41 | 07.5    |     | 0.8  | 100 | 3.35 | 54  |     | 3.7 | 3.8 |     |   |
|     | eSn   |    |    | 39      |     | 0.7  | 100 |      |     |     |     |     |     |   |
|     | eS*   |    |    | 52.5    |     | 2.0  | 99  |      |     |     |     |     |     |   |
| KRP | Pn    | 11 | 41 | 08.0    |     | -1.0 | 100 | 4.04 | 26  |     | 4.0 | 3.8 |     |   |
|     | eP*   |    |    | 17      |     | -1.5 | 100 |      |     |     |     |     |     |   |
|     | eSn   |    |    | 52.5    |     | -2.3 | 99  |      |     |     |     |     |     |   |
| GNZ | Sn    | 11 | 42 | 03.5    |     | -6.0 |     | 4.65 | 52  |     |     |     | 4.1 |   |
| MSZ | Pn    | 11 | 41 | 22.7    |     | 0.3  | 100 | 5.02 | 230 |     |     |     |     |   |
|     | Sn    |    |    | 42 18.3 |     | -0.1 | 100 |      |     |     |     |     |     |   |

AMPLITUDES: WEL 1.4 KAI 1.1 GPZ 1.5  
 MJZ 0.8 2.0 TRZ 0.2 0.3 KRP 0.9 0.7

GNZ 0.8

JUL 08 14<sup>h</sup>19<sup>m</sup>17<sup>s</sup>.0 50°.03s 164°.81E 33 km M = 4.0  
 ± 1.9 0.14 0.37 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ | W-A | W P W S |
|-----|-------|----|----|-------|-----|------|-----|------|----|-----|---------|
| OBZ | P     | 14 | 20 | 13.7  |     | 0.9  | 100 | 3.82 | 36 |     |         |
|     | S     |    |    | 55.0  |     | 0.1  | 100 |      |    |     |         |
| MNW | P     | 14 | 20 | 24    |     | -0.1 | 100 | 4.65 | 25 |     |         |
|     | eS    |    |    | 21 13 |     | -1.8 | 99  |      |    |     |         |
| ROX | eP    | 14 | 20 | 34.5  |     | -0.9 | 100 | 5.48 | 35 |     | 4.3     |
| MSZ | P     | 14 | 20 | 39.0  |     | -0.2 | 100 | 5.77 | 23 |     | 3.8 3.8 |
|     | S     |    |    | 21 43 |     | 1.5  | 99  |      |    |     |         |

AMPLITUDES: OBZ 1.1 2.3 ROX 0.4 MSZ 0.3 0.5

JUL 08 20<sup>h</sup>15<sup>m</sup>37<sup>s</sup>.7 39°.35s 175°.42E 86 km M = 3.9  
 ± 0.8 0.04 0.07 8 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|-----------|
| GSZ | P     | 20 | 15 | 50.0    |     | -0.3 | 100 | 0.15 | 59  |      |           |
|     | eS    |    |    | 59.0    |     | -0.9 | 100 |      |     |      |           |
| TRZ | P     | 20 | 15 | 58.5    |     | -0.2 | 100 | 1.11 | 101 |      | 4.0 4.0   |
|     | S     |    |    | 16 17.5 |     | 3.0  | 97  |      |     |      |           |
| MNG | P     | 20 | 15 | 58.7    |     | -2.0 | 99  | 1.26 | 178 |      |           |
| KRP | P     | 20 | 16 | 04.0    |     | 1.2  | 100 | 1.43 | 4   |      | 3.0* 3.0* |
|     | S     |    |    | 23.2    |     | 1.2  | 100 |      |     |      |           |
| WTZ | P     | 20 | 16 | 08.2    |     | -0.0 | 100 | 1.84 | 42  |      | 3.6 4.1   |
|     | eS    |    |    | 29.5    |     | -1.3 | 100 |      |     |      |           |
| WEL | eP    | 20 | 16 | 11      |     | 0.8  | 100 | 2.00 | 194 | 4.2  |           |
|     | S     |    |    | 35      |     | 0.7  | 100 |      |     |      |           |
|     | e     |    |    | 39      |     |      |     |      |     |      |           |
| GNZ | P     | 20 | 16 | 10.9    |     | -1.4 | 100 | 2.15 | 72  |      | 3.7 4.0   |
|     | S     |    |    | 37.8    |     | -0.2 | 100 |      |     |      |           |
|     | e     |    |    | 50.7    |     |      |     |      |     |      |           |
| GPZ | e(S)  | 20 | 17 | 35.0    |     | -9.2 |     | 4.81 | 205 | 3.7* |           |

AMPLITUDES: TRZ 2.0 4.3 KRP 1.1 1.3 WTZ 0.9 2.8  
 WEL 1.4 GNZ 0.8 2.6 GPZ 0.8

JUL 09 01<sup>h</sup>05<sup>m</sup>24<sup>s</sup>.5 41°.29s 173°.39E 127 km M = 3.6  
 ± 0.8 0.06 0.08 11 S.E. of RES. 1.4

| STN  | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|------|-------|----|----|---------|-----|------|-----|------|-----|------|-----------|
| WEL  | S     | 01 | 06 | 04.8    |     | -0.6 | 100 | 1.04 | 90  | 3.8  |           |
| KKY  | P     | 01 | 05 | 50.0    |     | 1.2  | 100 | 1.15 | 169 |      |           |
|      | S     |    |    | 06 08.2 |     | 0.8  | 100 |      |     |      |           |
| MNG  | P     | 01 | 05 | 56.0    |     | 0.7  | 100 | 1.72 | 68  |      | 3.2 3.8   |
|      | S     |    |    | 06 19.0 |     | 0.3  | 100 |      |     |      |           |
| KAI  | eP    | 01 | 06 | 00      |     | 2.2  | 99  | 1.93 | 229 | 3.4* |           |
|      | S     |    |    | 22.0    |     | -0.8 | 100 |      |     |      |           |
| GPZ  | S     | 01 | 06 | 34.0    |     | -1.1 | 100 | 2.47 | 193 | 3.6* |           |
| MIJZ | eP    | 01 | 06 | 18.0    |     | 0.1  | 100 | 3.46 | 218 |      | 3.1* 3.0* |
|      | e     |    |    | 22.5    |     |      |     |      |     |      |           |
|      | S     |    |    | 57.0    |     | -1.5 | 99  |      |     |      |           |
| KRP  | P     | 01 | 06 | 23.0    |     | 1.1  | 100 | 3.75 | 27  |      | 3.5* 2.9* |
|      | eS    |    |    | 07 04.5 |     | -1.1 | 100 |      |     |      |           |
| GNZ  | S     | 01 | 07 | 21.0    |     | -1.1 | 100 | 4.44 | 55  |      | 3.7       |

AMPLITUDES: WEL 1.5 MNG 0.8 4.0 KAI 0.6  
 GPZ 1.2 MJZ 0.8 1.0 KRP 1.4 0.4  
 GNZ 0.3

JUL 09 01<sup>h</sup>34<sup>m</sup>44<sup>s</sup>.3 45°.28s 167°.23E 12 km M= 3.9  
 ± 1.6 0.04 0.14 R S.E. of RES. 1.6

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| MNW         | P*    | 01 | 34 | 56.2 |     | 1.0  | 100 | 0.57 | 152 |     |     |     |
| MSZ         | P*    | 01 | 34 | 58.8 |     | 0.0  | 100 | 0.78 | 39  |     | 4.0 |     |
|             | S*    |    | 35 | 09.0 |     | -0.4 | 100 |      |     |     |     |     |
| ROX         | P*    | 01 | 35 | 11.4 |     | 0.6  | 100 | 1.48 | 98  |     |     |     |
| OBZ         | P*    | 01 | 35 | 14.5 |     | -0.6 | 100 | 1.74 | 160 |     |     |     |
|             | S*    |    |    | 37.5 |     | -0.6 | 100 |      |     |     |     |     |
| GSP         | eP*   | 01 | 35 | 26   |     | 1.4  | 100 | 2.29 | 61  |     |     |     |
|             | S*    |    |    | 57   |     | 2.2  | 99  |      |     |     |     |     |
| MJZ         | P*    | 01 | 35 | 29.0 |     | -1.7 | 100 | 2.65 | 62  |     | 3.9 | 3.6 |
|             | i     |    |    | 34.0 |     |      |     |      |     |     |     |     |
|             | eS*   |    | 36 | 03   |     | -2.4 | 99  |      |     |     |     |     |
| KAI         |       |    |    |      |     |      |     | 4.09 | 49  | 3.9 |     |     |
| GPZ         |       |    |    |      |     |      |     | 4.18 | 70  | 3.9 |     |     |
| MNG         | e(Pn) | 01 | 36 | 41   |     | 6.9  |     | 7.64 | 55  |     | 3.8 |     |
| AMPLITUDES: | MSZ   |    |    | 25   |     | OBZ  | 2.8 | 17   | MJZ |     | 2.2 | 2.0 |
|             | KAI   |    |    | 0.2  |     | GPZ  | 0.3 |      | MNG |     | 0.2 |     |

FELT: Te Anau Downs (130) MM IV

JUL 09 01<sup>h</sup>36<sup>m</sup>10<sup>s</sup>.2 45°.31s 167°.15E 12 km M= 4.0  
 ± 1.3 0.04 0.11 R S.E. of RES. 1.5

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| MNW         | P*    | 01 | 36 | 22.0    |     | 0.9  | 100 | 0.57 | 145 |     |     |     |
| MSZ         | P*    | 01 | 36 | 25.3    |     | -0.4 | 100 | 0.85 | 40  |     | 4.1 |     |
|             | S*    |    |    | 35.2    |     | -1.9 | 99  |      |     |     |     |     |
| ROX         | P*    | 01 | 36 | 38.0    |     | 0.4  | 100 | 1.54 | 97  |     |     |     |
|             | eS*   |    |    | 56.6    |     | -1.3 | 100 |      |     |     |     |     |
| OBZ         | P*    | 01 | 36 | 40.5    |     | -0.3 | 100 | 1.73 | 157 |     |     |     |
|             | S*    |    |    | 37 03.0 |     | -0.6 | 100 |      |     |     |     |     |
| GSP         | eS*   | 01 | 37 | 25      |     | 2.4  | 99  | 2.36 | 61  |     |     |     |
| MJZ         | eP*   | 01 | 36 | 58.5    |     | 0.8  | 100 | 2.72 | 62  |     | 3.9 |     |
| KAI         |       |    |    |         |     |      |     | 4.16 | 49  | 3.9 |     |     |
| GPZ         |       |    |    |         |     |      |     | 4.25 | 70  | 3.9 |     |     |
| AMPLITUDES: | MSZ   |    |    | 24      |     | OBZ  | 2.8 | 15   | MJZ |     | 2.0 |     |
|             | KAI   |    |    | 0.2     |     | GPZ  | 0.3 |      |     |     |     |     |

FELT: Te Anau Downs (130) MM IV

JUL 10 20<sup>h</sup>16<sup>m</sup>45<sup>s</sup>.5 41°.62s 172°.90E 110 km M= 3.7  
 ± 0.5 0.03 0.05 7 S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|-----|-----|
| COB | P     | 20 | 17 | 03.2 |     | 0.3  | 100 | 0.55 | 347 |      |     |     |
| KKY | P     | 20 | 17 | 08.4 |     | 1.6  | 99  | 0.99 | 144 |      |     |     |
|     | i     |    |    | 10.4 |     |      |     |      |     |      |     |     |
|     | eS    |    |    | 23.7 |     | 0.7  | 100 |      |     |      |     |     |
|     | i     |    |    | 26.8 |     |      |     |      |     |      |     |     |
| KAI | S     | 20 | 17 | 31.0 |     | -1.0 | 100 | 1.43 | 231 | 3.8* |     |     |

|             |      |             |             |          |      |           |
|-------------|------|-------------|-------------|----------|------|-----------|
| WEL         | S    | 20 17 32.0  | -0.2 100    | 1.44 77  | 3.7  |           |
| GPZ         | S    | 20 17 44.0  | -1.8 98     | 2.08 185 | 3.6* |           |
| MNG         | eP   | 20 17 22.0  | 0.4 100     | 2.20 64  |      |           |
|             | i    | 26.7        |             |          |      |           |
|             | e    | 49          |             |          |      |           |
| MJZ         | P    | 20 17 33.0  | 0.9 100     | 2.97 216 |      | 3.0* 3.1* |
|             | S    | 18 06.5     | -0.6 100    |          |      |           |
| GSZ         | e(P) | 20 17 39    | 4.9         | 3.11 42  |      |           |
|             | e(S) | 18 18.5     | 7.8         |          |      |           |
| GSP         | P    | 20 17 36.7  | 0.3 100     | 3.28 219 |      |           |
|             | S    | 18 15.5     | 0.6 100     |          |      |           |
| KRP         | e    | 20 17 51.5  |             | 4.22 30  |      | 3.3* 2.9* |
|             | eS   | 18 37.2     | -0.3 100    |          |      |           |
| GNZ         | S    | 20 18 53.8  | -1.0 100    | 4.93 54  |      |           |
| AMPLITUDES: |      | KAI 1.7     | WEL 0.7     | GPZ 1.3  |      |           |
|             |      | MJZ 0.7 1.4 | KRP 0.7 0.3 |          |      |           |

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JUL 11    15<sup>h</sup>40<sup>m</sup>59<sup>s</sup>.3    39°.38s    177°.93E    12 km    M = 4.1  
                                  ± 1.0            0.04            0.07            R    S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| GNZ | Pg    | 15 | 41 | 14.5 |     | -0.0 | 100 | 0.75 | 5   |     |         |
|     | Sg    |    |    | 25.2 |     | 0.6  | 100 |      |     |     |         |
| TUA | Pg    | 15 | 41 | 13.2 |     | -3.3 | 97  | 0.84 | 313 |     |         |
| TRZ | Pg    | 15 | 41 | 17.0 |     | -0.2 | 100 | 0.88 | 259 |     | 4.1     |
|     | eSg   |    |    | 30.5 |     | 1.3  | 100 |      |     |     |         |
| WTZ | Pn    | 15 | 41 | 24.0 |     | -2.5 | 99  | 1.58 | 332 |     | 4.0 4.3 |
|     | i     |    |    | 26.1 |     |      |     |      |     |     |         |
|     | iP*   |    |    | 28.1 |     | 0.6  | 100 |      |     |     |         |
|     | iPg   |    |    | 31.8 |     | 0.4  | 100 |      |     |     |         |
|     | Sn    |    |    | 44.7 |     | -2.0 | 99  |      |     |     |         |
| WNZ | ePg   | 15 | 41 | 31.5 |     | -0.5 | 100 | 1.61 | 297 |     | 4.4     |
|     | e     |    |    | 35   |     |      |     |      |     |     |         |
| ECZ | ePn   | 15 | 41 | 29.8 |     | 1.0  | 100 | 1.75 | 16  |     | 3.7     |
|     | ePg   |    |    | 37.0 |     | 2.1  |     |      |     |     |         |
| GSZ | Pn    | 15 | 41 | 31.8 |     | 2.0  | 99  | 1.83 | 273 |     |         |
|     | iP*   |    |    | 33.6 |     | 1.9  | 100 |      |     |     |         |
| MNG | Pn    | 15 | 41 | 35.2 |     | -0.4 | 100 | 2.25 | 236 |     |         |
|     | ePg   |    |    | 45.3 |     | 0.4  | 100 |      |     |     |         |
|     | e     |    |    | 51.2 |     |      |     |      |     |     |         |
|     | eSn   |    | 42 | 01   |     | -1.8 | 100 |      |     |     |         |
| KRP | ePn   | 15 | 41 | 37.0 |     | -0.3 | 100 | 2.38 | 307 |     | 4.1     |
|     | e     |    |    | 39.3 |     |      |     |      |     |     |         |
|     | iP*   |    |    | 42.2 |     | 1.1  | 100 |      |     |     |         |
|     | ePg   |    |    | 49.0 |     | 1.6  | 100 |      |     |     |         |
| TNZ | ePn   | 15 | 41 | 44.0 |     | 1.4  | 100 | 2.77 | 273 |     | 4.2     |
|     | eP*   |    |    | 49.2 |     | 1.5  | 100 |      |     |     |         |
|     | ePg   |    |    | 54.2 |     | -1.1 | 100 |      |     |     |         |
| WEL | eSn   | 15 | 42 | 21   |     | -1.7 | 100 | 3.08 | 231 | 4.1 |         |
| GPZ | eSn   | 15 | 43 | 26   |     | -3.5 |     | 5.86 | 221 | 4.0 |         |
| KAI | eSn   | 15 | 43 | 27   |     | -2.4 |     | 5.86 | 235 | 4.4 |         |

AMPLITUDES: TRZ 6.2    WTZ 4.0 6.6    WNZ 0.7  
                          ECZ 0.3    KRP 1.5    TNZ 0.3  
                          WEL 0.5    GPZ 0.2    KAI 0.3

FELT: Wairoa (53) MM IV



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JUL 12 19<sup>h</sup>23<sup>m</sup>11<sup>s</sup>.6 31°.60s 179°.92E 476 km M = 4.9  
 ± 2.7 0.20 0.63 24 S.E. of RES. 2.1

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST  | AZ  | W-A  | W | P    | W | S    |
|-----|-------|----|----|-------|-----|------|-----|-------|-----|------|---|------|---|------|
| ECZ | S     | 19 | 26 | 09.5  |     | 2.1  | 100 | 6.19  | 190 |      |   |      |   | 4.9  |
| WIZ | P     | 19 | 24 | 54.8  |     | -1.4 | 100 | 6.82  | 200 |      |   | 5.0  |   | 4.7  |
|     | eS    |    | 26 | 17    |     | -2.0 | 100 |       |     |      |   |      |   |      |
| GNZ | S     | 19 | 26 | 24.5  |     | -1.8 | 100 | 7.21  | 192 |      |   |      |   | 5.0  |
| KRP | eP    | 19 | 25 | 04    |     | 3.0  | 99  | 7.27  | 209 |      |   | 3.2* |   |      |
| TRZ | e     | 19 | 26 | 44    |     |      |     | 8.33  | 197 |      |   |      |   | 5.0  |
|     | eS    |    |    | 50.5  |     | 2.4  | 99  |       |     |      |   |      |   |      |
| MNG | eP    | 19 | 25 | 25.3  |     | -1.7 | 100 | 9.70  | 201 |      |   | 4.9  |   | 4.8  |
|     | e     |    | 27 | 07    |     |      |     |       |     |      |   |      |   |      |
|     | eS    |    |    | 14    |     | -0.7 | 100 |       |     |      |   |      |   |      |
| WEL | eS    | 19 | 27 | 30    |     | -1.0 | 100 | 10.53 | 202 | 4.8  |   |      |   |      |
| COB | eP    | 19 | 25 | 42    |     | 0.0  | 100 | 11.11 | 209 |      |   | 3.6* |   | 3.2* |
|     | eS    |    |    | 27 42 |     | -0.4 | 100 |       |     |      |   |      |   |      |
| GPZ | eS    | 19 | 28 | 28    |     | 1.3  | 100 | 13.38 | 203 | 3.6* |   |      |   |      |

AMPLITUDES: ECZ 0.5 WTZ 1.3 0.7 GNZ 1.7  
 KRP 0.3 TRZ 0.7 MNG 1.5 1.6  
 WEL 0.2 COB 0.2 0.3 GPZ 0.2

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JUL 13 04<sup>h</sup>56<sup>m</sup>27<sup>s</sup>.9 40°.24s 173°.49E 191 km M = 3.8  
 ± 0.8 0.05 0.08 9 S.E. of RES. 1.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W | P    | W | S    |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|---|------|---|------|
| TNZ | eP    | 04 | 57 | 00.0 |     | 1.1  | 100 | 1.26 | 33  |      |   | 3.3* |   | 3.2* |
|     | e     |    |    | 05.0 |     |      |     |      |     |      |   |      |   |      |
|     | eS    |    |    | 22.8 |     | -0.0 | 100 |      |     |      |   |      |   |      |
| WEL | P     | 04 | 57 | 03.0 |     | 2.7  | 99  | 1.43 | 137 | 3.9  |   |      |   |      |
|     | S     |    |    | 26.0 |     | 0.6  | 100 |      |     |      |   |      |   |      |
| MNG | P     | 04 | 57 | 03.8 |     | 2.2  | 99  | 1.57 | 105 |      |   |      |   |      |
|     | S     |    |    | 26.5 |     | -1.2 | 100 |      |     |      |   |      |   |      |
| GSZ | P     | 04 | 57 | 06.0 |     | 1.2  | 100 | 1.88 | 60  |      |   |      |   |      |
|     | S     |    |    | 32.0 |     | -1.3 | 100 |      |     |      |   |      |   |      |
| KKY | P     | 04 | 57 | 10.4 |     | 2.4  | 99  | 2.19 | 176 |      |   |      |   |      |
|     | S     |    |    | 38.6 |     | -0.4 | 100 |      |     |      |   |      |   |      |
|     | i     |    |    | 40.5 |     |      |     |      |     |      |   |      |   |      |
|     | i     |    |    | 41.9 |     |      |     |      |     |      |   |      |   |      |
| TRZ | eP    | 04 | 57 | 13   |     | -0.5 | 100 | 2.65 | 76  |      |   | 3.8  |   | 3.7  |
|     | eS    |    |    | 48   |     | -0.6 | 100 |      |     |      |   |      |   |      |
| KAI | S     | 04 | 57 | 50.0 |     | -0.9 | 100 | 2.77 | 214 | 3.5* |   |      |   |      |
| KRP | eP    | 04 | 57 | 15.0 |     | -0.3 | 100 | 2.81 | 35  |      |   | 2.8* |   |      |
|     | e     |    |    | 29   |     |      |     |      |     |      |   |      |   |      |
| GNZ | P     | 04 | 57 | 28.1 |     | -0.2 | 100 | 3.86 | 67  |      |   | 4.6  |   | 3.1  |
|     | S     |    | 58 | 12.2 |     | -2.6 | 99  |      |     |      |   |      |   |      |
| MJZ | eP    | 04 | 57 | 36   |     | 1.3  | 100 | 4.36 | 210 |      |   | 2.8* |   | 3.0* |
|     | S     |    | 58 | 25   |     | -1.3 | 100 |      |     |      |   |      |   |      |
| GSP | eP    | 04 | 57 | 40   |     | 1.5  | 100 | 4.67 | 212 |      |   |      |   |      |
|     | S     |    | 58 | 33   |     | -0.2 | 100 |      |     |      |   |      |   |      |
| MSZ | eP    | 04 | 57 | 56.5 |     | 0.1  | 100 | 6.05 | 221 |      |   | 3.4* |   | 3.2* |
|     | eS    |    | 59 | 02   |     | -3.3 | 98  |      |     |      |   |      |   |      |

AMPLITUDES: TNZ 0.4 0.4 WEL 0.8 TRZ 0.2 0.4  
 KAI 0.5 KRP 0.3 GNZ 2.1 0.1  
 MJZ 0.3 0.8 MSZ 0.7 0.8

JUL 13 11<sup>h</sup>28<sup>m</sup>21<sup>s</sup>.9 37°.68S 176°.51E 200 km 77/ 441  
 ± 1.1 0.06 0.07 8 S.E. of RES. 1.7 M = 4.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|---|---|
| WTZ | P     | 11 | 28 | 47.4 |     | -1.7 | 100 | 0.49 | 129 |      | 3.6  | 3.9  |   |   |
|     | eS    |    | 29 | 07.5 |     | -2.5 | 99  |      |     |      |      |      |   |   |
| KRP | P     | 11 | 28 | 51.1 |     | 0.6  | 100 | 0.81 | 252 |      | 3.2* | 2.8* |   |   |
|     | S     |    | 29 | 12.0 |     | -0.7 | 100 |      |     |      |      |      |   |   |
| TUA | eP    | 11 | 28 | 55   |     | 1.5  | 100 | 1.23 | 156 |      | 4.1  | 4.4  |   |   |
|     | S     |    | 29 | 21   |     | 3.0  | 99  |      |     |      |      |      |   |   |
| GNZ | P     | 11 | 28 | 56.1 |     | -0.0 | 100 | 1.54 | 129 |      |      |      |   |   |
|     | S     |    | 29 | 20.0 |     | -2.6 | 99  |      |     |      |      |      |   |   |
| AUC | iP    | 11 | 28 | 57.0 |     | 0.2  | 100 | 1.60 | 300 |      |      |      |   |   |
| ECZ | eP    | 11 | 28 | 57.0 |     | 0.1  | 100 | 1.62 | 91  |      | 3.9  | 4.0  |   |   |
|     | i     |    |    | 59.8 |     |      |     |      |     |      |      |      |   |   |
|     | eS    |    | 29 | 24   |     | -0.0 | 100 |      |     |      |      |      |   |   |
| GSZ | P     | 11 | 29 | 00.0 |     | 1.9  | 100 | 1.75 | 204 |      |      |      |   |   |
|     | eS    |    |    | 27.5 |     | 1.3  | 100 |      |     |      |      |      |   |   |
| TRZ | eP    | 11 | 29 | 00.7 |     | 1.2  | 100 | 1.89 | 173 |      | 4.5  | 4.2  |   |   |
|     | i     |    |    | 05.7 |     |      |     |      |     |      |      |      |   |   |
|     | eS    |    |    | 29.8 |     | 1.2  | 100 |      |     |      |      |      |   |   |
|     | e     |    |    | 31.5 |     |      |     |      |     |      |      |      |   |   |
| TNZ | eP    | 11 | 29 | 05.0 |     | 1.6  | 100 | 2.25 | 227 |      | 3.4* |      |   |   |
| MNG | P     | 11 | 29 | 12.0 |     | -0.5 | 100 | 3.04 | 195 |      |      |      |   |   |
|     | e     |    |    | 49   |     |      |     |      |     |      |      |      |   |   |
|     | eS    |    |    | 52   |     | 0.3  | 100 |      |     |      |      |      |   |   |
| WEL | eP    | 11 | 29 | 22   |     | -0.4 | 100 | 3.84 | 200 | 4.4  |      |      |   |   |
|     | eS    |    | 30 | 07.5 |     | -1.7 | 100 |      |     |      |      |      |   |   |
| KAI | eS    | 11 | 31 | 01   |     | -2.6 | 99  | 6.23 | 217 | 3.6* |      |      |   |   |
| GPZ | eS    | 11 | 31 | 09   |     | -5.5 |     | 6.70 | 205 | 3.6* |      |      |   |   |

AMPLITUDES: WTZ 1.2 2.7 KRP 1.6 0.7 TUA 1.0 2.2  
 ECZ 0.5 0.7 TRZ 1.6 1.8 TNZ 0.3  
 WEL 0.5 KAI 0.3 GPZ 0.4

JUL 13 11<sup>h</sup>49<sup>m</sup>30<sup>s</sup>.5 37°.82S 176°.67E 170 km 77/ 442  
 ± 0.9 0.04 0.05 6 S.E. of RES. 1.3 M = 4.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|---|---|
| WTZ | P     | 11 | 49 | 52.7 |     | -0.9 | 100 | 0.30 | 123 |     |      |      |   |   |
|     | S     |    | 50 | 09.3 |     | -2.1 | 99  |      |     |     |      |      |   |   |
| KRP | P     | 11 | 49 | 57.3 |     | 0.8  | 100 | 0.90 | 263 |     | 3.1* | 2.5* |   |   |
|     | S     |    | 50 | 17.5 |     | 0.7  | 100 |      |     |     |      |      |   |   |
| TUA | eP    | 11 | 49 | 57.3 |     | -0.5 | 100 | 1.05 | 159 |     | 3.8  | 4.1  |   |   |
|     | S     |    | 50 | 19   |     | 0.1  | 100 |      |     |     |      |      |   |   |
| GNZ | P     | 11 | 50 | 00.2 |     | -0.2 | 100 | 1.35 | 128 |     | 4.3  | 4.5  |   |   |
|     | S     |    |    | 23.0 |     | -0.4 | 100 |      |     |     |      |      |   |   |
| ECZ | P     | 11 | 50 | 01.1 |     | -0.7 | 100 | 1.49 | 86  |     | 4.2  | 4.4  |   |   |
|     | S     |    |    | 27.2 |     | 1.2  | 100 |      |     |     |      |      |   |   |
| GSZ | P     | 11 | 50 | 05.3 |     | 1.5  | 100 | 1.68 | 210 |     |      |      |   |   |
| TRZ | eP    | 11 | 50 | 05   |     | 0.7  | 100 | 1.74 | 176 |     | 3.8  | 4.1  |   |   |
|     | e     |    |    | 24.8 |     |      |     |      |     |     |      |      |   |   |
|     | S     |    |    | 32   |     | 1.6  | 99  |      |     |     |      |      |   |   |
| AUC | P     | 11 | 50 | 05.1 |     | 0.3  | 100 | 1.79 | 302 |     |      |      |   |   |
| MNG | P     | 11 | 50 | 17.2 |     | -1.4 | 100 | 2.94 | 198 |     |      |      |   |   |
|     | S     |    |    | 54.2 |     | -1.4 | 100 |      |     |     |      |      |   |   |
| CAZ | S     | 11 | 51 | 00.8 |     | 1.7  | 99  | 3.10 | 186 |     |      |      |   |   |

|             |   |                 |      |     |      |     |     |
|-------------|---|-----------------|------|-----|------|-----|-----|
| WEL         | S | 11 51 12.7      | -1.4 | 100 | 3.76 | 202 | 4.1 |
| AMPLITUDES: |   | WTZ 3.9 2.7 KRP | 1.2  | 0.4 | TUA  | 0.7 | 1.6 |
|             |   | GNZ 5.2 12 ECZ  | 1.5  | 2.0 | TRZ  | 0.4 | 1.8 |
|             |   | WEL 0.3         |      |     |      |     |     |

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JUL 14 03<sup>h</sup>58<sup>m</sup>08<sup>s</sup>.9 45°.48s 167°.26E 72 km M = 3.7  
 ± 1.4 0.05 0.09 10 S.E. of RES. 1.3

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W   | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|---|------|-----|---|
| MNW         | P     | 03  | 58 | 21.5    |     | 0.1  | 100 | 0.40 | 140 |     |   |      |     |   |
|             | S     |     |    | 30.5    |     | -0.3 | 100 |      |     |     |   |      |     |   |
| MSZ         | P     | 03  | 58 | 26.8    |     | -0.3 | 100 | 0.94 | 30  |     |   | 4.2* |     |   |
|             | S     |     |    | 40.3    |     | -0.4 | 100 |      |     |     |   |      |     |   |
| ROX         | P     | 03  | 58 | 35.0    |     | 1.2  | 100 | 1.45 | 91  |     |   |      |     |   |
|             | S     |     |    | 54.2    |     | 1.5  | 99  |      |     |     |   |      |     |   |
| GSP         | P     | 03  | 58 | 47.0    |     | 0.4  | 100 | 2.38 | 57  |     |   |      |     |   |
|             | S     |     |    | 59 16.0 |     | 1.4  | 100 |      |     |     |   |      |     |   |
| OMZ         | P     | 03  | 58 | 49.8    |     | -0.1 | 100 | 2.62 | 82  |     |   | 3.6  | 3.5 |   |
|             | S     |     |    | 59 17.8 |     | -2.8 | 94  |      |     |     |   |      |     |   |
| MJZ         | P     | 03  | 58 | 50.5    |     | -1.0 | 100 | 2.74 | 58  |     |   |      |     |   |
|             | S     |     |    | 59 22.8 |     | -0.7 | 100 |      |     |     |   |      |     |   |
| KAI         | eS    | 04  | 00 | 01      |     | 0.6  | 100 | 4.21 | 47  | 3.9 |   |      |     |   |
|             | e     |     |    | 09      |     |      |     |      |     |     |   |      |     |   |
| GPZ         | eP    | 03  | 59 | 11.0    |     | -1.6 |     | 4.25 | 67  | 3.8 |   |      |     |   |
|             | eS    |     |    | 56.0    |     | -5.3 |     |      |     |     |   |      |     |   |
| COB         | eS    | 04  | 00 | 39      |     | -4.5 |     | 5.94 | 44  |     |   |      | 3.6 |   |
| AMPLITUDES: |       | MSZ |    | 22      |     | OMZ  |     | 0.6  | 0.8 | KAI |   | 0.3  |     |   |
|             |       | GPZ |    | 0.3     |     | COB  |     |      | 0.3 |     |   |      |     |   |

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JUL 14 13<sup>h</sup>38<sup>m</sup>03<sup>s</sup>.5 39°.16s 174°.79E 12 km M = 3.8  
 ± 0.2 0.01 0.02 R S.E. of RES. 0.9

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| TNZ         | P*    | 13  | 38 | 09.8    |     | -0.3 | 100 | 0.32 | 265 |     |   |     |     |   |
| GSZ         | P*    | 13  | 38 | 15.2    |     | -0.2 | 100 | 0.63 | 101 |     |   |     |     |   |
|             | eS*   |     |    | 24.3    |     | 0.3  | 100 |      |     |     |   |     |     |   |
| KRP         | P*    | 13  | 38 | 27.8    |     | -0.1 | 100 | 1.37 | 26  |     |   | 3.7 | 4.0 |   |
|             | S*    |     |    | 46.2    |     | 0.1  | 100 |      |     |     |   |     |     |   |
| MNG         | P*    | 13  | 38 | 30.6    |     | -0.5 | 100 | 1.55 | 160 |     |   |     |     |   |
|             | eS*   |     |    | 52      |     | 0.3  | 100 |      |     |     |   |     |     |   |
| TRZ         | eP*   | 13  | 38 | 33      |     | 0.6  | 100 | 1.62 | 105 |     |   | 3.4 | 3.7 |   |
|             | e     |     |    | 39      |     |      |     |      |     |     |   |     |     |   |
|             | e     |     |    | 39 04   |     |      |     |      |     |     |   |     |     |   |
| WEL         | P*    | 13  | 38 | 39.8    |     | -1.1 | 99  | 2.12 | 180 | 3.9 |   |     |     |   |
|             | S*    |     |    | 39 08.2 |     | -0.6 | 100 |      |     |     |   |     |     |   |
| AUC         | eP*   | 13  | 38 | 46      |     | 2.2  | 93  | 2.29 | 360 |     |   |     |     |   |
|             | eS*   |     |    | 39 12.5 |     | -1.5 | 99  |      |     |     |   |     |     |   |
| COB         | ePn   | 13  | 38 | 43.0    |     | 0.0  | 100 | 2.49 | 219 |     |   | 3.9 | 3.7 |   |
|             | eP*   |     |    | 47.2    |     | 0.1  | 100 |      |     |     |   |     |     |   |
|             | eSn   |     |    | 39 12.8 |     | 0.1  | 100 |      |     |     |   |     |     |   |
|             | S*    |     |    | 21      |     | 1.2  | 99  |      |     |     |   |     |     |   |
| KAI         |       |     |    |         |     |      |     | 4.23 | 216 | 3.9 |   |     |     |   |
| GPZ         | eSn   | 13  | 40 | 08      |     | -0.5 | 100 | 4.81 | 199 | 3.9 |   |     |     |   |
| AMPLITUDES: |       | KRP |    | 4.3     | 9.2 | TRZ  |     | 0.2  | 0.4 | WEL |   | 0.7 |     |   |
|             |       | COB |    | 0.8     | 1.6 | KAI  |     | 0.2  |     | GPZ |   | 0.2 |     |   |

JUL 15 10<sup>h</sup>53<sup>m</sup>09<sup>s</sup>.2 44°.59S 168°.04E 12 km 77/ 445  
 ± 0.6 0.03 0.04 R S.E. of RES. 1.2 M = 3.5

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| MSZ         | Pg    | 10  | 53  | 13.0    |     | 0.5  | 100 | 0.13 | 227 |     |   |     |     |   |
| MNW         | ePg   | 10  | 53  | 34      |     | -0.2 | 100 | 1.23 | 194 |     |   |     |     |   |
|             | eSg   |     |     | 51      |     | 0.2  | 100 |      |     |     |   |     |     |   |
| ROX         | Pg    | 10  | 53  | 33.7    |     | -1.2 | 100 | 1.27 | 135 |     |   |     |     |   |
|             | Sg    |     |     | 53      |     | 0.9  | 100 |      |     |     |   |     |     |   |
| GSP         | Pg    | 10  | 53  | 39.0    |     | -0.3 | 100 | 1.48 | 73  |     |   |     |     |   |
|             | i     |     |     | 42.5    |     |      |     |      |     |     |   |     |     |   |
|             | Sg    |     |     | 54 02.0 |     | 2.5  | 96  |      |     |     |   |     |     |   |
| MJZ         | eP*   | 10  | 53  | 43.0    |     | 1.2  | 100 | 1.84 | 72  |     |   | 3.3 | 3.3 |   |
|             | ePg   |     |     | 45.2    |     | -1.3 | 100 |      |     |     |   |     |     |   |
|             | Sg    |     |     | 54 09.5 |     | -1.8 | 99  |      |     |     |   |     |     |   |
| OMZ         | eP*   | 10  | 53  | 46      |     | -0.2 | 100 | 2.10 | 104 |     |   | 3.7 | 3.4 |   |
|             | ePg   |     |     | 51.2    |     | -0.5 | 100 |      |     |     |   |     |     |   |
|             | eSg   |     |     | 54 20   |     | -0.0 | 100 |      |     |     |   |     |     |   |
| OBZ         |       |     |     |         |     |      |     | 2.32 | 179 |     |   |     |     |   |
| KAI         | eSg   | 10  | 54  | 53      |     | -4.0 |     | 3.20 | 51  | 3.9 |   |     |     |   |
| GPZ         |       |     |     |         |     |      |     | 3.43 | 77  | 3.6 |   |     |     |   |
| COB         | eSn   | 10  | 55  | 17      |     | 0.3  | 100 | 4.91 | 46  |     |   |     | 3.5 |   |
| AMPLITUDES: |       |     |     |         |     |      |     |      |     |     |   |     |     |   |
|             |       | MJZ |     | 1.1     | 1.9 | OMZ  |     | 0.6  | 0.6 | OBZ |   | 0.5 | 0.7 |   |
|             |       | KAI | 0.3 |         |     | GPZ  | 0.2 |      |     | COB |   |     | 0.3 |   |

JUL 15 22<sup>h</sup>12<sup>m</sup>11<sup>s</sup>.5 40°.21S 177°.15E 20 km 77/ 446  
 ± 0.5 0.03 0.04 4 S.E. of RES. 1.1 M = 4.3

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| TRZ | P*    | 22 | 12 | 25.5    |     | 0.8  | 100 | 0.70 | 338 |     |   |     |     |   |
| MNG | P*    | 22 | 12 | 35.0    |     | -0.6 | 100 | 1.34 | 252 |     |   |     |     |   |
| TUA | P*    | 22 | 12 | 35.8    |     | -0.7 | 100 | 1.39 | 360 |     |   | 4.1 | 4.5 |   |
|     | e     |    |    | 51      |     |      |     |      |     |     |   |     |     |   |
| GSZ | P*    | 22 | 12 | 37.9    |     | -0.7 | 100 | 1.52 | 307 |     |   |     |     |   |
|     | S*    |    |    | 57.0    |     | -1.8 | 99  |      |     |     |   |     |     |   |
| GNZ | P*    | 22 | 12 | 42.2    |     | 0.6  | 100 | 1.70 | 24  |     |   |     |     |   |
|     | e     |    |    | 52.6    |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 55.5    |     |      |     |      |     |     |   |     |     |   |
|     | eS*   |    | 13 | 04      |     | -0.1 | 100 |      |     |     |   |     |     |   |
|     | e     |    |    | 19      |     |      |     |      |     |     |   |     |     |   |
| WNZ | eP*   | 22 | 12 | 42.8    |     | -0.1 | 100 | 1.77 | 332 |     |   | 4.8 |     |   |
|     | e     |    |    | 44.8    |     |      |     |      |     |     |   |     |     |   |
| WEL | ePn   | 22 | 12 | 46.0    |     | 1.0  | 100 | 2.12 | 238 | 4.1 |   |     |     |   |
|     | e     |    |    | 54.3    |     |      |     |      |     |     |   |     |     |   |
|     | eSn   |    | 13 | 11.0    |     | 0.8  | 100 |      |     |     |   |     |     |   |
|     | eS*   |    |    | 18.5    |     | 2.1  | 98  |      |     |     |   |     |     |   |
| WTZ | Pn    | 22 | 12 | 47.2    |     | 0.7  | 100 | 2.22 | 357 |     |   | 4.2 |     |   |
|     | eP*   |    |    | 51.8    |     | 1.2  | 100 |      |     |     |   |     |     |   |
|     | e     |    |    | 57      |     |      |     |      |     |     |   |     |     |   |
| TNZ | P*    | 22 | 12 | 52.2    |     | -0.9 | 100 | 2.37 | 295 |     |   | 4.5 |     |   |
|     | e     |    |    | 56.0    |     |      |     |      |     |     |   |     |     |   |
|     | eS*   |    | 13 | 26      |     | 1.8  | 99  |      |     |     |   |     |     |   |
| KRP | Pn    | 22 | 12 | 51.3    |     | -0.4 | 100 | 2.60 | 331 |     |   | 4.4 |     |   |
|     | eP*   |    |    | 57.0    |     | -0.1 | 100 |      |     |     |   |     |     |   |
|     | i     |    |    | 13 01.9 |     |      |     |      |     |     |   |     |     |   |
| ECZ | eP*   | 22 | 13 | 03.0    |     | 3.7  |     | 2.74 | 24  |     |   | 4.0 |     |   |



|             |     |            |      |         |      |     |     |     |
|-------------|-----|------------|------|---------|------|-----|-----|-----|
| KKY         | Pn  | 22 13 02.8 | -0.1 | 100     | 3.42 | 229 |     |     |
|             | P*  | 09.8       | -1.2 | 100     |      |     |     |     |
|             | e   | 40.8       |      |         |      |     |     |     |
| COB         | ePn | 22 13 03   | -0.7 | 100     | 3.48 | 254 | 4.5 | 3.9 |
|             | eP* | 11.0       | -0.9 | 100     |      |     |     |     |
|             | e   | 15.0       |      |         |      |     |     |     |
|             | e   | 48         |      |         |      |     |     |     |
| GPZ         | Sn  | 22 14 15.0 | -1.0 | 100     | 4.85 | 222 | 4.3 |     |
| AMPLITUDES: | TUA | 2.1 5.3    | WNZ  | 1.3     | WEL  | 1.1 |     |     |
|             | WIZ | 3.2        | TNZ  | 1.8     | KRP  | 2.2 |     |     |
|             | ECZ | 0.3        | COB  | 1.6 1.4 | GPZ  | 0.6 |     |     |

FELT: Mt Vernon, Waipawa (60), MM IV

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JUL 17 03<sup>h</sup>12<sup>m</sup>38<sup>s</sup>.0 41°.81s 174°.45E 12 km M = 4.0  
 ± 0.6 0.05 0.08 R S.E. of RES. 1.8

| STN         | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-------|------|---|-----|------|-----|------|-----|-----|---------|
| WEL         | P*    | 03 12 | 49.1 |   |     | 0.1  | 100 | 0.58 | 25  | 4.5 |         |
|             | S*    |       | 57.0 |   |     | 0.1  | 100 |      |     |     |         |
| KKY         | P*    | 03 12 | 54.2 |   |     | 0.8  | 100 | 0.83 | 223 |     |         |
|             | S*    | 13    | 06.6 |   |     | 2.0  | 100 |      |     |     |         |
| MNG         | iPn   | 03 13 | 00.9 |   |     | -2.0 | 100 | 1.42 | 34  |     |         |
| COB         | Pn    | 03 13 | 03.0 |   |     | -0.7 | 100 | 1.48 | 299 |     |         |
|             | iP*   |       | 05.2 |   |     | 0.8  | 100 |      |     |     |         |
| CAZ         | eP*   | 03 13 | 10   |   |     | 3.3  | 99  | 1.62 | 56  |     |         |
| GPZ         | ePn   | 03 13 | 13.0 |   |     | -2.0 | 100 | 2.31 | 215 |     |         |
|             | eSn   |       | 38.3 |   |     | -4.5 |     |      |     |     |         |
|             | eS*   |       | 54   |   |     | 5.1  |     |      |     |     |         |
| KAI         | eP*   | 03 13 | 24   |   |     | 4.3  |     | 2.38 | 251 | 3.8 |         |
|             | e     |       | 36   |   |     |      |     |      |     |     |         |
|             | e     | 14    | 08.5 |   |     |      |     |      |     |     |         |
| TNZ         | e     | 03 13 | 28.0 |   |     |      |     | 2.62 | 359 |     |         |
|             | eSn   |       | 52.0 |   |     | 1.6  | 100 |      |     |     |         |
| GSZ         | eP*   | 03 13 | 26.7 |   |     | 1.9  | 100 | 2.67 | 19  |     |         |
|             | Sn    |       | 50.0 |   |     | -1.6 |     |      |     |     |         |
| TRZ         | eP*   | 03 13 | 30   |   |     | 1.5  | 100 | 2.89 | 39  |     | 3.8     |
|             | e     |       | 40   |   |     |      |     |      |     |     |         |
| MJZ         | ePn   | 03 13 | 32.5 |   |     | -0.8 | 100 | 3.65 | 232 |     | 3.6     |
|             | e     |       | 49   |   |     |      |     |      |     |     |         |
|             | eSn   | 14    | 13   |   |     | -2.0 | 100 |      |     |     |         |
| KRP         | P*    | 03 13 | 46.3 |   |     | -0.6 | 100 | 3.97 | 13  |     | 4.5     |
|             | eS*   | 14    | 37.8 |   |     | -0.9 | 100 |      |     |     |         |
| GSP         | Pn    | 03 13 | 38.8 |   |     | 0.7  | 100 | 4.00 | 233 |     |         |
|             | eP*   |       | 53.2 |   |     | 5.8  |     |      |     |     |         |
| GNZ         | eSn   | 03 14 | 24.5 |   |     | -3.4 | 99  | 4.18 | 42  |     |         |
| AMPLITUDES: | WEL   | 39    |      |   |     | KAI  | 0.5 |      | TRZ | 0.3 |         |
|             | MJZ   | 0.5   |      |   |     | KRP  | 0.9 |      |     |     |         |

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JUL 17 03<sup>h</sup>27<sup>m</sup>01<sup>s</sup>.9 46°.07s 167°.25E 33 km M = 3.7  
 ± 1.3 0.06 0.09 R S.E. of RES. 1.4

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ | W-A | W P W S |
|-----|-------|-------|------|---|-----|------|-----|------|----|-----|---------|
| MNW | P*    | 03 27 | 11.0 |   |     | 0.3  | 100 | 0.39 | 41 |     |         |
|     | eS*   |       | 17.6 |   |     | 0.5  | 100 |      |    |     |         |
| MSZ | P*    | 03 27 | 27.9 |   |     | -0.6 | 100 | 1.48 | 19 |     | 3.7 3.7 |
|     | S*    |       | 47.5 |   |     | -0.7 | 100 |      |    |     |         |

|             |     |         |      |      |     |      |     |     |     |     |
|-------------|-----|---------|------|------|-----|------|-----|-----|-----|-----|
| ROX         | P*  | 03 27   | 28.3 | -1.6 | 100 | 1.57 | 68  | 4.2 | 3.9 |     |
|             | S*  |         | 48.0 | -2.8 | 98  |      |     |     |     |     |
| GSP         | Pn  | 03 27   | 44.2 | 1.1  | 100 | 2.75 | 46  |     |     |     |
|             | eP* |         | 48.8 | -1.3 | 100 |      |     |     |     |     |
|             | e   |         | 53   |      |     |      |     |     |     |     |
|             | iS* | 28 27   |      | 0.8  | 100 |      |     |     |     |     |
| OMZ         | ePn | 03 27   | 43.2 | 0.1  | 100 | 2.76 | 70  | 3.6 | 3.5 |     |
|             | eP* |         | 49.8 | -0.4 | 100 |      |     |     |     |     |
|             | eS* | 28 28.8 |      | 2.4  | 99  |      |     |     |     |     |
| MJZ         | ePn | 03 27   | 48.5 | 0.9  | 100 | 3.09 | 49  | 3.3 |     |     |
|             | eP* |         | 57   | 1.2  | 100 |      |     |     |     |     |
| AMPLITUDES: | MSZ |         | 3.7  | 5.6  | ROX | 3.7  | 4.5 | OMZ | 0.3 | 0.5 |
|             | MJZ |         | 0.4  |      |     |      |     |     |     |     |

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JUL 17    06<sup>h</sup>27<sup>m</sup>09<sup>s</sup>.9    38°.79s    176°.13E    12 km    M = 3.3

RES. 1.4

± 0.4    0.02    0.02    R    S.E. of

| STN         | PHASE | H     | M | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-------|---|---------|-----|------|-----|------|-----|-----|---------|
| WNZ         | Pg    | 06 27 |   | 13.9    |     | 0.2  | 100 | 0.16 | 353 |     |         |
|             | i     |       |   | 16.1    |     |      |     |      |     |     |         |
| GSZ         | Pg    | 06 27 |   | 22.0    |     | -1.1 | 100 | 0.65 | 221 |     |         |
|             | Sg    |       |   | 33.8    |     | 1.9  | 99  |      |     |     |         |
| TUA         | ePg   | 06 27 |   | 25.0    |     | -1.1 | 100 | 0.80 | 92  | 3.0 | 3.4     |
|             | Sg    |       |   | 35.8    |     | -1.2 | 100 |      |     |     |         |
| TRZ         | Pg    | 06 27 |   | 29.0    |     | 0.1  | 100 | 0.94 | 145 | 3.5 |         |
|             | i     |       |   | 31.0    |     |      |     |      |     |     |         |
|             | e     |       |   | 46.9    |     |      |     |      |     |     |         |
| KRP         | eP*   | 06 27 |   | 27.5    |     | -0.2 | 100 | 0.98 | 332 |     |         |
|             | ePg   |       |   | 30.0    |     | 0.2  | 100 |      |     |     |         |
|             | Sg    |       |   | 43.8    |     | 0.7  | 100 |      |     |     |         |
| WIZ         | Pg    | 06 27 |   | 29.2    |     | -2.0 | 99  | 1.05 | 40  | 3.2 |         |
|             | eSg   |       |   | 45.5    |     | 0.1  | 100 |      |     |     |         |
| TNZ         | ePg   | 06 27 |   | 38.5    |     | -0.1 | 100 | 1.42 | 253 |     |         |
|             | eSg   |       |   | 58      |     | 0.2  | 100 |      |     |     |         |
|             | e     |       |   | 28 02   |     |      |     |      |     |     |         |
| GNZ         | ePg   | 06 27 |   | 41.5    |     | 1.5  | 100 | 1.49 | 85  | 3.0 |         |
|             | eSg   |       |   | 28 03.0 |     | 2.8  | 98  |      |     |     |         |
|             | e     |       |   | 09.0    |     |      |     |      |     |     |         |
| MNG         | iPn   | 06 27 |   | 39.2    |     | -2.0 | 99  | 1.90 | 195 | 3.5 |         |
|             | eSn   |       |   | 28 01   |     | -3.7 |     |      |     |     |         |
| WEL         |       |       |   |         |     |      |     | 2.71 | 202 | 3.8 |         |
| AMPLITUDES: | TUA   |       |   | 0.4     | 1.0 | TRZ  | 1.1 | WIZ  |     | 1.1 |         |
|             | GNZ   |       |   | 0.3     |     | MNG  | 1.1 | WEL  | 0.2 |     |         |

FELT: Waitahanui (41) MM V

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JUL 17    19<sup>h</sup>17<sup>m</sup>53<sup>s</sup>.2    39°.39s    176°.73E    12 km    M = 3.3

RES. 1.3

± 0.4    0.02    0.03    R    S.E. of

| STN | PHASE | H     | M | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|---|---------|-----|------|-----|------|-----|-----|---------|
| TRZ | Pg    | 19 17 |   | 56.2    |     | -1.2 | 100 | 0.18 | 157 |     |         |
|     | Sg    |       |   | 18 00.3 |     | 0.1  | 100 |      |     |     |         |
| TUA | Pg    | 19 18 |   | 05.3    |     | -1.6 | 100 | 0.67 | 30  | 3.2 | 3.3     |
|     | Sg    |       |   | 16.0    |     | 0.0  | 100 |      |     |     |         |
| GSZ | Pg    | 19 18 |   | 13.5    |     | 2.1  | 99  | 0.89 | 277 |     |         |
|     | e     |       |   | 29.8    |     |      |     |      |     |     |         |
| WNZ | Pg    | 19 18 |   | 12.0    |     | 0.4  | 100 | 0.90 | 327 | 3.4 |         |

|             |     |    |    |      |      |     |      |     |     |
|-------------|-----|----|----|------|------|-----|------|-----|-----|
| GNZ         | eP* | 19 | 18 | 15.5 | -0.2 | 100 | 1.25 | 54  | 3.2 |
|             | ePg |    |    | 20.5 | 1.9  | 99  |      |     |     |
|             | Sg  |    |    | 36.8 | 1.2  | 100 |      |     |     |
| WTZ         | P*  | 19 | 18 | 18.7 | 0.1  | 100 | 1.42 | 8   | 3.2 |
|             | eSg |    |    | 39.8 | -1.3 | 100 |      |     |     |
| MNG         | eP* | 19 | 18 | 18.8 | -2.2 | 99  | 1.56 | 218 | 3.0 |
|             | ePg |    |    | 25.9 | 1.1  | 100 |      |     |     |
|             | e   |    |    | 30.9 |      |     |      |     |     |
| KRP         | eP* | 19 | 18 | 23.8 | -0.2 | 100 | 1.74 | 327 | 3.2 |
|             | ePg |    |    | 28.4 | 0.0  | 100 |      |     |     |
| TNZ         | ePg | 19 | 18 | 30.8 | 0.4  |     | 1.84 | 276 | 3.6 |
|             | eSg |    |    | 57   | 1.9  |     |      |     |     |
| AMPLITUDES: | TUA |    |    | 1.1  | 1.8  | WNZ | 0.2  | GNZ | 0.8 |
|             | WTZ |    |    | 0.8  |      | MNG | 0.8  | KRP | 0.3 |
|             | TNZ |    |    | 0.2  |      |     |      |     |     |

FELT: Napier (52)

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JUL 18 00<sup>h</sup>54<sup>m</sup>24<sup>s</sup>.3 37°.43s 176°.67E 283 km M = 4.6

RES. 1.2

± 1.0 0.06 0.07 6 S.E. of

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|------|------|---|---|
| WTZ         | P     | 00  | 55  | 00.2    |     | -1.1 | 100 | 0.61 | 155 |      | 4.6  | 4.4  |   |   |
|             | e     |     |     | 25.5    |     |      |     |      |     |      |      |      |   |   |
|             | S     |     |     | 28.8    |     | -1.5 | 99  |      |     |      |      |      |   |   |
| KRP         | P     | 00  | 55  | 03.2    |     | 0.1  | 100 | 1.03 | 241 |      | 3.9* |      |   |   |
|             | eS    |     |     | 34.5    |     | 1.0  | 100 |      |     |      |      |      |   |   |
| TUA         | P     | 00  | 55  | 05.3    |     | -0.1 | 100 | 1.42 | 165 |      | 4.4  | 4.8  |   |   |
|             | S     |     |     | 36.5    |     | -1.0 | 100 |      |     |      |      |      |   |   |
| ECZ         | P     | 00  | 55  | 06.6    |     | 0.5  | 100 | 1.52 | 100 |      | 4.6  | 4.5  |   |   |
|             | e     |     |     | 31.0    |     |      |     |      |     |      |      |      |   |   |
|             | S     |     |     | 38.8    |     | 0.2  | 100 |      |     |      |      |      |   |   |
| GNZ         | P     | 00  | 55  | 07.1    |     | 0.3  | 100 | 1.62 | 139 |      |      |      |   |   |
|             | S     |     |     | 39.0    |     | -0.8 | 100 |      |     |      |      |      |   |   |
| TRZ         | P     | 00  | 55  | 12.2    |     | 1.3  | 100 | 2.12 | 177 |      | 4.9  | 4.6  |   |   |
|             | S     |     |     | 50.2    |     | 3.1  | 89  |      |     |      |      |      |   |   |
| TNZ         | P     | 00  | 55  | 16.1    |     | 1.7  | 99  | 2.51 | 225 |      | 3.7* |      |   |   |
| MNG         | P     | 00  | 55  | 22.1    |     | -0.3 | 100 | 3.31 | 196 |      |      |      |   |   |
|             | eS    |     |     | 56 07.8 |     | -0.1 | 100 |      |     |      |      |      |   |   |
| WEL         | eP    | 00  | 55  | 31      |     | -0.4 | 100 | 4.12 | 200 | 4.5  |      |      |   |   |
|             | eS    |     |     | 56 24   |     | 0.0  | 100 |      |     |      |      |      |   |   |
| COB         | P     | 00  | 55  | 37.8    |     | -1.0 | 100 | 4.76 | 219 |      | 4.0* | 3.4* |   |   |
|             | S     |     |     | 56 36.0 |     | -1.1 | 100 |      |     |      |      |      |   |   |
| GPZ         | eP    | 00  | 56  | 04.0    |     | -1.5 |     | 6.97 | 205 | 3.6* |      |      |   |   |
|             | eS    |     |     | 57 23   |     | -2.3 |     |      |     |      |      |      |   |   |
| AMPLITUDES: | WTZ   | 4.8 | 4.0 |         | KRP | 5.2  |     | TUA  | 1.2 | 2.8  |      |      |   |   |
|             | ECZ   | 1.7 | 1.3 |         | TRZ | 2.2  | 2.8 | TNZ  | 0.5 |      |      |      |   |   |
|             | WEL   | 0.5 |     |         | COB | 1.3  | 1.0 | GPZ  | 0.4 |      |      |      |   |   |

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JUL 18 03<sup>h</sup>18<sup>m</sup>47<sup>s</sup>.3 38°.60s 176°.20E 12 km M = 2.4

RES. 2.9

± R R R S.E. of

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WNZ | Pg    | 03 | 18 | 47.0 |     | -3.0 | 100 | 0.08 | 248 |     |     |     |   |   |
|     | i     |    |    | 48.0 |     |      |     |      |     |     |     |     |   |   |
| KRP | ePg   | 03 | 19 | 05.0 |     | 0.3  | 100 | 0.85 | 322 |     | 2.5 | 2.3 |   |   |
|     | eSg   |    |    | 19.0 |     | 2.7  | 100 |      |     |     |     |     |   |   |

AMPLITUDES: KRP 0.3 0.2

FELT: Wairakei (41)

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JUL 18 19<sup>h</sup>57<sup>m</sup>13<sup>s</sup>.0 38°.23S 176°.13E 167 km M = 4.1  
 ± 1.0 0.05 0.06 8 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|---|---|
| KRP | P     | 19 | 57 | 37.5    |     | 0.8  | 100 | 0.56 | 303 |     | 3.2* | 2.8* |   |   |
|     | S     |    |    | 55.2    |     | 0.3  | 100 |      |     |     |      |      |   |   |
| WTZ | P     | 19 | 57 | 37.0    |     | -0.6 | 100 | 0.72 | 70  |     | 3.9  | 4.1  |   |   |
|     | i     |    |    | 51.2    |     |      |     |      |     |     |      |      |   |   |
|     | S     |    |    | 54.8    |     | -1.7 | 100 |      |     |     |      |      |   |   |
| TUA | P     | 19 | 57 | 39      |     | -0.4 | 100 | 0.99 | 126 |     | 3.7  | 4.1  |   |   |
|     | S     |    |    | 58.5    |     | -1.3 | 100 |      |     |     |      |      |   |   |
| TRZ | P     | 19 | 57 | 44.8    |     | 1.4  | 100 | 1.43 | 158 |     | 4.3  | 4.0  |   |   |
|     | S     |    |    | 58 09.0 |     | 2.1  | 99  |      |     |     |      |      |   |   |
| TNZ | eP    | 19 | 57 | 48.8    |     | 2.9  | 98  | 1.67 | 235 |     | 3.1* |      |   |   |
| ECZ | P     | 19 | 57 | 49.3    |     | 0.0  | 100 | 1.99 | 75  |     | 4.5  | 4.3  |   |   |
|     | S     |    |    | 58 17.8 |     | 0.5  | 100 |      |     |     |      |      |   |   |
| MNG | P     | 19 | 57 | 55.1    |     | 0.4  | 100 | 2.44 | 192 |     |      |      |   |   |
|     | S     |    |    | 58 26.8 |     | 0.0  | 100 |      |     |     |      |      |   |   |
| WEL | P     | 19 | 58 | 04.8    |     | 0.3  | 100 | 3.23 | 199 | 4.1 |      |      |   |   |
|     | eS    |    |    | 43      |     | -1.2 | 100 |      |     |     |      |      |   |   |
| COB | eP    | 19 | 58 | 10.5    |     | -2.4 | 99  | 3.88 | 222 |     |      |      |   |   |
|     | S     |    |    | 58      |     | -1.1 | 100 |      |     |     |      |      |   |   |

AMPLITUDES: KRP 2.0 0.9 WTZ 2.7 5.0 TUA 0.7 1.6  
 TRZ 1.6 1.7 TNZ 0.2 ECZ 1.7 1.1  
 WEL 0.4

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JUL 19 20<sup>h</sup>57<sup>m</sup>23<sup>s</sup>.1 37°.09S 178°.15E 145 km M = 4.4  
 ± 2.2 0.14 0.12 12 S.E. of RES. 1.8

| STN | PHASE | H  | M  | S        | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-----|-------|----|----|----------|-----|------|-----|------|-----|------|------|------|---|---|
| ECZ | P     | 20 | 57 | 44.0     |     | -1.0 | 100 | 0.68 | 152 |      | 4.1  | 4.5  |   |   |
|     | S     |    |    | 58 02.8  |     | 0.9  | 100 |      |     |      |      |      |   |   |
| WTZ | P     | 20 | 57 | 49.1     |     | -1.1 | 100 | 1.29 | 225 |      |      |      |   |   |
|     | e     |    |    | 58 10.0  |     |      |     |      |     |      |      |      |   |   |
| KRP | P     | 20 | 58 | 01.2     |     | 0.0  | 100 | 2.24 | 247 |      | 3.6* | 3.3* |   |   |
|     | S     |    |    | 30.0     |     | -0.2 | 100 |      |     |      |      |      |   |   |
| GSZ | P     | 20 | 58 | 14.0     |     | 3.3  | 96  | 2.98 | 222 |      |      |      |   |   |
|     | eS    |    |    | 54.5     |     | 7.5  |     |      |     |      |      |      |   |   |
|     | e     |    |    | 59 00.8  |     |      |     |      |     |      |      |      |   |   |
| ONE | eP    | 20 | 58 | 16       |     | 0.8  |     | 3.32 | 292 |      |      |      |   |   |
| MNG | eP    | 20 | 58 | 23.9     |     | -1.5 | 100 | 4.09 | 210 |      |      |      |   |   |
|     | i     |    |    | 27.0     |     |      |     |      |     |      |      |      |   |   |
| WEL | eS    | 20 | 59 | 33       |     | -0.5 | 100 | 4.95 | 211 | 4.5  |      |      |   |   |
| COB | eP    | 20 | 58 | 48.5     |     | 0.4  | 100 | 5.80 | 225 |      | 3.6* | 3.4* |   |   |
|     | S     |    |    | 21 00 00 |     | 6.0  |     |      |     |      |      |      |   |   |
| KAI | eS    | 21 | 00 | 38       |     | 2.9  |     | 7.51 | 222 | 3.5* |      |      |   |   |
| GPZ | eS    | 21 | 00 | 40.8     |     | -1.9 |     | 7.83 | 211 | 3.7* |      |      |   |   |
|     | e     |    |    | 49.0     |     |      |     |      |     |      |      |      |   |   |

AMPLITUDES: ECZ 2.7 7.0 KRP 2.7 1.5 WEL 0.5  
 COB 0.4 1.0 KAI 0.2 GPZ 0.5



JUL 20 07<sup>h</sup>09<sup>m</sup>26<sup>s</sup>.8 37°.21S 177°.09E 321 km M = 4.5  
 ± 1.8 0.09 0.16 10 S.E. of RES. 1.5

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|------|------|---|---|
| WTZ         | P     | 07  | 10  | 08.1    |     | -0.6 | 100 | 0.77 | 186 |      | 4.5  | 4.1  |   |   |
|             | S     |     |     | 39.0    |     | -2.5 | 98  |      |     |      |      |      |   |   |
| KRP         | P     | 07  | 10  | 12.1    |     | 0.3  | 100 | 1.43 | 240 |      | 3.3* |      |   |   |
|             | eS    |     |     | 48.8    |     | 1.8  | 99  |      |     |      |      |      |   |   |
| TRZ         | eP    | 07  | 10  | 19.3    |     | 0.8  | 100 | 2.35 | 185 |      | 4.8  | 4.6  |   |   |
|             | S     |     |     | 11 00   |     | 1.1  | 100 |      |     |      |      |      |   |   |
| GSZ         | P     | 07  | 10  | 19.2    |     | 0.4  | 100 | 2.38 | 209 |      |      |      |   |   |
|             | eS    |     |     | 11 03.2 |     | 3.9  |     |      |     |      |      |      |   |   |
| MNG         | P     | 07  | 10  | 30.3    |     | -0.3 | 100 | 3.63 | 200 |      |      |      |   |   |
|             | S     |     |     | 11 20.7 |     | 0.1  | 100 |      |     |      |      |      |   |   |
| WEL         | S     | 07  | 11  | 37.0    |     | 0.4  | 100 | 4.45 | 203 | 4.5  |      |      |   |   |
| COB         | e     | 07  | 10  | 58      |     |      |     | 5.15 | 220 |      | 3.3* | 3.4* |   |   |
|             | S     |     |     | 11 48.8 |     | -1.8 | 99  |      |     |      |      |      |   |   |
| KAI         | eS    | 07  | 12  | 25      |     | -2.1 |     | 6.88 | 218 | 3.5* |      |      |   |   |
| GPZ         | S     | 07  | 12  | 35.5    |     | -1.1 |     | 7.32 | 206 | 3.6* |      |      |   |   |
| AMPLITUDES: |       | WTZ |     | 3.0     | 1.5 | KRP  | 1.1 | TRZ  |     | 1.6  | 2.0  |      |   |   |
|             |       | WEL | 0.5 |         |     | COB  | 0.2 | 0.9  | KAI | 0.2  |      |      |   |   |
|             |       | GPZ | 0.4 |         |     |      |     |      |     |      |      |      |   |   |

JUL 20 16<sup>h</sup>48<sup>m</sup>51<sup>s</sup>.0 37°.34S 176°.79E 270 km M = 4.0  
 ± 2.3 0.12 0.19 13 S.E. of RES. 2.0

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P   | W    | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|------|-----|------|---|
| WTZ         | eP    | 16  | 49  | 26.8    |     | -0.0 | 100 | 0.67 | 167 |      | 3.7  | 3.6 |      |   |
|             | i     |     |     | 31.7    |     |      |     |      |     |      |      |     |      |   |
|             | S     |     |     | 52.8    |     | -2.1 | 100 |      |     |      |      |     |      |   |
| KRP         | P     | 16  | 49  | 30.8    |     | 1.5  | 100 | 1.16 | 239 |      | 2.7* |     |      |   |
|             | eS    |     |     | 50 00.0 |     | 1.0  | 100 |      |     |      |      |     |      |   |
| TRZ         | eP    | 16  | 49  | 34.5    |     | -2.8 | 99  | 2.21 | 179 |      | 4.0  | 3.9 |      |   |
|             | e     |     |     | 39.2    |     |      |     |      |     |      |      |     |      |   |
|             | eS    |     |     | 50 15.8 |     | 2.5  | 99  |      |     |      |      |     |      |   |
| MNG         | P     | 16  | 49  | 51.0    |     | 1.3  | 100 | 3.44 | 197 |      | 4.3  | 4.3 |      |   |
|             | eS    |     |     | 50 36   |     | 0.3  | 100 |      |     |      |      |     |      |   |
| WEL         | eP    | 16  | 50  | 00      |     | 0.9  | 100 | 4.25 | 201 | 4.3  |      |     |      |   |
|             | S     |     |     | 52      |     | -0.2 | 100 |      |     |      |      |     |      |   |
| COB         | eS    | 16  | 51  | 04      |     | -2.0 | 100 | 4.90 | 219 |      |      |     | 3.1* |   |
| GPZ         | eS    | 16  | 51  | 52      |     | -2.4 |     | 7.10 | 205 | 3.5* |      |     |      |   |
| AMPLITUDES: |       | WTZ |     | 0.7     | 0.7 | KRP  | 0.3 | TRZ  |     | 0.3  | 0.5  |     |      |   |
|             |       | MNG |     | 2.8     | 3.5 | WEL  | 0.4 | COB  |     |      | 0.5  |     |      |   |
|             |       | GPZ | 0.3 |         |     |      |     |      |     |      |      |     |      |   |

JUL 21 23<sup>h</sup>48<sup>m</sup>13<sup>s</sup>.3 41°.89S 174°.56E 12 km M = 3.8  
 ± 0.5 0.03 0.07 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|---|---|---|
| WEL | P*    | 23 | 48 | 26.3 |     | 1.2  | 100 | 0.62 | 15  | 3.9 |   |   |   |   |
|     | S*    |    |    | 34.2 |     | 0.6  | 100 |      |     |     |   |   |   |   |
| KKY | P*    | 23 | 48 | 31.4 |     | 2.7  | 98  | 0.84 | 230 |     |   |   |   |   |
|     | i     |    |    | 32.2 |     |      |     |      |     |     |   |   |   |   |
|     | i     |    |    | 37.7 |     |      |     |      |     |     |   |   |   |   |
|     | S*    |    |    | 39.5 |     | -0.5 | 100 |      |     |     |   |   |   |   |

|             |     |            |          |          |     |     |
|-------------|-----|------------|----------|----------|-----|-----|
| MNG         | iP* | 23 48 37.9 | -1.3 100 | 1.45 29  |     |     |
| CAZ         | P*  | 23 48 39.9 | -1.8 99  | 1.59 52  |     |     |
| COB         | Pn  | 23 48 39.8 | -0.7 100 | 1.59 300 |     |     |
|             | eP* | 41.8       | 0.2 100  |          |     |     |
| GPZ         | e   | 23 49 04.0 |          | 2.29 217 | 3.5 |     |
|             | eSn | 16.0       | -1.7 100 |          |     |     |
| KAI         | e   | 23 49 04.5 |          | 2.43 254 | 3.8 |     |
|             | e   | 11.8       |          |          |     |     |
|             | eS* | 34         | 6.3      |          |     |     |
| TNZ         | eP* | 23 49 01   | 0.4 100  | 2.71 357 |     | 3.9 |
|             | e   | 09         |          |          |     |     |
|             | e   | 13         |          |          |     |     |
|             | eSn | 27         | -0.7 100 |          |     |     |
|             | eS* | 35.2       | -0.8 100 |          |     |     |
| GSZ         | ePn | 23 48 56.0 | 0.0 100  | 2.73 17  |     |     |
|             | i   | 49 05.0    |          |          |     |     |
|             | i   | 14         |          |          |     |     |
|             | eS* | 40         | 3.3      |          |     |     |
| MJZ         | ePn | 23 49 11.0 | 2.2 99   | 3.66 234 |     | 3.6 |
|             | Sn  | 49.0       | -1.8 99  |          |     |     |
| GSP         | Pn  | 23 49 16   | 2.4 99   | 4.01 235 |     |     |
|             | e   | 18.5       |          |          |     |     |
|             | i   | 32.0       |          |          |     |     |
|             | Sn  | 58.5       | -0.7 100 |          |     |     |
| KRP         | ePn | 23 49 14.3 | 0.4 100  | 4.03 11  |     | 4.1 |
|             | eP* | 24.2       | 0.9 100  |          |     |     |
|             | e   | 27.0       |          |          |     |     |
|             | eSn | 55         | -4.6     |          |     |     |
|             | eS* | 50 15      | -0.9 100 |          |     |     |
| AMPLITUDES: | WEL | 8.5        | GPZ      | 0.4      | KAI | 0.4 |
|             | TNZ |            | 0.5 MJZ  | 0.6      | KRP | 0.4 |

FELT: Kelburn (68) MM III

|        |       |                                                    |    |       |         |          |       |                  |     |     |         |
|--------|-------|----------------------------------------------------|----|-------|---------|----------|-------|------------------|-----|-----|---------|
| JUL 22 |       | 01 <sup>h</sup> 37 <sup>m</sup> 53 <sup>s</sup> .4 |    |       | 38°.41s | 178°.32E | 12 km | 77/ 458          |     |     |         |
|        |       | ± 0.5                                              |    |       | 0.03    | 0.04     | R     | S.E. of RES. 1.4 |     |     |         |
| STN    | PHASE | H                                                  | M  | S     | DIR     | RES      | WT    | DIST             | AZ  | W-A | W P W S |
| ECZ    | iP*   | 01                                                 | 38 | 05.9  | U       | -1.2     | 100   | 0.74             | 14  |     | 4.6 4.6 |
|        | S*    |                                                    |    | 18    |         | 0.9      | 100   |                  |     |     |         |
| WTZ    | iP*   | 01                                                 | 38 | 13.1  | U       | -0.7     | 100   | 1.13             | 292 |     | 4.3 4.4 |
|        | S*    |                                                    |    | 29.8  |         | 0.8      | 100   |                  |     |     |         |
| TRZ    | ePn?  | 01                                                 | 38 | 22    |         | 0.8      | 100   | 1.64             | 225 |     | 4.2 3.9 |
|        | ePg   |                                                    |    | 31    |         | 4.5      |       |                  |     |     |         |
|        | e     |                                                    |    | 39 04 |         |          |       |                  |     |     |         |
|        | e     |                                                    |    | 19    |         |          |       |                  |     |     |         |
| WNZ    | ePg   | 01                                                 | 38 | 33.5  |         | 4.6      |       | 1.75             | 262 |     | 4.1     |
|        | e     |                                                    |    | 37    |         |          |       |                  |     |     |         |
| KRP    | Pn    | 01                                                 | 38 | 28.8  |         | -0.7     | 100   | 2.25             | 282 |     | 4.3     |
|        | P*    |                                                    |    | 35.2  |         | 2.3      | 99    |                  |     |     |         |
|        | eSn   |                                                    |    | 57    |         | 0.3      | 100   |                  |     |     |         |
| MNG    | Pn    | 01                                                 | 38 | 39.3  |         | -2.1     | 99    | 3.11             | 224 |     | 3.9 3.8 |
|        | e     |                                                    |    | 39 03 |         |          |       |                  |     |     |         |
| TNZ    | eP*   | 01                                                 | 38 | 47    |         | -1.7     | 99    | 3.18             | 255 |     |         |
| AUC    | ePn   | 01                                                 | 38 | 42    |         | -0.7     | 100   | 3.21             | 298 |     |         |
| WEL    | eSn   | 01                                                 | 39 | 39    |         | 0.9      | 100   | 3.97             | 222 | 4.1 |         |
| CIZ    | e     | 01                                                 | 39 | 13    |         |          |       | 6.76             | 147 |     |         |
|        | eSn   |                                                    |    | 40 46 |         | 1.0      | 100   |                  |     |     |         |

AMPLITUDES: ECZ 14 17 WTZ 15 19 TRZ 2.2 1.7  
 WNZ 0.4 KRP 2.2 MNG 1.4 1.6  
 WEL 0.3

JUL 22 02<sup>h</sup>10<sup>m</sup>10<sup>s</sup>.2 38°.52s 178°.44E 12 km 77/ 459  
 ± 1.0 0.04 0.07 R S.E. of RES. 1.4 M = 3.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | iP*   | 02 | 10 | 23.8 | U   | -1.7 | 99  | 0.83 | 6   |     | 3.7 | 3.7 |
|     | S*    |    |    | 38.5 |     | 1.8  | 99  |      |     |     |     |     |
| WTZ | P*    | 02 | 10 | 32.0 |     | -0.9 | 100 | 1.26 | 295 |     | 4.0 | 3.9 |
|     | S*    |    |    | 48.4 |     | -1.3 | 100 |      |     |     |     |     |
| TRZ | e     | 02 | 10 | 51   |     |      |     | 1.63 | 230 |     |     | 3.3 |
| NGZ | eP*   | 02 | 10 | 51   |     | 0.3  | 100 | 2.30 | 252 |     |     |     |
|     | Pg    |    |    | 58.0 |     | 1.2  | 100 |      |     |     |     |     |
| KRP | ePn   | 02 | 10 | 47   |     | -0.9 | 100 | 2.37 | 284 |     | 3.6 |     |
|     | eSn   |    | 11 | 18   |     | 1.6  | 99  |      |     |     |     |     |
| MNG | ePg   | 02 | 11 | 13   |     | 0.1  | 100 | 3.10 | 227 |     | 3.2 | 3.1 |
|     | e     |    |    | 20   |     |      |     |      |     |     |     |     |
|     | eSg   |    |    | 55   |     | 0.2  | 100 |      |     |     |     |     |

AMPLITUDES: ECZ 1.4 2.0 WTZ 6.0 4.8 TRZ 0.4  
 KRP 0.4 MNG 0.3 0.3

JUL 22 14<sup>h</sup>33<sup>m</sup>37<sup>s</sup>.7 34°.30s 179°.96W 257 km 77/ 460  
 ± 1.5 0.08 0.12 15 S.E. of RES. 1.4 M = 4.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST  | AZ  | W-A | W P  | W S |
|-----|-------|----|----|-------|-----|------|-----|-------|-----|-----|------|-----|
| ECZ | P     | 14 | 34 | 37.9  |     | 0.4  | 100 | 3.59  | 199 |     | 4.4  | 4.5 |
|     | S     |    |    | 35 23 |     | -1.2 | 100 |       |     |     |      |     |
| WTZ | P     | 14 | 34 | 45.7  |     | -1.7 | 99  | 4.43  | 213 |     | 4.5  | 4.4 |
|     | e     |    |    | 47.0  |     |      |     |       |     |     |      |     |
|     | e     |    |    | 35 33 |     |      |     |       |     |     |      |     |
|     | S     |    |    | 43.0  |     | 1.3  | 100 |       |     |     |      |     |
| KRP | eP    | 14 | 34 | 57.6  |     | 1.7  | 99  | 5.13  | 224 |     | 3.3* |     |
| TRZ | eP    | 14 | 35 | 05    |     | 0.4  | 100 | 5.84  | 205 |     | 4.4  |     |
|     | eS    |    |    | 36 14 |     | 1.4  | 100 |       |     |     |      |     |
| NGZ | eP    | 14 | 35 | 07    |     | -0.0 | 100 | 6.03  | 215 |     |      |     |
| MNG | eP    | 14 | 35 | 21.5  |     | -1.1 | 100 | 7.27  | 209 |     | 3.9  | 4.2 |
|     | eS    |    |    | 36 43 |     | -1.7 | 99  |       |     |     |      |     |
| WEL | eS    | 14 | 37 | 04    |     | -0.0 | 100 | 8.13  | 209 | 4.7 |      |     |
| CIZ | e     | 14 | 36 | 04    |     |      |     | 10.00 | 166 |     |      |     |
|     | eS    |    |    | 37 47 |     | 0.5  | 100 |       |     |     |      |     |

AMPLITUDES: ECZ 0.5 0.6 WTZ 1.0 0.8 KRP 0.6  
 TRZ 0.4 MNG 0.3 0.8 WEL 0.3

JUL 22 15<sup>h</sup>41<sup>m</sup>55<sup>s</sup>.4 39°.30s 176°.37E 66 km 77/ 461  
 ± 0.4 0.02 0.03 5 S.E. of RES. 0.9 M = 3.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ | iP    | 15 | 42 | 08.2 | U   | 0.4  | 100 | 0.43 | 126 |     | 3.5 | 3.8 |
|     | e     |    |    | 12.7 |     |      |     |      |     |     |     |     |
|     | eS    |    |    | 17   |     | 0.0  | 100 |      |     |     |     |     |
|     | e     |    |    | 18.8 |     |      |     |      |     |     |     |     |
| NGZ | iP    | 15 | 42 | 10.1 |     | 0.7  | 100 | 0.60 | 281 |     |     |     |
|     | S     |    |    | 20   |     | 0.2  | 100 |      |     |     |     |     |
| WNZ | S     | 15 | 42 | 20.7 |     | -1.0 | 100 | 0.70 | 343 |     | 3.8 |     |

|             |     |            |      |     |      |     |      |         |
|-------------|-----|------------|------|-----|------|-----|------|---------|
| TUA         | eP  | 15 42 12   | 0.6  | 100 | 0.78 | 51  |      |         |
| WTZ         | P   | 15 42 19.0 | -0.4 | 100 | 1.40 | 20  | 3.4  | 4.0     |
|             | e   | 27         |      |     |      |     |      |         |
|             | S   | 36.4       | -1.2 | 99  |      |     |      |         |
| MNG         | iP! | 15 42 20.2 | -0.4 | 100 | 1.48 | 207 |      |         |
|             | e   | 30         |      |     |      |     |      |         |
| KRP         | iP  | 15 42 21.7 | 0.6  | 100 | 1.52 | 334 | 3.1* | 2.7*    |
|             | S   | 40.1       | -0.3 | 100 |      |     |      |         |
| TNZ         | P   | 15 42 22.7 | 1.3  | 99  | 1.55 | 274 | 3.8* | 3.2*    |
|             | e   | 48         |      |     |      |     |      |         |
| CAZ         | ?   | 15 42 13.9 |      |     | 1.61 | 184 |      |         |
|             | e   | 28.8       |      |     |      |     |      |         |
|             | eS  | 43         | 0.6  | 100 |      |     |      |         |
| WEL         | eS  | 15 42 58   | -1.8 | 97  | 2.33 | 211 | 3.8  |         |
| ECZ         | e?  | 15 42 27   |      |     | 2.34 | 47  | 3.7  | 3.9     |
|             | P   | 32.8       | 0.4  | 100 |      |     |      |         |
| AMPLITUDES: |     | TRZ        | 3.0  | 13  | WNZ  | 0.4 | WTZ  | 1.0 3.7 |
|             |     | KRP        | 1.2  | 0.6 | TNZ  | 1.5 | 0.5  | WEL 0.4 |
|             |     | ECZ        | 0.3  | 0.5 |      |     |      |         |

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JUL 22    17<sup>h</sup>16<sup>m</sup>41<sup>s</sup>.6    33°.86s    179°.26w    221 km    M = 6.1

RES. 2.3

± 1.1    0.06    0.10    28    S.E. of

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|-------|-----|------|------|------|
| ECZ | P     | 17 | 17 | 47.5 |     | 0.0  | 100 | 4.22  | 204 |      |      |      |
|     | eS    |    | 18 | 38   |     | -0.5 | 100 |       |     |      |      |      |
| RAO | P     | 17 | 17 | 51.6 |     | -2.3 | 100 | 4.74  | 14  |      |      |      |
|     | e     |    | 18 | 40.0 |     |      |     |       |     |      |      |      |
| WTZ | iP    | 17 | 17 | 56.7 | U   | -2.0 | 100 | 5.12  | 215 |      |      |      |
| ONE | iP    | 17 | 18 | 06.4 | E   | 1.7  | 100 | 5.59  | 248 | 5.3* |      |      |
| AUC | iP    | 17 | 18 | 09.0 | D   | 2.6  | 100 | 5.71  | 237 |      |      |      |
| TUA | eP    | 17 | 18 | 05   |     | -1.5 | 100 | 5.72  | 209 |      |      |      |
| KRP | iP    | 17 | 18 | 09.2 | D   | 1.1  | 100 | 5.86  | 225 |      | 5.0* | 4.8* |
|     | eS    |    | 19 | 17   |     | 1.7  | 100 |       |     |      |      |      |
| WNZ | eP    | 17 | 18 | 09   |     | -1.7 | 100 | 6.06  | 217 |      | 6.2  | 6.2  |
|     | e     |    | 19 | 53   |     |      |     |       |     |      |      |      |
|     | e     |    | 19 | 38   |     |      |     |       |     |      |      |      |
| TRZ | P     | 17 | 18 | 14.7 |     | -1.6 | 100 | 6.50  | 208 |      | 6.1  | 6.0  |
|     | e     |    | 19 | 33   |     |      |     |       |     |      |      |      |
|     | e     |    | 19 | 55   |     |      |     |       |     |      |      |      |
|     | eS    |    | 19 | 33   |     | 2.9  | 99  |       |     |      |      |      |
| CRZ | iP    | 17 | 18 | 20.7 |     | 1.7  | 100 | 6.71  | 263 |      | 5.1* | 4.3* |
|     | eS    |    | 19 | 36   |     | 1.0  | 100 |       |     |      |      |      |
| NGZ | eP    | 17 | 18 | 18.8 |     | -0.4 | 100 | 6.73  | 216 |      |      |      |
|     | e     |    | 20 | 02   |     |      |     |       |     |      |      |      |
| TNZ | P     | 17 | 18 | 30.0 |     | 2.4  | 100 | 7.38  | 222 |      | 5.0* | 4.7* |
|     | e     |    | 19 | 35.0 |     |      |     |       |     |      |      |      |
|     | e     |    | 19 | 40.5 |     |      |     |       |     |      |      |      |
|     | eS    |    | 19 | 47   |     | -3.5 | 99  |       |     |      |      |      |
| CAZ | P     | 17 | 18 | 34.8 |     | 0.5  | 100 | 7.90  | 206 |      |      |      |
|     | eS    |    | 20 | 03   |     | 0.5  | 100 |       |     |      |      |      |
|     | e     |    | 20 | 48   |     |      |     |       |     |      |      |      |
| MNG | P     | 17 | 18 | 32.3 |     | -2.6 | 100 | 7.95  | 210 |      |      |      |
| WEL | eP    | 17 | 18 | 44   |     | -2.0 | 100 | 8.80  | 211 | 5.9  |      |      |
|     | eS    |    | 20 | 19   |     | -4.2 | 99  |       |     |      |      |      |
|     | e     |    | 21 | 04   |     |      |     |       |     |      |      |      |
| CIZ | P     | 17 | 19 | 09.3 |     | 4.1  | 99  | 10.30 | 169 |      |      |      |
|     | eS    |    | 20 | 59   |     | 1.1  | 100 |       |     |      |      |      |



AMPLITUDES: ONE 21 KRP 25 18 WNZ 1.8 1.6  
 TRZ 7.5 15 CRZ 9.5 1.7 TNZ 4.7 3.5  
 WEL 4.1

JUL 22 20<sup>h</sup>05<sup>m</sup>48<sup>s</sup>.0 41°.49s 173°.31E 33 km M = 3.8  
 ± 0.3 0.02 0.04 R S.E. of RES. 1.4 77/ 463

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| COB | iPn!  | 20 | 06 | 00.2  |     | 0.6  | 100 | 0.59 | 313 |     |     |     |
|     | eSn   |    |    | 10    |     | 1.8  | 99  |      |     |     |     |     |
| KKY | iPn   | 20 | 06 | 06.2  | D   | 1.4  | 100 | 0.97 | 163 |     |     |     |
|     | P*    |    |    | 08.9  |     | 2.8  | 98  |      |     |     |     |     |
|     | S*    |    |    | 21.4  |     | 1.9  | 99  |      |     |     |     |     |
| WEL | eP*   | 20 | 06 | 07.5  |     | -1.0 | 100 | 1.12 | 80  | 3.6 |     |     |
|     | S*    |    |    | 22.8  |     | -0.9 | 100 |      |     |     |     |     |
|     | e     |    |    | 28    |     |      |     |      |     |     |     |     |
| KAI | e     | 20 | 06 | 25    |     |      |     | 1.75 | 233 | 3.7 |     |     |
|     | eSn   |    |    | 35.5  |     | -0.6 | 100 |      |     |     |     |     |
| MNG | Pn    | 20 | 06 | 16.6  |     | -0.3 | 100 | 1.86 | 63  |     |     |     |
|     | iP*   |    |    | 20.6  |     | -0.4 | 100 |      |     |     |     |     |
| GPZ | Sn    | 20 | 06 | 46.3  |     | -2.0 | 99  | 2.26 | 192 | 4.0 |     |     |
| TNZ | Pn    | 20 | 06 | 25.2  |     | 0.3  | 100 | 2.44 | 20  |     |     | 3.7 |
|     | eSn   |    |    | 53    |     | 0.3  | 100 |      |     |     |     |     |
| NGZ | ePn   | 20 | 06 | 31    |     | -0.1 | 100 | 2.90 | 38  |     |     |     |
|     | e     |    |    | 43    |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 07 04 |     | 0.3  | 100 |      |     |     |     |     |
| MJZ | ePn   | 20 | 06 | 34    |     | -2.0 | 99  | 3.26 | 219 |     | 3.7 | 3.8 |
|     | e     |    |    | 49    |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 07 11 |     | -1.3 | 100 |      |     |     |     |     |
| KRP | Pn    | 20 | 06 | 45.2  |     | -0.3 | 100 | 3.96 | 26  |     | 3.7 | 3.9 |
|     | Sn    |    |    | 07 28 |     | -1.0 | 100 |      |     |     |     |     |

AMPLITUDES: WEL 1.3 KAI 0.7 GPZ 1.3  
 TNZ 0.4 MJZ 0.8 2.0 KRP 0.5 0.8

JUL 22 21<sup>h</sup>11<sup>m</sup>54<sup>s</sup>.3 34°.15s 179°.80w 263 km M = 4.3  
 ± 2.1 0.12 0.20 25 S.E. of RES. 1.9 77/ 464

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S |
|-----|-------|----|----|---------|-----|------|-----|-------|-----|------|------|-----|
| ECZ | eP    | 21 | 12 | 57.5    |     | 0.8  | 100 | 3.79  | 200 |      | 4.4  | 4.4 |
|     | eS    |    |    | 13 46   |     | 0.8  | 100 |       |     |      |      |     |
| WTZ | P     | 21 | 13 | 03.3    |     | -3.3 | 98  | 4.63  | 213 |      | 4.5  | 4.3 |
|     | eS    |    |    | 14 02   |     | -1.0 | 100 |       |     |      |      |     |
| ONE | eP    | 21 | 13 | 11      |     | -0.8 | 100 | 5.07  | 250 | 3.6* |      |     |
| KRP | e?    | 21 | 12 | 54      |     |      |     | 5.34  | 224 |      | 3.2* |     |
|     | eP    |    |    | 13 17.8 |     | 2.6  | 99  |       |     |      |      |     |
| NGZ | e     | 21 | 13 | 36      |     |      |     | 6.24  | 215 |      |      |     |
|     | e     |    |    | 14 51.5 |     |      |     |       |     |      |      |     |
| CRZ | eP    | 21 | 13 | 26      |     | -0.2 | 100 | 6.24  | 265 |      | 3.7* |     |
|     | e     |    |    | 15 08   |     |      |     |       |     |      |      |     |
| MNG | eP    | 21 | 13 | 43      |     | 1.3  | 100 | 7.47  | 209 |      | 4.2  | 4.3 |
|     | e     |    |    | 53.6    |     |      |     |       |     |      |      |     |
|     | eS    |    |    | 15 06.0 |     | 0.1  | 100 |       |     |      |      |     |
|     | e     |    |    | 48      |     |      |     |       |     |      |      |     |
| CIZ | eS    | 21 | 16 | 05      |     | -0.7 | 100 | 10.12 | 167 |      |      |     |

AMPLITUDES: ECZ 0.4 0.4 WTZ 0.8 0.7 ONE 0.5  
 KRP 0.4 CRZ 0.4 MNG 0.5 0.8

JUL 23 02<sup>h</sup>18<sup>m</sup>49<sup>s</sup>.4 37°.66S 177°.20E 136 km 77/ 465  
 ± 0.9 0.05 0.06 8 S.E. of RES. 1.9 M = 4.5

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|------|------|------|
| WTZ | iP    | 02 | 19 | 08.1  | U   | -0.6 | 100 | 0.37 | 207 |      | 4.2  | 4.4  |
|     | S     |    |    | 20    |     | -3.4 | 99  |      |     |      |      |      |
| ECZ | iP    | 02 | 19 | 13.6  | D   | 0.0  | 100 | 1.07 | 92  |      | 4.1  |      |
|     | eS    |    |    | 34.5  |     | 2.3  | 100 |      |     |      |      |      |
|     | e     |    |    | 42    |     |      |     |      |     |      |      |      |
| WNZ | eP    | 02 | 19 | 17.5  |     | 1.4  | 100 | 1.30 | 221 |      | 4.6  |      |
| KRP | iP    | 02 | 19 | 16.5  | DE  | 0.0  | 100 | 1.34 | 258 |      | 3.8* | 3.7* |
|     | e     |    |    | 24.7  |     |      |     |      |     |      |      |      |
|     | S     |    |    | 38.0  |     | 0.8  | 100 |      |     |      |      |      |
| TRZ | iP    | 02 | 19 | 24.8  | U   | 1.8  | 100 | 1.92 | 189 |      | 5.0  | 4.7  |
|     | e     |    |    | 30.0  |     |      |     |      |     |      |      |      |
|     | e     |    |    | 54.1  |     |      |     |      |     |      |      |      |
| NGZ | iP    | 02 | 19 | 26.0  | D   | 2.4  | 99  | 1.97 | 219 |      |      |      |
| AUC | iP    | 02 | 19 | 23.5  | D   | -1.7 | 100 | 2.09 | 292 |      |      |      |
| TNZ | P     | 02 | 19 | 35.0  |     | 2.1  | 100 | 2.69 | 235 |      |      | 4.3* |
| ONE | eP    | 02 | 19 | 34    |     | -2.5 | 99  | 2.96 | 309 | 3.3* |      |      |
| MNG | e     | 02 | 19 | 38.5  |     |      |     | 3.25 | 204 |      |      |      |
|     | iP!   |    |    | 39.0  |     | -1.2 | 100 |      |     |      |      |      |
|     | eS    |    |    | 20 19 |     | 0.0  | 100 |      |     |      |      |      |
| CAZ | iP    | 02 | 19 | 41.3  | D   | -0.1 | 100 | 3.33 | 193 |      |      |      |
|     | eS    |    |    | 20 23 |     | 2.0  | 100 |      |     |      |      |      |
| WEL | P     | 02 | 19 | 49.5  |     | -1.8 | 100 | 4.09 | 207 | 4.6  |      |      |
|     | e     |    |    | 20 08 |     |      |     |      |     |      |      |      |
|     | eS    |    |    | 38    |     | -0.9 | 100 |      |     |      |      |      |
| CRZ | eP    | 02 | 20 | 04    |     | 2.0  | 100 | 4.88 | 310 |      | 3.5* |      |
| CIZ | eS    | 02 | 22 | 08    |     | -2.2 | 100 | 7.87 | 145 |      |      |      |

AMPLITUDES: WTZ 11 19 ECZ 2.0 WNZ 0.7  
 KRP 6.7 5.5 TRZ 6.1 7.1 TNZ 2.3  
 ONE 0.4 WEL 0.9 CRZ 0.3

JUL 25 03<sup>h</sup>39<sup>m</sup>48<sup>s</sup>.5 39°.09S 174°.71E 214 km 77/ 466  
 ± 1.1 0.05 0.07 8 S.E. of RES. 1.4 M = 4.5

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|------|
| TNZ | P     | 03 | 40 | 18.9  |     | 2.2  | 99  | 0.27 | 250 |     |      |      |
|     | e     |    |    | 50    |     |      |     |      |     |     |      |      |
| NGZ | P     | 03 | 40 | 19.4  |     | 1.3  | 100 | 0.71 | 97  |     |      |      |
|     | eS    |    |    | 40    |     | -1.1 | 100 |      |     |     |      |      |
| KRP | P     | 03 | 40 | 23.3  |     | 1.0  | 100 | 1.34 | 29  |     | 3.1* | 3.0* |
|     | S     |    |    | 49    |     | 0.5  | 100 |      |     |     |      |      |
| MNG | iP!   | 03 | 40 | 25.2  |     | 0.3  | 100 | 1.64 | 159 |     |      |      |
| TRZ | P     | 03 | 40 | 26.3  |     | 0.8  | 100 | 1.70 | 106 |     | 4.5  | 4.8  |
|     | e     |    |    | 50    |     |      |     |      |     |     |      |      |
|     | eS    |    |    | 55    |     | 1.0  | 100 |      |     |     |      |      |
| WTZ | iP    | 03 | 40 | 28.7  | D   | -0.7 | 100 | 2.11 | 59  |     | 4.5  | 4.3  |
|     | e     |    |    | 37    |     |      |     |      |     |     |      |      |
|     | eS    |    |    | 59    |     | -2.0 | 99  |      |     |     |      |      |
| CAZ | e     | 03 | 40 | 58.3  |     |      |     | 2.15 | 148 |     |      |      |
|     | eS    |    |    | 41 03 |     | 1.1  | 100 |      |     |     |      |      |
| WEL | P     | 03 | 40 | 30.8  |     | 0.5  | 100 | 2.19 | 179 | 4.4 |      |      |
|     | eS    |    |    | 41 02 |     | -0.6 | 100 |      |     |     |      |      |
| COB | iP    | 03 | 40 | 33.3  |     | -0.3 | 100 | 2.50 | 217 |     |      |      |

|             |                     |                                 |            |                                 |      |     |            |                    |
|-------------|---------------------|---------------------------------|------------|---------------------------------|------|-----|------------|--------------------|
| ECZ         | e<br>eS<br>iP<br>eS | 41 00<br>06<br>40 42.7<br>41 24 | U          | -2.6 98<br>-0.5 100<br>-1.5 100 | 3.33 | 66  | 4.5        | 4.6                |
| AMPLITUDES: | TNZ<br>WTZ          | 0.6<br>3.2                      | KRP<br>WEL | 1.5                             | 1.0  | 0.8 | TRZ<br>ECZ | 1.6 7.0<br>0.8 1.0 |

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JUL 25    14<sup>h</sup>56<sup>m</sup>33<sup>s</sup>.8    33°.06s    178°.30w    318 km    M = 4.6  
                 ± 1.5            0.08            0.12        18    S.E. of RES. 1.2

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A | W P  | W S  |     |
|-------------|-------|----|----|------|-----|------|-----|-------|-----|-----|------|------|-----|
| ECZ         | eP    | 14 | 57 | 55   |     | -0.9 | 100 | 5.29  | 208 |     | 4.7  | 4.7  |     |
|             | eS    |    | 59 | 01   |     | 0.6  | 100 |       |     |     |      |      |     |
| WTZ         | P     | 14 | 58 | 05.5 |     | -1.5 | 99  | 6.24  | 217 |     | 4.8  | 4.8  |     |
|             | S     |    | 59 | 20.2 |     | -0.1 | 100 |       |     |     |      |      |     |
| KRP         | P     | 14 | 58 | 18.3 |     | 2.2  | 96  | 6.99  | 224 |     | 3.4* | 3.1* |     |
|             | e     |    | 59 | 42   |     |      |     |       |     |     |      |      |     |
| TRZ         | e?    | 14 | 58 | 13   |     |      |     | 7.59  | 210 |     | 4.8  | 4.5  |     |
|             | eS    |    | 59 | 49   |     | -0.3 | 100 |       |     |     |      |      |     |
| MNG         | P     | 14 | 58 | 41   |     | 0.0  | 100 | 9.05  | 212 |     | 4.1  | 4.4  |     |
|             | S     |    | 15 | 00   |     | -0.3 | 100 |       |     |     |      |      |     |
| WEL         | eS    |    | 15 | 00   |     | -0.2 | 100 | 9.90  | 212 | 4.9 |      |      |     |
| CIZ         | e     | 14 | 59 | 14   |     |      |     | 10.97 | 173 |     |      |      |     |
|             | eS    | 15 | 01 | 04   |     | 0.3  | 100 |       |     |     |      |      |     |
| AMPLITUDES: | ECZ   |    |    | 0.5  | 0.5 | WTZ  |     | 0.9   | 1.1 | KRP |      | 0.5  | 0.3 |
|             | TRZ   |    |    | 0.3  | 0.3 | MNG  |     | 0.3   | 0.8 | WEL | 0.3  |      |     |

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JUL 27 07<sup>h</sup>20<sup>m</sup>02<sup>s</sup>.2 33°.73s 179°.21w 255 km M = 4.4  
± 1.8 0.09 0.17 26 S.E. of RES. 1.7

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S |
|-------------|-------|----|----|-------|-----|------|-----|-------|-----|------|------|-----|
| ECZ         | P     | 07 | 21 | 11.0  |     | 0.0  | 100 | 4.36  | 204 |      | 4.6  | 4.5 |
|             | e     |    |    | 21.8  |     |      |     |       |     |      |      |     |
|             | eS    |    | 22 | 04    |     | -0.5 | 100 |       |     |      |      |     |
|             | e     |    |    | 22    |     |      |     |       |     |      |      |     |
|             | e     |    |    | 37    |     |      |     |       |     |      |      |     |
| WTZ         | P     | 07 | 21 | 20.6  |     | -1.2 | 100 | 5.26  | 215 |      | 4.8  | 4.5 |
|             | S     |    | 22 | 23.0  |     | -0.9 | 100 |       |     |      |      |     |
| ONE         | P     | 07 | 21 | 27    |     | 0.0  | 100 | 5.67  | 247 | 3.6* |      |     |
| KRP         | eP    | 07 | 21 | 31    |     | 0.2  | 100 | 5.98  | 224 |      | 3.2* |     |
| TRZ         | e?    | 07 | 21 | 38    |     |      |     | 6.63  | 208 |      |      | 4.3 |
|             | P     |    |    | 41.8  |     | 2.8  | 99  |       |     |      |      |     |
|             | eS    |    | 22 | 57    |     | 2.3  | 99  |       |     |      |      |     |
| CRZ         | P     | 07 | 21 | 39.9  |     | -0.7 | 100 | 6.77  | 262 |      | 3.6* |     |
| NGZ         | P     | 07 | 21 | 43.8  |     | 2.0  | 99  | 6.86  | 216 |      |      |     |
|             | e     |    |    | 22 50 |     |      |     |       |     |      |      |     |
| MNG         | eP    | 07 | 21 | 55    |     | -2.2 | 99  | 8.08  | 210 |      | 4.0  | 4.3 |
|             | eS    |    | 23 | 26.5  |     | -0.9 | 100 |       |     |      |      |     |
|             | e     |    |    | 24 05 |     |      |     |       |     |      |      |     |
| CIZ         | S     | 07 | 24 | 20    |     | -0.8 | 100 | 10.42 | 169 |      |      |     |
| AMPLITUDES: |       |    |    |       |     |      |     |       |     |      |      |     |
|             | ECZ   |    |    | 0.6   | 0.4 | WTZ  |     | 1.3   | 0.9 | ONE  | 0.4  |     |
|             | KRP   |    |    | 0.4   |     | TRZ  |     |       | 0.3 | CRZ  |      | 0.3 |
|             | MNG   |    |    | 0.3   | 0.7 |      |     |       |     |      |      |     |

JUL 27 14<sup>h</sup>07<sup>m</sup>43<sup>s</sup>.9 51°.69s 164°.25E 33 km 77/ 469  
 ± 3.1 0.09 0.26 R S.E. of RES. 2.9 M. = 4.9

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST  | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|------|-----|------|-----|-------|-----|-----|-----|-----|---|---|
| CBZ         | iPn   | 14  | 08  | 33.0 | U   | 2.5  | 100 | 3.15  | 108 |     |     |     |   |   |
|             | eS*   |     | 09  | 19   |     | -1.0 | 100 |       |     |     |     |     |   |   |
| OBZ         | e     | 14  | 09  | 22.2 |     |      |     | 5.42  | 29  |     |     |     |   |   |
|             | eSn   |     | 10  | 02   |     | 1.8  | 100 |       |     |     |     |     |   |   |
| MNW         | eP*   | 14  | 09  | 32.5 |     | -0.4 | 100 | 6.33  | 22  | 5.1 |     |     |   |   |
|             | eSn   |     | 10  | 22   |     | 0.1  | 100 |       |     |     |     |     |   |   |
| ROX         | P*    | 14  | 09  | 45.2 |     | -0.4 | 100 | 7.07  | 30  |     | 5.1 | 5.4 |   |   |
|             | e     |     | 10  | 47.0 |     |      |     |       |     |     |     |     |   |   |
| MSZ         | P*    | 14  | 09  | 48.8 |     | -3.2 | 100 | 7.44  | 21  |     | 5.2 | 5.0 |   |   |
|             | e     |     |     | 50.1 |     |      |     |       |     |     |     |     |   |   |
|             | eSn   |     | 10  | 48   |     | -0.8 | 100 |       |     |     |     |     |   |   |
| OMZ         | P*    | 14  | 09  | 59.8 |     | -1.2 | 100 | 7.97  | 36  |     | 4.6 | 5.0 |   |   |
|             | eSn   |     | 11  | 02   |     | 0.4  | 100 |       |     |     |     |     |   |   |
| GSP         | e     | 14  | 10  | 02.0 |     |      |     | 8.50  | 29  |     |     |     |   |   |
|             | eSn   |     | 11  | 18   |     | 3.8  | 99  |       |     |     |     |     |   |   |
| MJZ         | e     | 14  | 10  | 05   |     |      |     | 8.77  | 31  |     | 4.6 | 4.6 |   |   |
|             | eP*   |     |     | 15.3 |     | 0.7  | 100 |       |     |     |     |     |   |   |
|             | e     |     |     | 23   |     |      |     |       |     |     |     |     |   |   |
|             | eSn   |     | 11  | 15   |     | -5.7 | 98  |       |     |     |     |     |   |   |
| GPZ         | e     | 14  | 10  | 26   |     |      |     | 9.80  | 39  | 4.9 |     |     |   |   |
|             | eSn   |     | 11  | 41   |     | -4.4 | 99  |       |     |     |     |     |   |   |
|             | eS*   |     | 12  | 39   |     | 0.1  | 100 |       |     |     |     |     |   |   |
| KAI         | eSn   | 14  | 12  | 05   |     | 5.5  | 98  | 10.39 | 31  | 4.9 |     |     |   |   |
| COB         | e     | 14  | 10  | 53.5 |     |      |     | 12.11 | 32  |     | 4.9 | 4.5 |   |   |
|             | eSn   |     | 12  | 43   |     | 2.0  | 100 |       |     |     |     |     |   |   |
| AMPLITUDES: |       | MNW | 1.7 |      |     | ROX  | 1.5 | 6.6   | MSZ |     | 4.6 | 5.2 |   |   |
|             |       | OMZ |     | 0.4  | 1.8 | MJZ  | 0.9 | 1.8   | GPZ | 0.5 |     |     |   |   |
|             |       | KAI | 0.3 |      |     | COB  | 0.3 | 0.4   |     |     |     |     |   |   |

JUL 29 06<sup>h</sup>28<sup>m</sup>10<sup>s</sup>.7 41°.18s 172°.16E 12 km 77/ 470  
 ± 0.5 0.03 0.04 R S.E. of RES. 1.6 M = 3.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| COB | iP*   | 06 | 28 | 17.9 | D   | -1.5 | 100 | 0.44 | 78  |     |     |     |     |   |
| KAI | ePn   | 06 | 28 | 38   |     | 1.9  | 100 | 1.46 | 202 | 4.1 |     |     |     |   |
|     | eSn   |    |    | 55   |     | -0.1 | 100 |      |     |     |     |     |     |   |
| KKY | iPn   | 06 | 28 | 38.5 |     | -0.7 | 100 | 1.69 | 138 |     |     |     |     |   |
|     | Sn    |    | 29 | 01.0 |     | 0.4  | 100 |      |     |     |     |     |     |   |
| WEL | ePn   | 06 | 28 | 42   |     | -1.1 | 100 | 1.97 | 94  | 3.9 |     |     |     |   |
|     | Sn    |    | 29 | 06.8 |     | -0.6 | 100 |      |     |     |     |     |     |   |
|     | eSg   |    |    | 19   |     | 1.8  | 100 |      |     |     |     |     |     |   |
| GPZ | eP*   | 06 | 28 | 56   |     | 0.7  | 100 | 2.54 | 172 | 3.8 |     |     |     |   |
|     | eSn   |    | 29 | 21   |     | -0.1 | 100 |      |     |     |     |     |     |   |
| MNG | Pn    | 06 | 28 | 52.0 |     | 0.6  | 100 | 2.58 | 79  |     |     |     | 4.3 |   |
|     | eSn   |    | 29 | 23   |     | 0.9  | 100 |      |     |     |     |     |     |   |
| TNZ | P*    | 06 | 28 | 58   |     | 1.4  | 100 | 2.62 | 41  |     |     |     | 4.0 |   |
|     | Sg    |    | 29 | 37.5 |     | -1.5 | 100 |      |     |     |     |     |     |   |
| MJZ | ePn   | 06 | 29 | 00   |     | 1.8  | 100 | 3.08 | 203 |     | 3.8 | 3.7 |     |   |
|     | eSn   |    |    | 34   |     | 0.1  | 100 |      |     |     |     |     |     |   |
| NGZ | ePn   | 06 | 29 | 04   |     | 2.5  | 99  | 3.31 | 54  |     |     |     |     |   |
|     | eS*   |    |    | 52   |     | 0.3  | 100 |      |     |     |     |     |     |   |
| GSP | Pn    | 06 | 29 | 03.1 |     | 1.2  | 100 | 3.35 | 207 |     |     |     |     |   |



|     |     |            |      |     |      |     |         |
|-----|-----|------------|------|-----|------|-----|---------|
|     | eSn | 43         | 2.4  | 99  |      |     |         |
|     | eSg | 30 00      | -3.6 | 97  |      |     |         |
| TRZ | eSn | 06 29 51   | -3.2 | 98  | 3.91 | 67  |         |
| KRP | e   | 06 29 19.0 |      |     | 4.18 | 40  | 3.7 3.8 |
|     | eS* | 30 17      | -0.4 | 100 |      |     |         |
| MSZ | ePn | 06 29 20   | -0.1 | 100 | 4.68 | 220 | 3.8 3.8 |
|     | eSn | 30 12      | -0.5 | 100 |      |     |         |
|     | eSg | 47         | -1.3 | 100 |      |     |         |

|             |     |         |     |     |     |     |         |
|-------------|-----|---------|-----|-----|-----|-----|---------|
| AMPLITUDES: | KAI | 2.3     | WEL | 0.8 | GPZ | 0.7 |         |
|             | MNG |         | 6.6 | TNZ | 0.6 | MJZ | 1.1 1.6 |
|             | KRP | 0.4 0.6 | MSZ | 0.4 | 0.8 |     |         |

FELT: In Northwest Nelson MM IV

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JUL 29    10<sup>h</sup>32<sup>m</sup>26<sup>s</sup>.1    45°.25S    167°.29E    12 km    M = 3.4

S.E. of RES. 1.7

± 1.2    0.04    0.10    R

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MNW | iP*!  | 10 | 32 | 36.7 |     | -0.4 | 100 | 0.58 | 157 |     |     |     |   |   |
|     | eS*   |    |    | 44.5 |     | -0.6 | 100 |      |     |     |     |     |   |   |
| MSZ | iP*   | 10 | 32 | 39.3 | U   | -0.4 | 100 | 0.73 | 38  |     | 3.0 |     |   |   |
|     | S*    |    |    | 48.7 |     | -1.0 | 100 |      |     |     |     |     |   |   |
| ROX | Pn    | 10 | 32 | 52.3 |     | 0.9  | 100 | 1.45 | 100 |     | 3.9 | 4.0 |   |   |
|     | eSn   |    | 33 | 11   |     | 0.7  | 100 |      |     |     |     |     |   |   |
| OBZ | ePn   | 10 | 32 | 55   |     | -0.5 | 100 | 1.75 | 161 |     |     |     |   |   |
|     | eSn   |    | 33 | 17   |     | -0.6 | 100 |      |     |     |     |     |   |   |
| GSP | eP*   | 10 | 33 | 08   |     | 2.4  | 99  | 2.24 | 61  |     |     |     |   |   |
|     | eS*   |    |    | 35.5 |     | 0.4  | 100 |      |     |     |     |     |   |   |
| OMZ | ePg   | 10 | 33 | 16   |     | -2.1 | 99  | 2.57 | 87  |     |     |     |   |   |
|     | eS*   |    |    | 47   |     | 2.1  | 99  |      |     |     |     |     |   |   |
| MJZ | eP*   | 10 | 33 | 13   |     | 1.4  | 100 | 2.60 | 62  |     | 3.3 | 3.0 |   |   |
|     | e     |    |    | 15   |     |      |     |      |     |     |     |     |   |   |
|     | eSg   |    |    | 50   |     | -3.6 | 97  |      |     |     |     |     |   |   |

|             |     |     |     |         |     |         |  |
|-------------|-----|-----|-----|---------|-----|---------|--|
| AMPLITUDES: | MSZ | 3.0 | ROX | 2.0 6.2 | MJZ | 0.6 0.5 |  |
|-------------|-----|-----|-----|---------|-----|---------|--|

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JUL 30    17<sup>h</sup>35<sup>m</sup>18<sup>s</sup>.6    39°.53S    173°.60E    12 km    M = 3.5

S.E. of RES. 1.0

± 0.5    0.02    0.04    R

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| TNZ | P*    | 17 | 35 | 31.7 |     | 0.0  | 100 | 0.69 | 61  |     | 3.1 | 3.1 |     |   |
|     | Pg    |    |    | 35.2 |     | 2.3  |     |      |     |     |     |     |     |   |
|     | S*    |    |    | 42.1 |     | 0.9  | 100 |      |     |     |     |     |     |   |
| NGZ | Pn    | 17 | 35 | 45.9 |     | -0.1 | 100 | 1.60 | 78  |     |     |     |     |   |
|     | ePg   |    |    | 50   |     | -1.0 | 100 |      |     |     |     |     |     |   |
|     | eSn   |    | 36 | 06.5 |     | 0.0  | 100 |      |     |     |     |     |     |   |
| COB | Pn    | 17 | 35 | 46.0 |     | -1.2 | 100 | 1.69 | 203 |     | 4.0 | 3.5 |     |   |
|     | P*    |    |    | 47.9 |     | -0.7 | 100 |      |     |     |     |     |     |   |
|     | Sn    |    | 36 | 09.9 |     | 1.3  | 99  |      |     |     |     |     |     |   |
| MNG | iPn   | 17 | 35 | 49.1 | D   | 0.3  | 100 | 1.81 | 128 |     | 3.8 | 3.8 |     |   |
|     | Pg    |    |    | 54.3 |     | -1.0 | 100 |      |     |     |     |     |     |   |
|     | eSn   |    | 36 | 10.5 |     | -1.0 | 100 |      |     |     |     |     |     |   |
| WEL | ePn   | 17 | 35 | 52   |     | 1.0  | 100 | 1.97 | 153 | 3.7 |     |     |     |   |
|     | eSn   |    | 36 | 17   |     | 1.7  | 99  |      |     |     |     |     |     |   |
| KRP | P*    | 17 | 35 | 57.2 |     | -0.2 | 100 | 2.20 | 44  |     | 3.2 | 3.4 |     |   |
|     | eSn   |    | 36 | 20   |     | -1.0 | 100 |      |     |     |     |     |     |   |
|     | eS*   |    |    | 28   |     | 1.6  | 99  |      |     |     |     |     |     |   |
| TRZ | ePg   | 17 | 36 | 08   |     | -1.0 | 100 | 2.49 | 92  |     |     |     | 3.5 |   |

| eSg         |                                                    | 43      |          | 0.3 100 |                  |      |     |      |     |     |     |         |  |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-----|-----|---------|--|
| AMPLITUDES: |                                                    | TNZ     | 0.8      | 1.2     | COB              | 2.2  | 2.5 | MNG  | 3.6 | 4.5 |     |         |  |
|             |                                                    | WEL     | 0.5      |         | KRP              | 0.5  | 0.9 | TRZ  |     | 0.3 |     |         |  |
|             |                                                    |         |          |         |                  |      |     |      |     |     |     | 77/ 473 |  |
| JUL 30      | 19 <sup>h</sup> 11 <sup>m</sup> 04 <sup>s</sup> .9 | 44°.12s | 168°.79E | 12 km   | M = 3.3          |      |     |      |     |     |     |         |  |
| ± 0.4       |                                                    | 0.03    | 0.03     | R       | S.E. of RES. 1.2 |      |     |      |     |     |     |         |  |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A | W P | W S     |  |
| MSZ         | P*                                                 | 19      | 11       | 18.8    |                  | -1.5 | 99  | 0.84 | 228 |     | 3.0 | 2.9     |  |
|             | Pg                                                 |         |          | 21.8    |                  | -0.1 | 100 |      |     |     |     |         |  |
|             | eS*                                                |         |          | 30      |                  | -1.6 | 99  |      |     |     |     |         |  |
| GSP         | iP*                                                | 19      | 11       | 20.8    | D                | -0.4 | 100 | 0.89 | 91  |     |     |         |  |
|             | eS*                                                |         |          | 33      |                  | -0.2 | 100 |      |     |     |     |         |  |
| MJZ         | iP*                                                | 19      | 11       | 27.2    | U                | 0.3  | 100 | 1.21 | 84  |     | 3.0 | 3.1     |  |
|             | eSg                                                |         |          | 46      |                  | -0.1 | 100 |      |     |     |     |         |  |
| ROX         | Pn                                                 | 19      | 11       | 30.7    |                  | 1.0  | 100 | 1.41 | 165 |     | 3.5 | 3.7     |  |
|             | Sn                                                 |         |          | 49.4    |                  | 1.2  | 100 |      |     |     |     |         |  |
| OMZ         | eSg                                                | 19      | 12       | 04      |                  | -1.5 | 99  | 1.79 | 123 |     |     |         |  |
| MNW         | ePn                                                | 19      | 11       | 38      |                  | 2.2  | 98  | 1.86 | 206 |     | 3.4 | 3.3     |  |
|             | eS*                                                |         |          | 12 03   |                  | 0.7  | 100 |      |     |     |     |         |  |
|             | e                                                  |         |          | 15.5    |                  |      |     |      |     |     |     |         |  |
| KAI         | eS*                                                | 19      | 12       | 21      |                  | -0.2 | 100 | 2.49 | 51  | 3.5 |     |         |  |
| COB         | ePn?                                               | 19      | 12       | 07      |                  | -0.8 | 100 | 4.20 | 45  |     |     | 3.2     |  |
|             | eSn                                                |         |          | 56.5    |                  | 1.2  | 100 |      |     |     |     |         |  |
| AMPLITUDES: |                                                    | MSZ     | 2.0      | 3.0     | MJZ              | 1.3  | 3.0 | ROX  | 1.0 | 3.8 |     |         |  |
|             |                                                    | MNW     | 0.7      | 1.1     | KAI              | 0.2  |     | COB  |     | 0.2 |     |         |  |

|             |                                                    | 77/ 474 |          |       |                  |      |     |      |     |     |     |     |  |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|-----|-----|--|
| JUL 31      | 04 <sup>h</sup> 38 <sup>m</sup> 52 <sup>s</sup> .0 | 45°.26s | 167°.29E | 12 km | M = 3.4          |      |     |      |     |     |     |     |  |
|             | ± 0.8                                              | 0.03    | 0.06     | R     | S.E. of RES. 1.2 |      |     |      |     |     |     |     |  |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P | W S |  |
| MNW         | eP*                                                | 04      | 39       | 02.3  |                  | -0.6 | 100 | 0.58 | 156 |     |     |     |  |
|             | S*                                                 |         |          | 10.0  |                  | -0.8 | 100 |      |     |     |     |     |  |
| MSZ         | iP*                                                | 04      | 39       | 05.2  | U                | -0.5 | 100 | 0.74 | 37  |     | 3.1 | 3.1 |  |
|             | eS*                                                |         |          | 15    |                  | -0.7 | 100 |      |     |     |     |     |  |
| ROX         | Pn                                                 | 04      | 39       | 18.3  |                  | 1.1  | 100 | 1.45 | 99  |     | 3.6 | 3.9 |  |
|             | Sn                                                 |         |          | 37.7  |                  | 1.6  | 99  |      |     |     |     |     |  |
| OBZ         | ePn                                                | 04      | 39       | 21    |                  | -0.3 | 100 | 1.75 | 161 |     |     |     |  |
|             | eSn                                                |         |          | 43    |                  | -0.3 | 100 |      |     |     |     |     |  |
| GSP         | Pg                                                 | 04      | 39       | 37.0  |                  | -0.4 | 100 | 2.25 | 61  |     |     |     |  |
|             | eS*                                                |         |          | 40 01 |                  | 0.0  | 100 |      |     |     |     |     |  |
| OMZ         | eSg                                                | 04      | 40       | 18.5  |                  | -0.1 | 100 | 2.57 | 87  |     |     |     |  |
| MJZ         | eP*                                                | 04      | 39       | 40    |                  | 2.5  | 96  | 2.60 | 62  |     | 3.2 |     |  |
|             | eSg                                                |         |          | 40 18 |                  | -1.6 | 99  |      |     |     |     |     |  |
| AMPLITUDES: |                                                    | MSZ     | 3.7      | 6.0   | ROX              | 1.1  | 5.0 | MJZ  | 0.4 |     |     |     |  |

|        |                                                    | 77/ 475 |          |        |                  |      |     |      |     |     |      |     |  |
|--------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|-----|------|-----|--|
| JUL 31 | 04 <sup>h</sup> 51 <sup>m</sup> 51 <sup>s</sup> .3 | 36°.85s | 177°.87E | 214 km | M = 4.2          |      |     |      |     |     |      |     |  |
|        | ± 1.5                                              | 0.09    | 0.11     | 9      | S.E. of RES. 1.7 |      |     |      |     |     |      |     |  |
| STN    | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A | W P  | W S |  |
| ECZ    | P                                                  | 04      | 52       | 25.3   |                  | 2.7  | 99  | 1.00 | 148 |     | 3.5  | 4.0 |  |
|        | e                                                  |         |          | 39     |                  |      |     |      |     |     |      |     |  |
|        | eS                                                 |         |          | 46     |                  | -1.0 | 100 |      |     |     |      |     |  |
| WTZ    | iP                                                 | 04      | 52       | 23.4   |                  | -1.6 | 100 | 1.33 | 212 |     | 4.1  | 4.3 |  |
|        | eS                                                 |         |          | 49.5   |                  | -1.7 | 100 |      |     |     |      |     |  |
| KRP    | iP                                                 | 04      | 52       | 32.1   | DNE              | -0.5 | 100 | 2.15 | 239 |     | 3.2* |     |  |

|             |     |            |          |          |           |         |
|-------------|-----|------------|----------|----------|-----------|---------|
|             | eS  | 53 06      | 1.4 100  |          |           |         |
| TRZ         | eP  | 04 52 40   | -0.1 100 | 2.83 197 | 4.3 4.6   |         |
|             | eS  | 53 20      | 2.2 99   |          |           |         |
| TNZ         | eP  | 04 52 52   | 2.6 99   | 3.61 229 |           |         |
|             | e   | 53 43      |          |          |           |         |
| MNG         | P   | 04 52 55.6 | -1.1 100 | 4.20 206 |           |         |
|             | e   | 53 14      |          |          |           |         |
|             | e   | 41         |          |          |           |         |
|             | eS  | 47         | -0.3 100 |          |           |         |
| WEL         | eP  | 04 53 07   | -0.3 100 | 5.05 208 | 4.4       |         |
|             | eS  | 54 06      | -0.3 100 |          |           |         |
| COB         | eP  | 04 53 15.5 | -1.7 100 | 5.82 222 | 3.7* 3.4* |         |
|             | eS  | 54 24      | -0.1 100 |          |           |         |
| AMPLITUDES: | ECZ | 0.3 0.8    | WTZ      | 2.2 3.9  | KRP       | 1.0     |
|             | TRZ | 0.5 2.5    | WEL      | 0.4      | COB       | 0.5 0.9 |

JUL 31 05<sup>h</sup>42<sup>m</sup>29<sup>s</sup>.7 35°.03s 178°.69W 245 km M = 4.3  
 ± 2.0 0.12 0.14 25 S.E. of RES. 2.0 77/ 476

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|------|-----|
| ECZ         | eP    | 05  | 43  | 26.5 |     | -1.0 | 100 | 3.47 | 219 |     | 4.2  | 4.2 |
|             | eS    |     | 44  | 14   |     | 1.5  | 100 |      |     |     |      |     |
| WTZ         | P     | 05  | 43  | 39.1 |     | -1.5 | 100 | 4.56 | 228 |     | 4.5  | 4.3 |
|             | e     |     |     | 51.5 |     |      |     |      |     |     |      |     |
|             | eS    |     | 44  | 34   |     | -1.8 | 100 |      |     |     |      |     |
| KRP         | P     | 05  | 43  | 52.2 |     | 0.3  | 100 | 5.48 | 236 |     | 3.2* |     |
|             | eS    |     | 44  | 55   |     | -0.9 | 100 |      |     |     |      |     |
| TRZ         | eP    | 05  | 43  | 54   |     | -1.4 | 100 | 5.77 | 217 |     |      | 4.2 |
|             | eS    |     | 45  | 05   |     | 2.7  | 99  |      |     |     |      |     |
| MNG         | eP    | 05  | 44  | 16   |     | 2.0  | 100 | 7.24 | 218 |     | 4.0  | 4.1 |
|             | eS    |     | 45  | 36.5 |     | 0.7  | 100 |      |     |     |      |     |
| WEL         | eS    | 05  | 45  | 54   |     | -1.3 | 100 | 8.10 | 218 | 4.6 |      |     |
| CIZ         | eP    | 05  | 44  | 40   |     | 2.6  | 99  | 9.07 | 170 |     |      |     |
|             | eS    |     | 46  | 15   |     | -2.4 | 99  |      |     |     |      |     |
| AMPLITUDES: | ECZ   | 0.3 | 0.3 | WTZ  | 1.0 | 0.6  | KRP | 0.4  |     |     |      |     |
|             | TRZ   |     | 0.3 | MNG  | 0.4 | 0.6  | WEL | 0.2  |     |     |      |     |
|             | CIZ   | 0.3 | 0.8 |      |     |      |     |      |     |     |      |     |

JUL 31 10<sup>h</sup>53<sup>m</sup>48<sup>s</sup>.9 38°.66s 175°.61E 131 km M = 3.4  
 ± 1.5 0.04 0.06 12 S.E. of RES. 1.0 77/ 477

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|------|------|
| NGZ         | iP    | 10  | 54 | 10.0 | U   | 1.7  | 98  | 0.52 | 180 |     |      |      |
| KRP         | iP    | 10  | 54 | 09.1 | D   | -0.6 | 100 | 0.74 | 356 |     | 2.9* |      |
|             | eS    |     |    | 26   |     | 0.3  | 100 |      |     |     |      |      |
| WTZ         | eS    | 10  | 54 | 34   |     | -0.8 | 100 | 1.28 | 59  |     |      | 2.9  |
| TRZ         | P     | 10  | 54 | 16.0 |     | 0.9  | 100 | 1.30 | 134 |     | 3.6  | 3.5  |
|             | e     |     |    | 40.3 |     |      |     |      |     |     |      |      |
| MNG         | iP    | 10  | 54 | 22.7 | U   | -0.1 | 100 | 1.96 | 183 |     |      |      |
|             | S     |     |    | 47.8 |     | -0.6 | 100 |      |     |     |      |      |
| WEL         | eS    | 10  | 55 | 05   |     | -0.5 | 100 | 2.70 | 194 | 3.6 |      |      |
| COB         | eS    | 10  | 55 | 19   |     | -0.1 | 100 | 3.28 | 221 |     |      | 2.8* |
| AMPLITUDES: | KRP   | 1.0 |    | WTZ  | 0.3 | TRZ  | 0.5 | 0.8  |     |     |      |      |
|             | WEL   | 0.2 |    | COB  | 0.4 |      |     |      |     |     |      |      |

JUL 31 14<sup>h</sup>12<sup>m</sup>39<sup>s</sup>.9 40°.63s 174°.22E 33 km 77/ 478  
 ± 0.4 0.03 0.04 R S.E. of RES. 1.6 M = 3.5

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WEL         | ePn   | 14  | 12  | 55    |     | 1.0  | 100 | 0.77 | 148 | 3.2 |     |     |   |   |
|             | e(S*) |     |     | 13 07 |     | 1.4  | 100 |      |     |     |     |     |   |   |
| MNG         | iPn   | 14  | 12  | 55.7  | D   | -0.9 | 100 | 0.96 | 90  |     | 3.1 |     |   |   |
|             | eSn   |     |     | 13 08 |     | -1.0 | 100 |      |     |     |     |     |   |   |
| COB         | Pn    | 14  | 12  | 59.6  |     | -0.4 | 100 | 1.21 | 248 |     |     |     |   |   |
|             | eSn   |     |     | 13 16 |     | 1.0  | 100 |      |     |     |     |     |   |   |
| TNZ         | Pn    | 14  | 13  | 02.6  |     | -0.6 | 100 | 1.45 | 5   |     |     | 3.7 |   |   |
|             | P*    |     |     | 03.3  |     | -2.7 |     |      |     |     |     |     |   |   |
|             | eSn   |     |     | 22.5  |     | 1.8  | 100 |      |     |     |     |     |   |   |
| NGZ         | Pn    | 14  | 13  | 06.7  |     | -1.4 | 100 | 1.80 | 37  |     |     |     |   |   |
|             | eSn   |     |     | 30    |     | 0.8  | 100 |      |     |     |     |     |   |   |
| KKY         | eP*   | 14  | 13  | 14    |     | 1.6  | 100 | 1.83 | 192 |     |     |     |   |   |
| TRZ         | eP*   | 14  | 13  | 19    |     | -0.9 | 100 | 2.27 | 62  |     |     | 3.4 |   |   |
|             | e     |     |     | 26    |     |      |     |      |     |     |     |     |   |   |
|             | Sn    |     |     | 42.5  |     | 2.1  | 99  |      |     |     |     |     |   |   |
| KAI         | eSn   | 14  | 13  | 55    |     | 1.1  | 100 | 2.83 | 227 | 3.6 |     |     |   |   |
| KRP         | ePn   | 14  | 13  | 21    |     | -1.9 | 100 | 2.90 | 21  |     | 3.7 | 3.3 |   |   |
|             | eSn   |     |     | 55    |     | -0.4 | 100 |      |     |     |     |     |   |   |
| GPZ         | eSn   | 14  | 14  | 01    |     | -3.6 | 96  | 3.28 | 200 | 3.8 |     |     |   |   |
| WTZ         | e     | 14  | 13  | 34    |     |      |     | 3.41 | 40  |     | 4.0 |     |   |   |
| AMPLITUDES: |       | WEL | 1.0 |       |     | MNG  | 2.5 |      | TNZ |     | 1.0 |     |   |   |
|             |       | TRZ |     |       | 0.3 | KAI  | 0.2 |      | KRP |     | 0.8 | 0.4 |   |   |
|             |       | GPZ | 0.4 |       |     | WTZ  | 0.3 |      |     |     |     |     |   |   |

JUL 31 16<sup>h</sup>52<sup>m</sup>29<sup>s</sup>.4 37°.83s 176°.78E 3 km 77/ 479  
 ± 0.8 0.03 0.06 5 S.E. of RES. 1.6 M = 4.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WIZ | iPg   | 16 | 52 | 32.7    | U   | -1.3 | 100 | 0.22 | 133 |     |     |     |   |   |
| WNZ | P*    | 16 | 52 | 46.7    |     | -1.2 | 100 | 0.96 | 213 |     | 4.6 | 4.5 |   |   |
|     | ePg   |    |    | 49      |     | 0.1  | 100 |      |     |     |     |     |   |   |
|     | e     |    |    | 53 07   |     |      |     |      |     |     |     |     |   |   |
| KRP | P*    | 16 | 52 | 46.4    | DSE | -1.9 | 100 | 0.99 | 264 |     |     |     |   |   |
| ECZ | iPn   | 16 | 52 | 56.0    | U   | 0.7  | 100 | 1.40 | 85  |     | 4.9 |     |   |   |
| NGZ | Pn    | 16 | 52 | 57.5    |     | -0.9 | 100 | 1.63 | 214 |     |     |     |   |   |
| TRZ | iPn   | 16 | 52 | 59.0    | U   | -0.6 | 100 | 1.72 | 179 |     | 4.9 | 4.8 |   |   |
|     | P*    |    |    | 53 02.2 |     | 1.4  | 100 |      |     |     |     |     |   |   |
|     | e     |    |    | 34      |     |      |     |      |     |     |     |     |   |   |
| AUC | Pn    | 16 | 53 | 00.5    |     | -1.1 | 100 | 1.87 | 301 |     |     |     |   |   |
| TNZ | ePn   | 16 | 53 | 10      |     | 2.2  | 99  | 2.32 | 234 |     | 4.8 | 4.6 |   |   |
|     | eP*   |    |    | 13.5    |     | 2.5  | 99  |      |     |     |     |     |   |   |
|     | e     |    |    | 55.5    |     |      |     |      |     |     |     |     |   |   |
| ONE | ePn   | 16 | 53 | 16.5    |     | 1.8  | 100 | 2.83 | 316 | 4.7 |     |     |   |   |
|     | eSg   |    |    | 54 04   |     | -0.5 | 100 |      |     |     |     |     |   |   |
| MNG | Pn    | 16 | 53 | 15.2    |     | -1.4 | 100 | 2.96 | 199 |     | 4.8 |     |   |   |
|     | eP*   |    |    | 25      |     | 3.0  | 98  |      |     |     |     |     |   |   |
| CAZ | ePg   | 16 | 53 | 31      |     | -1.1 | 100 | 3.10 | 188 |     |     |     |   |   |
| WEL | eP*   | 16 | 53 | 35      |     | -1.1 | 100 | 3.79 | 204 | 4.3 |     |     |   |   |
|     | ePg   |    |    | 47      |     | 1.1  | 100 |      |     |     |     |     |   |   |
|     | eSn   |    |    | 54 10   |     | -1.7 | 100 |      |     |     |     |     |   |   |
|     | e     |    |    | 48.5    |     |      |     |      |     |     |     |     |   |   |
| CRZ | ePn   | 16 | 53 | 40      |     | -0.9 | 100 | 4.75 | 314 |     | 4.5 |     |   |   |



AMPLITUDES: WNZ 1.7 1.8 ECZ 6.6 TRZ 8.5 7.7  
 TNZ 1.0 0.6 ONE 1.2 MNG 10  
 WEL 0.4 CRZ 0.3

FELT: Whakatane (27) MM IV and in adjacent districts.

AUG 01 00<sup>h</sup>54<sup>m</sup>56<sup>s</sup>.8 39°.70s 176°.40E 12 km M = 4.0  
 ± 0.7 0.04 0.06 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ | iP*   | 00 | 55 | 07.0  | U   | 3.0  | 99  | 0.35 | 65  |     |     |     |
| NGZ | P*    | 00 | 55 | 13.9  |     | 2.3  | 100 | 0.80 | 310 |     |     |     |
|     | S*    |    |    | 23.5  |     | 1.0  | 100 |      |     |     |     |     |
| MNG | iP*   | 00 | 55 | 17.7  | U   | 0.0  | 100 | 1.16 | 217 |     |     |     |
| CAZ | iPn   | 00 | 55 | 18.8  | U   | 0.0  | 100 | 1.21 | 186 |     |     |     |
|     | e     |    |    | 26.5  |     |      |     |      |     |     |     |     |
| WTZ | Pn    | 00 | 55 | 25.6  |     | -0.9 | 100 | 1.77 | 15  |     | 3.8 | 3.9 |
|     | Sn    |    |    | 47.0  |     | -1.8 | 100 |      |     |     |     |     |
| KRP | Pn    | 00 | 55 | 27.9  |     | -0.3 | 100 | 1.90 | 339 |     | 3.9 | 4.3 |
|     | eSn   |    |    | 48    |     | -3.8 |     |      |     |     |     |     |
| WEL | ePg   | 00 | 55 | 37    |     | -0.6 | 100 | 2.02 | 218 | 3.9 |     |     |
|     | eSn   |    |    | 53    |     | -1.6 | 100 |      |     |     |     |     |
|     | eSg   |    |    | 56 07 |     | 2.2  | 100 |      |     |     |     |     |
| COB | ePn   | 00 | 55 | 43    |     | -2.0 | 100 | 3.13 | 243 |     | 4.3 | 3.9 |
|     | ePg   |    |    | 57    |     | -3.0 | 99  |      |     |     |     |     |
|     | eS*   |    |    | 56 34 |     | 1.8  | 100 |      |     |     |     |     |
|     | eSg   |    |    | 42    |     | -0.2 | 100 |      |     |     |     |     |

AMPLITUDES: WTZ 1.9 2.5 KRP 1.1 2.0 WEL 0.8  
 COB 1.3 1.7

FELT: Patoka (52) MM III

AUG 02 09<sup>h</sup>53<sup>m</sup>50<sup>s</sup>.0 35°.37s 179°.13E 33 km M = 4.3  
 ± 1.6 0.07 0.09 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P*    | 09 | 54 | 30.7    |     | -0.9 | 100 | 2.37 | 191 |     | 4.3 | 4.4 |
|     | S*    |    | 55 | 00.7    |     | -2.0 | 100 |      |     |     |     |     |
| WTZ | Pn    | 09 | 54 | 34.0    |     | -2.2 | 100 | 3.13 | 213 |     | 4.1 | 4.0 |
|     | e     |    |    | 38.9    |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 55 13   |     | 1.9  | 100 |      |     |     |     |     |
| GNZ | iPn   | 09 | 54 | 42.0    | U   | 2.2  | 100 | 3.39 | 195 |     | 4.3 | 4.0 |
|     | eP*   |    |    | 51      |     | 2.0  | 100 |      |     |     |     |     |
|     | eSn   |    |    | 55 18   |     | 0.6  | 100 |      |     |     |     |     |
| KRP | Pn    | 09 | 54 | 45.2    |     | -1.0 | 100 | 3.85 | 228 |     | 4.7 | 4.5 |
|     | eSn   |    |    | 55 30   |     | 1.4  | 100 |      |     |     |     |     |
| ONE | e?    | 09 | 55 | 07      |     |      |     | 3.91 | 263 | 4.7 |     |     |
|     | eSn   |    |    | 31      |     | 1.1  | 100 |      |     |     |     |     |
|     | e     |    |    | 41      |     |      |     |      |     |     |     |     |
| TRZ | ePn   | 09 | 54 | 56      |     | 0.1  | 100 | 4.56 | 203 |     | 4.0 | 4.0 |
|     | e     |    |    | 55 55   |     |      |     |      |     |     |     |     |
| CRZ | ePn   | 09 | 55 | 06      |     | -1.1 | 100 | 5.39 | 278 |     | 4.8 |     |
|     | e     |    |    | 56 20.5 |     |      |     |      |     |     |     |     |
| WEL | eSn   | 09 | 56 | 36      |     | -4.2 | 97  | 6.83 | 209 | 4.5 |     |     |
| COB | ePn   | 09 | 55 | 36      |     | -1.5 | 100 | 7.61 | 219 |     | 4.3 | 3.8 |
|     | eSn   |    |    | 57 00   |     | 1.1  | 100 |      |     |     |     |     |
| CIZ | e     | 09 | 56 | 09      |     |      |     | 9.20 | 160 |     |     |     |
|     | eSn   |    |    | 57 38   |     | 1.0  | 100 |      |     |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 0.8 | 1.2 | WIZ | 1.4 | 1.0 | GNZ | 1.5 | 1.1 |
|             | KRP | 0.8 | 0.4 | ONE | 0.3 |     | TRZ | 0.2 | 0.3 |
|             | CRZ | 0.3 |     | WEL | 0.3 |     | COB | 0.2 | 0.2 |
|             | CIZ |     | 0.3 |     |     |     |     |     |     |

AUG 02 10<sup>h</sup>16<sup>m</sup>45<sup>s</sup>.3 37°.86s 176°.78E 6 km M = 3.4  
 ± 1.3 0.07 0.05 9 S.E. of RES. 2.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WIZ | iPg   | 10 | 16 | 47.3 | U   | -2.3 | 99  | 0.21 | 127 |     |     |     |   |   |
|     | e     |    |    | 56.8 |     |      |     |      |     |     |     |     |   |   |
| KRP | P*    | 10 | 17 | 03.2 |     | -0.7 | 100 | 0.99 | 266 |     | 3.2 | 3.1 |   |   |
|     | eS*   |    |    | 17   |     | -0.3 | 100 |      |     |     |     |     |   |   |
|     | eSg   |    |    | 20.5 |     | 1.9  | 100 |      |     |     |     |     |   |   |
| GNZ | iPn   | 10 | 17 | 08.8 | D   | 0.1  | 100 | 1.25 | 129 |     | 3.7 | 3.4 |   |   |
|     | eSg   |    |    | 31   |     | 3.4  | 98  |      |     |     |     |     |   |   |
| ECZ | Pn    | 10 | 17 | 11.2 |     | 0.3  | 100 | 1.41 | 84  |     | 3.7 |     |   |   |
| TRZ | eP*   | 10 | 17 | 15   |     | -0.9 | 100 | 1.69 | 179 |     | 3.7 | 3.2 |   |   |
|     | ePg   |    |    | 17.5 |     | -2.0 | 100 |      |     |     |     |     |   |   |
|     | eS*   |    |    | 39   |     | 0.5  | 100 |      |     |     |     |     |   |   |

|             |     |     |    |     |     |     |     |     |     |
|-------------|-----|-----|----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WIZ | 18  | 11 | KRP | 1.1 | 0.8 | GNZ | 2.4 | 1.5 |
|             | ECZ | 0.4 |    | TRZ | 0.5 | 0.2 |     |     |     |

AUG 02 10<sup>h</sup>38<sup>m</sup>02<sup>s</sup>.5 37°.80s 176°.77E 11 km M = 3.4  
 ± 1.1 0.07 0.05 6 S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WIZ | iPg   | 10 | 38 | 05.1 | U   | -2.9 | 99  | 0.25 | 137 |     |     |     |   |   |
|     | Sg    |    |    | 12.5 |     | 0.9  | 100 |      |     |     |     |     |   |   |
| KRP | P*    | 10 | 38 | 19.8 |     | -0.7 | 100 | 0.98 | 262 |     | 3.2 | 3.0 |   |   |
|     | ePg   |    |    | 21   |     | -1.5 | 100 |      |     |     |     |     |   |   |
|     | eSg   |    |    | 38   |     | 2.2  | 99  |      |     |     |     |     |   |   |
| GNZ | iPn   | 10 | 38 | 26.6 | D   | 0.7  | 100 | 1.30 | 131 |     | 3.7 | 3.2 |   |   |
|     | eSg   |    |    | 48   |     | 1.6  | 100 |      |     |     |     |     |   |   |
| ECZ | ePn   | 10 | 38 | 28   |     | 0.6  | 100 | 1.41 | 86  |     | 3.7 |     |   |   |
| TRZ | eP*   | 10 | 38 | 34   |     | 0.3  | 100 | 1.75 | 179 |     | 3.6 | 3.2 |   |   |
|     | eS*   |    |    | 56   |     | -0.8 | 100 |      |     |     |     |     |   |   |

|             |     |     |    |     |     |     |     |     |     |
|-------------|-----|-----|----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WIZ | 16  | 10 | KRP | 1.0 | 0.6 | GNZ | 1.8 | 0.9 |
|             | ECZ | 0.4 |    | TRZ | 0.4 | 0.2 |     |     |     |

AUG 02 11<sup>h</sup>04<sup>m</sup>08<sup>s</sup>.1 49°.50s 164°.03E 33 km M = 4.4  
 ± 1.5 0.04 0.17 R S.E. of RES. 1.8

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| OBZ | Pn    | 11 | 05 | 02.8    |     | -0.3 | 100 | 3.77 | 48  |     |     |     |     |   |
|     | Sn    |    |    | 42      |     | -2.7 | 99  |      |     |     |     |     |     |   |
| MNW | Pn    | 11 | 05 | 13.0    |     | 0.7  | 100 | 4.45 | 34  | 4.2 | 4.8 | 4.5 |     |   |
|     | eSn   |    |    | 06 02   |     | 1.1  | 100 |      |     |     |     |     |     |   |
| CBZ | Pn    | 11 | 05 | 12.7    |     | 0.2  | 100 | 4.45 | 135 |     |     |     |     |   |
|     | Sn    |    |    | 58.3    |     | -2.8 | 99  |      |     |     |     |     |     |   |
|     | S*    |    |    | 06 25.8 |     | 2.6  | 99  |      |     |     |     |     |     |   |
| ROX | Pn    | 11 | 05 | 26.3    |     | 1.0  | 100 | 5.39 | 44  |     | 4.9 | 4.4 |     |   |
|     | eSn   |    |    | 06 25   |     | 1.3  | 100 |      |     |     |     |     |     |   |
| MSZ | Pn    | 11 | 05 | 28.9    |     | 1.9  | 100 | 5.52 | 30  |     | 4.5 | 4.3 |     |   |
|     | e     |    |    | 06 35   |     |      |     |      |     |     |     |     |     |   |
| OMZ | Pn    | 11 | 05 | 40.3    |     | 0.6  | 100 | 6.45 | 49  |     |     |     | 4.2 |   |



ECZ 0.5 0.3 MNG 1.3 2.8 WEL 0.3  
COB 0.3 0.6

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AUG 04 09<sup>h</sup>54<sup>m</sup>29<sup>s</sup>.5 37°.04s 178°.82E 124 km M = 4.1  
± 1.5 0.07 0.11 13 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|-------|-----|------|-----|------|-----|------|------|------|
| ECZ | P     | 09 | 54 | 48.0  |     | -1.2 | 100 | 0.68 | 199 |      | 4.1  |      |
| GNZ | eP    | 09 | 55 | 02.5  |     | 2.4  | 99  | 1.72 | 201 |      |      |      |
|     | eS    |    |    | 24    |     | 0.7  | 100 |      |     |      |      |      |
| WTZ | P     | 09 | 54 | 59.2  |     | -1.0 | 100 | 1.74 | 237 |      | 4.6  | 4.2  |
|     | e     |    | 55 | 01.2  |     |      |     |      |     |      |      |      |
|     | S     |    |    | 22.8  |     | -0.8 | 100 |      |     |      |      |      |
| KRP | eP    | 09 | 55 | 12    |     | -1.5 | 100 | 2.76 | 250 |      | 3.6* | 3.0* |
|     | e     |    |    | 16.3  |     |      |     |      |     |      |      |      |
|     | eS    |    |    | 48    |     | 1.1  | 100 |      |     |      |      |      |
| TRZ | P     | 09 | 55 | 17.3  |     | 1.0  | 100 | 2.96 | 212 |      | 4.1  | 4.0  |
|     | e     |    |    | 56    |     |      |     |      |     |      |      |      |
| ONE | eP    | 09 | 55 | 29    |     | 1.3  | 100 | 3.82 | 288 | 3.1* |      |      |
| MNG | P     | 09 | 55 | 34.3  |     | -1.4 | 100 | 4.43 | 215 |      | 3.6  | 3.9  |
|     | S     |    |    | 56 28 |     | 1.2  | 100 |      |     |      |      |      |
| WEL | S     | 09 | 56 | 46    |     | -1.5 | 100 | 5.28 | 215 | 4.2  |      |      |

AMPLITUDES: ECZ 3.5 WTZ 7.2 3.9 KRP 2.0 0.6  
TRZ 0.4 0.7 ONE 0.2 MNG 0.4 1.0  
WEL 0.2

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AUG 05 02<sup>h</sup>41<sup>m</sup>40<sup>s</sup>.5 33°.64s 179°.04W 33 km M = 4.5  
± 1.2 0.06 0.11 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | ePn   | 02 | 42 | 46.5    |     | 1.0  | 100 | 4.50 | 205 |     | 4.7 | 4.5 |
|     | (S)   |    |    | 43 40   |     | 5.4  |     |      |     |     |     |     |
| WTZ | Pn    | 02 | 42 | 56.5    |     | -1.4 | 99  | 5.41 | 216 |     | 4.5 | 4.4 |
|     | Sn    |    |    | 43 55   |     | -1.4 | 99  |      |     |     |     |     |
|     | eS*   |    |    | 44 31   |     | 6.9  |     |      |     |     |     |     |
| GNZ | ePn   | 02 | 42 | 59.5    |     | -0.1 | 100 | 5.53 | 205 |     | 4.6 | 4.4 |
|     | eSn   |    |    | 44 00   |     | 0.5  | 100 |      |     |     |     |     |
| ONE | ePn   | 02 | 43 | 04      |     | 0.2  | 100 | 5.84 | 247 |     |     |     |
| KRP | ePn   | 02 | 43 | 08      |     | 0.1  | 100 | 6.15 | 224 |     |     |     |
|     | Sn    |    |    | 44 15   |     | 0.9  | 100 |      |     |     |     |     |
| CRZ | Pn    | 02 | 43 | 18.5    |     | -0.1 | 100 | 6.93 | 261 |     | 5.2 |     |
| CNZ | ePn   | 02 | 43 | 28      |     | 7.5  |     | 7.06 | 217 |     |     |     |
| TNZ | ePn   | 02 | 43 | 37      |     | 8.3  |     | 7.67 | 222 |     |     |     |
| MNG | ePn   | 02 | 43 | 32      |     | -4.4 |     | 8.23 | 211 |     | 4.3 | 4.2 |
|     | e     |    |    | 42.5    |     |      |     |      |     |     |     |     |
|     | e     |    |    | 44 31.5 |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 45 00   |     | -4.2 |     |      |     |     |     |     |
|     | eS*   |    |    | 41      |     | -7.5 |     |      |     |     |     |     |
| WEL | eSn   | 02 | 45 | 19      |     | -5.8 |     | 9.09 | 211 | 4.3 |     |     |
| COB | eSn   | 02 | 45 | 39.5    |     | -5.1 |     | 9.91 | 219 |     |     | 4.0 |

AMPLITUDES: ECZ 0.5 0.4 WTZ 1.2 0.8 GNZ 1.1 1.0  
CRZ 0.3 MNG 0.5 0.6 WEL 0.1  
COB 0.2

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AUG 05 10<sup>h</sup>48<sup>m</sup>00<sup>s</sup>.7 37°.32s 177°.28E 141 km M = 3.7  
± 1.4 0.13 0.08 16 S.E. of RES. 1.4



| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S  |     |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|------|-----|
| WTZ         | iP    | 10  | 48 | 21.5  | U   | -0.9 | 100 | 0.70 | 199 |     | 3.7 | 3.6  |     |
|             | eS    |     |    | 38    |     | -1.0 | 100 |      |     |     |     |      |     |
| ECZ         | P     | 10  | 48 | 27    |     | 1.5  | 99  | 1.08 | 110 |     | 3.8 | 3.6  |     |
|             | eS    |     |    | 44    |     | -0.5 |     |      |     |     |     |      |     |
| GNZ         | P     | 10  | 48 | 28.6  | D   | -0.7 | 100 | 1.45 | 156 |     | 3.7 | 4.1  |     |
|             | S     |     |    | 51.5  |     | 0.3  | 100 |      |     |     |     |      |     |
| KRP         | P     | 10  | 48 | 30    |     | -0.0 | 100 | 1.50 | 246 |     |     |      |     |
|             | S     |     |    | 54    |     | 1.6  | 99  |      |     |     |     |      |     |
| AUC         | P     | 10  | 48 | 35.5  |     | -0.7 | 100 | 2.05 | 282 |     |     |      |     |
| CNZ         | e(P)  | 10  | 48 | 40.5  |     | 0.9  |     | 2.31 | 215 |     |     |      |     |
| ONE         | eP    | 10  | 48 | 46    |     | -0.0 |     | 2.81 | 303 |     |     |      |     |
| MNG         | iP    | 10  | 48 | 52.9  | U   | -3.2 |     | 3.57 | 202 |     | 3.7 | 3.7  |     |
|             | S     |     |    | 49 36 |     | -2.4 |     |      |     |     |     |      |     |
| WEL         | eS    | 10  | 49 | 57    |     | -1.1 |     | 4.41 | 205 | 3.7 |     |      |     |
| COB         | S     | 10  | 50 | 13.5  |     | -2.5 |     | 5.16 | 222 |     |     | 2.8* |     |
| AMPLITUDES: |       | WTZ |    | 2.7   | 2.2 | ECZ  |     | 0.9  | 0.6 | GNZ |     | 1.3  | 4.8 |
|             |       | MNG |    | 0.7   | 1.0 | WEL  | 0.1 |      |     | COB |     |      | 0.3 |

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AUG 05 14<sup>h</sup>46<sup>m</sup>36<sup>s</sup>.2 34°.12s 178°.45W 33 km M = 4.0  
 $\pm$  3.7 0.15 0.36 R S.E. of RES. 2.5

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | e(P)  | 14  | 47 | 42      |     | 3.3  | 99  | 4.32 | 213 |     | 4.6 |     |
| GNZ         | eP    | 14  | 47 | 53      |     | 0.4  | 100 | 5.34 | 211 |     | 4.0 | 3.6 |
|             | eS    |     |    | 48 47.5 |     | -2.9 | 99  |      |     |     |     |     |
| WTZ         | P     | 14  | 47 | 50.5    |     | -2.1 | 100 | 5.34 | 222 |     | 3.9 | 4.0 |
|             | eS    |     |    | 48 53   |     | 2.5  | 100 |      |     |     |     |     |
| ONE         | P     | 14  | 48 | 03      |     | -0.4 | 100 | 6.13 | 252 |     |     |     |
| KRP         | P     | 14  | 48 | 03      |     | -1.0 | 100 | 6.17 | 230 |     |     |     |
| CRZ         | P     | 14  | 48 | 20      |     | -0.1 | 100 | 7.35 | 265 |     | 4.7 |     |
| MNG         | P     | 14  | 48 | 33      |     | 2.9  |     | 8.09 | 215 |     | 3.6 | 4.1 |
|             | e(S)  |     |    | 49 55   |     | -1.5 |     |      |     |     |     |     |
| COB         | eS    | 14  | 50 | 40      |     | 0.8  |     | 9.86 | 223 |     |     | 3.7 |
| AMPLITUDES: |       | ECZ |    | 0.4     |     | GNZ  | 0.3 | 0.2  | WTZ |     | 0.3 | 0.3 |
|             |       | CRZ |    | 0.1     |     | MNG  | 0.1 | 0.4  | COB |     |     | 0.1 |

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AUG 06 02<sup>h</sup>36<sup>m</sup>48<sup>s</sup>.3 39°.46s 173°.54E 12 km M = 3.9  
 $\pm$  0.5 0.03 0.05 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| CNZ | Pn    | 02 | 37 | 15.0 | D   | -0.3 | 100 | 1.58 | 81  |     |     |     |
|     | P*    |    |    | 16   |     | -0.4 |     |      |     |     |     |     |
|     | Sn    |    |    | 36   |     | 0.4  | 100 |      |     |     |     |     |
| GSZ | Pn    | 02 | 37 | 15.2 |     | -0.4 |     | 1.60 | 84  |     |     |     |
|     | Sn    |    |    | 35.5 |     | -0.6 |     |      |     |     |     |     |
| COB | Pn    | 02 | 37 | 16   |     | -1.5 | 99  | 1.74 | 201 |     | 4.1 | 3.6 |
|     | P*    |    |    | 17.5 |     | -1.6 |     |      |     |     |     |     |
|     | Pg    |    |    | 21   |     | -2.5 |     |      |     |     |     |     |
|     | Sn    |    |    | 40   |     | 0.5  | 100 |      |     |     |     |     |
| MNG | iPn   | 02 | 37 | 18.8 | U   | -0.8 | 100 | 1.89 | 128 |     | 3.8 | 4.2 |
|     | eP*   |    |    | 23   |     | 1.3  |     |      |     |     |     |     |
|     | eSn   |    |    | 42   |     | -1.0 | 100 |      |     |     |     |     |
| WEL | Pn    | 02 | 37 | 23   |     | 1.2  | 99  | 2.05 | 153 | 3.9 |     |     |
|     | Sn    |    |    | 47.5 |     | 0.5  | 100 |      |     |     |     |     |
| KRP | ePn   | 02 | 37 | 23.5 |     | -0.2 | 100 | 2.19 | 46  |     |     |     |

|     |       |          |      |     |      |     |     |
|-----|-------|----------|------|-----|------|-----|-----|
|     | P*    | 28       | 1.1  | 99  |      |     |     |
|     | Pg    | 32       | -0.6 |     |      |     |     |
|     | Sn    | 50       | -0.3 | 100 |      |     |     |
|     | S*    | 55       | -0.6 |     |      |     |     |
| WTZ | ePn   | 02 37 36 | 0.2  |     | 3.08 | 62  | 4.4 |
|     | eP*   | 42.5     | 0.6  |     |      |     |     |
|     | S?    | 38 11    | -0.6 |     |      |     |     |
| KAI | ePg   | 02 37 55 | -3.3 |     | 3.46 | 207 | 3.8 |
|     | e(Sn) | 38 20    | -0.9 |     |      |     |     |
|     | eSg   | 49       | 4.0  |     |      |     |     |
| GPZ | e     | 02 38 38 |      |     | 4.29 | 189 | 3.5 |
|     | Sn    | 40       | -0.7 |     |      |     |     |
| MJZ | P     | 02 38 05 | 1.9  |     | 5.08 | 206 |     |
|     | S     | 59       | -0.7 |     |      |     |     |
|     | eS*   | 39 22    | -0.2 |     |      |     |     |

AMPLITUDES: COB 2.4 2.5 MNG 3.2 10 WEL 0.8  
WTZ 0.4 KAI 0.2 GPZ 0.1

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AUG 06 07<sup>h</sup>29<sup>m</sup>30<sup>s</sup>.4 37°.81s 176°.78E 12 km M = 3.7  
± 0.6 0.06 0.03 R S.E. of RES. 0.8

| STN | PHASE | H  | M    | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|------|------|-----|------|-----|------|-----|-----|---------|
| WTZ | iPg   | 07 | 29   | 35.1 |     | -0.6 | 99  | 0.24 | 136 |     |         |
| KRP | Pg    | 07 | 29   | 50.5 |     | 0.0  | 100 | 0.99 | 263 |     |         |
|     | Sg    | 30 | 07.5 |      |     | 3.6  |     |      |     |     |         |
| GNZ | Pg    | 07 | 29   | 57   |     | 0.6  | 99  | 1.29 | 131 |     |         |
|     | Sg    | 30 | 19   |      |     | 5.2  |     |      |     |     |         |
| ECZ | iPg   | 07 | 29   | 58.8 | U   | -0.1 | 100 | 1.40 | 86  |     | 3.9     |
| MNG | P*    | 07 | 30   | 20.5 |     | -1.9 |     | 2.98 | 199 |     | 3.6     |
|     | Pg    | 29 |      |      |     | -1.6 |     |      |     |     |         |

AMPLITUDES: WTZ 19 ECZ 0.6 MNG 0.6

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AUG 06 14<sup>h</sup>13<sup>m</sup>23<sup>s</sup>.9 37°.82s 176°.80E 12 km M = 3.9  
± 0.4 0.03 0.02 R S.E. of RES. 0.9

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---------|
| WTZ | iPg   | 14 | 13 | 28.7  |     | -0.2 | 100 | 0.22 | 138 |     |         |
| WNZ | ePg   | 14 | 13 | 43    |     | -0.8 | 100 | 0.98 | 214 |     | 4.0 3.9 |
|     | Sg    |    |    | 57.5  |     | 0.4  | 100 |      |     |     |         |
| KRP | iPg   | 14 | 13 | 43.0  | DE  | -1.3 | 99  | 1.01 | 264 |     |         |
|     | Sg    |    |    | 59    |     | 1.0  | 99  |      |     |     |         |
| GNZ | Pg    | 14 | 13 | 50    |     | 0.4  | 100 | 1.27 | 131 |     |         |
|     | Sg    |    |    | 11.5  |     | 4.8  |     |      |     |     |         |
| ECZ | Pg    | 14 | 13 | 52.3  |     | 0.2  | 100 | 1.39 | 85  |     | 4.4     |
| AUC | Pg    | 14 | 14 | 02    |     | 0.1  | 100 | 1.87 | 300 |     |         |
| ONE | Pg    | 14 | 14 | 24    |     | 2.9  |     | 2.83 | 315 | 4.1 |         |
|     | Sg    |    |    | 15 04 |     | 4.8  |     |      |     |     |         |
| MNG | ePn   | 14 | 14 | 11.5  |     | 1.4  |     | 2.98 | 200 |     | 4.4 3.6 |
|     | Pg    |    |    | 23.5  |     | -0.6 |     |      |     |     |         |
|     | eSg   |    |    | 15 04 |     | -0.3 |     |      |     |     |         |
| WEL | ePg   | 14 | 14 | 40    |     | -0.8 |     | 3.81 | 204 |     |         |
| COB | ePn   | 14 | 14 | 35    |     | 3.7  |     | 4.54 | 223 |     | 4.0 3.2 |
|     | eSg   |    |    | 15 54 |     | -2.7 |     |      |     |     |         |
| CRZ | ePn   | 14 | 14 | 40    |     | 5.8  |     | 4.75 | 314 |     |         |
|     | ePg   |    |    | 15 06 |     | 6.1  |     |      |     |     |         |

AMPLITUDES: WNZ 0.4 0.4 ECZ 2.2 ONE 0.3

MNG 3.3 0.7 COB 0.2 0.1

AUG 06 15<sup>h</sup>47<sup>m</sup>53<sup>s</sup>.4 33°.66s 179°.10w 33 km M = 4.8  
 ± 1.1 0.05 0.08 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S    | DIR | RES   | WT  | DIST  | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|------|-----|-------|-----|-------|-----|-----|---|-----|-----|---|
| ECZ | Pn    | 15 | 48 | 58.5 |     | 0.7   | 100 | 4.46  | 205 |     |   |     |     |   |
|     | P*    |    | 49 | 12.5 |     | 1.9   |     |       |     |     |   | 5.1 | 5.2 |   |
|     | Sn    |    |    | 47   |     | 0.5   | 100 |       |     |     |   |     |     |   |
|     | S*    |    | 50 | 14   |     | 5.3   |     |       |     |     |   |     |     |   |
| WTZ | Pn    | 15 | 49 | 09   |     | -1.1  | 99  | 5.36  | 215 |     |   | 5.0 | 4.8 |   |
|     | Sn    |    | 50 | 08   |     | -0.2  | 100 |       |     |     |   |     |     |   |
|     | S*    |    |    | 30   |     | -5.6  |     |       |     |     |   |     |     |   |
| GNZ | Pn    | 15 | 49 | 11   |     | -0.9  | 100 | 5.50  | 204 |     |   |     |     |   |
|     | Sn    |    | 50 | 11   |     | -0.4  | 100 |       |     |     |   |     |     |   |
|     | eS*   |    |    | 45   |     | 5.4   |     |       |     |     |   |     |     |   |
| ONE | Pn    | 15 | 49 | 16   |     | 0.1   | 100 | 5.79  | 247 |     |   |     |     |   |
| AUC | ePn   | 15 | 49 | 20   |     | 1.9   | 97  | 5.94  | 236 |     |   |     |     |   |
|     | eP*   |    |    | 31   |     | -4.9  |     |       |     |     |   |     |     |   |
| KRP | Pn    | 15 | 49 | 19.5 |     | -0.6  | 100 | 6.09  | 224 |     |   |     |     |   |
|     | P*    |    |    | 29.5 |     | -8.9  |     |       |     |     |   |     |     |   |
|     | eSn   |    | 50 | 23   |     | -2.8  |     |       |     |     |   |     |     |   |
| CRZ | Pn    | 15 | 49 | 30.5 |     | -0.2  | 100 | 6.88  | 261 |     |   | 5.5 | 5.2 |   |
|     | Sn    |    | 50 | 44   |     | -0.5  | 100 |       |     |     |   |     |     |   |
| CNZ | Pn    | 15 | 49 | 33   |     | 0.3   |     | 7.02  | 216 |     |   |     |     |   |
|     | eS*   |    | 51 | 19   |     | -6.1  |     |       |     |     |   |     |     |   |
| MNG | Pn    | 15 | 49 | 44   |     | -4.7  |     | 8.19  | 210 |     |   | 4.7 | 4.8 |   |
|     | eSn   |    | 51 | 14   |     | -2.1  |     |       |     |     |   |     |     |   |
|     | S*    |    |    | 48   |     | -12.1 |     |       |     |     |   |     |     |   |
| WEL | Sn    | 15 | 51 | 30   |     | -6.6  |     | 9.05  | 211 | 4.6 |   |     |     |   |
| COB | Pn    | 15 | 50 | 06   |     | -5.5  |     | 9.86  | 219 |     |   | 4.5 | 4.3 |   |
|     | Sn    |    | 51 | 49   |     | -7.3  |     |       |     |     |   |     |     |   |
|     | S*    |    | 52 | 56   |     | 5.8   |     |       |     |     |   |     |     |   |
| CIZ | Sn    | 15 | 52 | 11   |     | -0.1  |     | 10.48 | 170 |     |   |     |     |   |
| KAI |       |    |    |      |     |       |     | 11.58 | 217 | 4.5 |   |     |     |   |
| MJZ | Sn    | 15 | 53 | 03   |     | -11.9 |     | 13.13 | 215 |     |   |     |     |   |
| MSZ | ePn   | 15 | 51 | 17   |     | -3.3  |     | 14.89 | 219 |     |   | 4.7 | 4.2 |   |
|     | Sn    |    | 53 | 48   |     | -9.4  |     |       |     |     |   |     |     |   |

AMPLITUDES: ECZ 1.2 2.3 WTZ 3.2 2.1 CRZ 0.6 0.2  
 MNG 1.3 2.0 WEL 0.2 COB 0.2 0.4  
 CIZ 0.3 0.8 KAI 0.1 MSZ 0.3 0.2

AUG 06 22<sup>h</sup>09<sup>m</sup>05<sup>s</sup>.9 37°.85s 176°.77E 12 km M = 3.6  
 ± 0.1 0.01 0.00 R S.E. of RES. 0.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|-----|---|---|
| WTZ | iPg   | 22 | 09 | 10.9 | U   | 0.1  | 100 | 0.22 | 128 |     |   |     |   |   |
|     | Sg    |    |    | 14   |     | -0.1 | 100 |      |     |     |   |     |   |   |
| KRP | Pg    | 22 | 09 | 26   |     | 0.2  | 100 | 0.98 | 265 |     |   |     |   |   |
|     | Sg    |    |    | 39   |     | -0.1 | 100 |      |     |     |   |     |   |   |
| ECZ | Pg    | 22 | 09 | 34.5 |     | -0.1 | 100 | 1.41 | 84  |     |   | 3.8 |   |   |
| ONE | e(Pg) | 22 | 10 | 10   |     | 6.8  |     | 2.83 | 316 |     |   |     |   |   |
| MNG | eP*   | 22 | 09 | 58.5 |     | 1.2  |     | 2.94 | 200 |     |   | 3.4 |   |   |
|     | Pg    |    | 10 | 05   |     | -0.4 |     |      |     |     |   |     |   |   |

AMPLITUDES: ECZ 0.5 MNG 0.4

AUG 07 04<sup>h</sup>29<sup>m</sup>48<sup>s</sup>.8 37°.78s 176°.81E 12 km 77/ 496  
 $\pm 0.4$  0.03 0.03 R S.E. of RES. 1.0 M = 4.4

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST    | AZ  | W-A | W P     | W S |
|-------------|-------|-----|----|---------|-----|------|-----|---------|-----|-----|---------|-----|
| WTZ         | iPg   | 04  | 29 | 53.6    |     | -0.7 | 100 | 0.25    | 145 |     |         |     |
| WNZ         | Pg    | 04  | 30 | 10.5    |     | 1.0  | 100 | 1.02    | 213 |     | 4.5     | 4.4 |
| KRP         | iPg   | 04  | 30 | 08.1    | DE  | -1.4 | 99  | 1.02    | 261 |     |         |     |
|             | eS*   |     |    | 22      |     | 1.0  |     |         |     |     |         |     |
|             | Sg    |     |    | 23.5    |     | 0.2  | 100 |         |     |     |         |     |
| GNZ         | P*    | 04  | 30 | 14.2    |     | 2.3  |     | 1.29    | 132 |     | 4.8     | 4.4 |
|             | Pg    |     |    | 15      |     | 0.1  | 100 |         |     |     |         |     |
|             | Sg    |     |    | 37      |     | 4.7  |     |         |     |     |         |     |
| ECZ         | e     | 04  | 30 | 16      |     |      |     | 1.38    | 87  |     | 4.7     |     |
|             | Pg    |     |    | 17.2    |     | 0.4  | 100 |         |     |     |         |     |
| CNZ         | eP*   | 04  | 30 | 21      |     | 1.5  | 99  | 1.73    | 215 |     |         |     |
| TRZ         | P*    | 04  | 30 | 20.7    | D   | 0.5  | 100 | 1.77    | 180 |     | 5.0     | 4.5 |
|             | Pg    |     |    | 23.5    |     | -1.2 | 99  |         |     |     |         |     |
|             | Sg    |     |    | 47.5    |     | -1.1 |     |         |     |     |         |     |
| GSZ         | P*    | 04  | 30 | 22      |     | 1.7  |     | 1.78    | 212 |     |         |     |
|             | Pg    |     |    | 25      |     | 0.2  |     |         |     |     |         |     |
|             | Sg    |     |    | 52      |     | 3.2  |     |         |     |     |         |     |
| AUC         | P*    | 04  | 30 | 22      |     | 0.2  | 100 | 1.86    | 299 |     |         |     |
|             | Pg    |     |    | 26.5    |     | 0.0  | 100 |         |     |     |         |     |
| ONE         | P*    | 04  | 30 | 38      |     | 0.1  |     | 2.81    | 315 | 4.4 |         |     |
|             | Pg    |     |    | 50      |     | 4.5  |     |         |     |     |         |     |
|             | eSg   |     |    | 31 29   |     | 5.7  |     |         |     |     |         |     |
| MNG         | ePn   | 04  | 30 | 35.5    |     | 0.0  |     | 3.01    | 200 |     | 4.7     | 4.2 |
|             | Pg    |     |    | 47      |     | -2.8 |     |         |     |     |         |     |
| WEL         | Pg    | 04  | 31 | 05      |     | -1.5 |     | 3.84    | 204 | 3.8 |         |     |
|             | Sn    |     |    | 32      |     | 1.5  |     |         |     |     |         |     |
| COB         | Pn    | 04  | 30 | 58.5    |     | 1.8  |     | 4.57    | 222 |     | 4.3     | 3.7 |
|             | eS*   |     |    | 32 00   |     | -7.5 |     |         |     |     |         |     |
| CRZ         | eP*   | 04  | 31 | 12      |     | 1.3  |     | 4.73    | 314 |     | 4.0     |     |
|             | Pg    |     |    | 27      |     | 2.6  |     |         |     |     |         |     |
| CIZ         | Sn    | 04  | 33 | 10      |     | 0.7  |     | 7.96    | 143 |     |         |     |
| AMPLITUDES: | WNZ   |     |    | 1.2 1.3 | GNZ |      |     | 25 16   | ECZ |     | 4.8     |     |
|             | TRZ   |     |    | 8.2 3.7 | ONE | 0.7  |     |         | MNG |     | 7.0 2.6 |     |
|             | WEL   | 0.1 |    |         | COB |      |     | 0.4 0.3 | CRZ |     | 0.1     |     |
|             | CIZ   |     |    | 0.3     |     |      |     |         |     |     |         |     |

FELT: Whakatane (27) MM IV

AUG 07 04<sup>h</sup>34<sup>m</sup>38<sup>s</sup>.8 37°.84s 176°.79E 12 km 77/ 497  
 $\pm 0.3$  0.03 0.02 R S.E. of RES. 0.6 M = 3.5

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | iPg   | 04 | 34 | 43.3    |     | -0.2 | 100 | 0.21 | 132 |     |     |     |
| KRP         | Pg    | 04 | 34 | 58.5    |     | -0.5 | 100 | 1.00 | 265 |     |     |     |
|             | Sg    |    |    | 35 13   |     | 0.4  | 100 |      |     |     |     |     |
| GNZ         | Pg    | 04 | 35 | 04.8    |     | 0.6  | 99  | 1.26 | 130 |     | 3.7 | 3.2 |
|             | Sg    |    |    | 27      |     | 5.8  |     |      |     |     |     |     |
| ECZ         | Pg    | 04 | 35 | 07      |     | -0.1 | 100 | 1.39 | 84  |     | 3.7 |     |
| TRZ         | Pg    | 04 | 35 | 13      |     | -0.3 | 100 | 1.71 | 179 |     | 3.6 |     |
| ONE         | ePg   | 04 | 35 | 38      |     | 1.8  |     | 2.84 | 316 |     |     |     |
| MNG         | Pg    | 04 | 35 | 37      |     | -1.5 |     | 2.95 | 200 |     | 3.4 |     |
| AMPLITUDES: | GNZ   |    |    | 2.0 1.0 | ECZ |      |     | 0.4  | TRZ |     | 0.4 |     |







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AUG 07 11<sup>h</sup>15<sup>m</sup>58<sup>s</sup>.8 37°.82s 176°.81E 12 km M = 3.6  
 ± 0.6 0.05 0.02 R S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iPg   | 11 | 16 | 03.3 | U   | -0.3 | 100 | 0.22 | 138 |     |     |     |
| KRP | ePg   | 11 | 16 | 18   |     | -1.3 | 99  | 1.01 | 264 |     |     |     |
|     | Sg    |    |    | 34   |     | 1.1  | 99  |      |     |     |     |     |
| GNZ | Pg    | 11 | 16 | 25   |     | 0.7  | 100 | 1.26 | 131 |     | 3.9 | 3.5 |
|     | Sg    |    |    | 49   |     | 7.6  |     |      |     |     |     |     |
| ECZ | Pg    | 11 | 16 | 27   |     | 0.1  | 100 | 1.39 | 85  |     | 3.5 |     |
| CNZ | Pg    | 11 | 16 | 33   |     | -0.0 | 100 | 1.69 | 215 |     |     |     |
| TRZ | eP*   | 11 | 16 | 30.5 |     | 1.1  |     | 1.73 | 180 |     | 3.8 | 3.4 |
|     | Pg    |    |    | 33.5 |     | -0.2 | 100 |      |     |     |     |     |
| AUC | e(Pg) | 11 | 16 | 38   |     | 1.1  |     | 1.88 | 300 |     |     |     |
| ONE | ePg   | 11 | 17 | 00   |     | 3.9  |     | 2.83 | 315 | 3.6 |     |     |
|     | eSg   |    |    | 42   |     | 7.7  |     |      |     |     |     |     |
| MNG | eP*   | 11 | 16 | 52   |     | 1.3  |     | 2.98 | 200 |     | 3.8 |     |
|     | Pg    |    |    | 58   |     | -0.9 |     |      |     |     |     |     |
| COB | e(Pn) | 11 | 17 | 12   |     | 5.8  |     | 4.54 | 223 |     | 3.7 |     |

AMPLITUDES: GNZ 3.2 1.9 ECZ 0.3 TRZ 0.7 0.3  
 ONE 0.1 MNG 0.9 COB 0.1

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AUG 07 11<sup>h</sup>21<sup>m</sup>49<sup>s</sup>.8 37°.85s 176°.84E 12 km M = 3.5  
 ± 0.6 0.06 0.03 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iPg   | 11 | 21 | 53.8 |     | -0.2 | 100 | 0.18 | 140 |     |     |     |
| KRP | Pg    | 11 | 22 | 09.5 |     | -1.4 | 99  | 1.03 | 265 |     |     |     |
|     | eSg   |    |    | 26   |     | 1.1  | 99  |      |     |     |     |     |
| GNZ | Pg    | 11 | 22 | 15   |     | 0.4  | 100 | 1.22 | 131 |     | 3.6 | 3.1 |
|     | Sg    |    |    | 38   |     | 6.9  |     |      |     |     |     |     |
| ECZ | Pg    | 11 | 22 | 17.5 |     | 0.2  | 100 | 1.36 | 84  |     | 3.6 |     |
| TRZ | Pg    | 11 | 22 | 24   |     | -0.2 | 100 | 1.70 | 181 |     | 3.7 |     |
| MNG | ePg   | 11 | 22 | 48   |     | -1.7 |     | 2.96 | 201 |     | 3.4 |     |

AMPLITUDES: GNZ 1.9 1.0 ECZ 0.4 TRZ 0.5  
 MNG 0.4

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AUG 08 09<sup>h</sup>51<sup>m</sup>09<sup>s</sup>.5 38°.03s 176°.80E 122 km M = 4.1  
 ± 0.5 0.04 0.02 3 S.E. of RES. 0.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP    | 09 | 51 | 26.0    | U   | -0.5 | 100 | 0.15 | 72  |     |     |     |
|     | eS    |    |    | 39      |     | -0.3 | 100 |      |     |     |     |     |
| WNZ | P     | 09 | 51 | 30      |     | -0.1 | 100 | 0.82 | 222 |     | 4.1 |     |
| KRP | iP    | 09 | 51 | 32.1    | U   | 0.1  | 100 | 1.01 | 276 |     |     |     |
|     | e     |    |    | 46      |     |      |     |      |     |     |     |     |
|     | S     |    |    | 49.5    |     | 0.4  | 100 |      |     |     |     |     |
| GNZ | iP    | 09 | 51 | 33.8    | U   | 0.5  | 100 | 1.13 | 123 |     | 4.1 | 4.2 |
|     | S     |    |    | 52      |     | 0.5  | 100 |      |     |     |     |     |
| ECZ | P     | 09 | 51 | 36.5    | D   | -0.0 | 100 | 1.42 | 77  |     | 3.8 | 4.1 |
|     | e     |    |    | 53      |     |      |     |      |     |     |     |     |
|     | S     |    |    | 59.5    |     | 2.5  |     |      |     |     |     |     |
| TRZ | P     | 09 | 51 | 36.9    |     | -0.8 | 99  | 1.52 | 180 |     | 3.9 | 4.1 |
|     | e     |    |    | 59      |     |      |     |      |     |     |     |     |
|     | S     |    |    | 52 02.5 |     | 3.4  |     |      |     |     |     |     |

|     |      |            |      |     |      |     |           |
|-----|------|------------|------|-----|------|-----|-----------|
| CNZ | P    | 09 51 38   | 0.2  | 100 | 1.53 | 220 |           |
|     | S    | 52 05      | 5.7  |     |      |     |           |
| GSZ | P    | 09 51 38.1 | -0.2 |     | 1.57 | 217 |           |
|     | S    | 52 01.5    | 1.4  |     |      |     |           |
| AUC | P    | 09 51 43.2 | -0.1 |     | 1.99 | 305 |           |
| TNZ | eP   | 09 51 47   | 0.6  |     | 2.22 | 238 | 2.7*      |
|     | eS   | 52 11      | -3.1 |     |      |     |           |
| MNG | P    | 09 51 50.4 | -3.4 |     | 2.78 | 201 | 4.2 4.3   |
|     | eS   | 52 24      | -3.3 |     |      |     |           |
| CAZ | P    | 09 51 53.4 | -2.1 |     | 2.91 | 189 |           |
|     | eS   | 52 30      | -0.3 |     |      |     |           |
| ONE | e(P) | 09 51 57   | 0.5  |     | 2.99 | 318 |           |
| WEL | P    | 09 52 01   | -4.0 |     | 3.62 | 205 | 4.4       |
|     | S    | 42         | -5.2 |     |      |     |           |
| COB | P    | 09 52 11   | -4.3 |     | 4.38 | 225 | 2.8* 3.1* |
|     | S    | 53 00.5    | -5.3 |     |      |     |           |
| KAI | S    | 09 53 40   | -7.5 |     | 6.10 | 221 | 3.1*      |
| GPZ | S    | 09 53 47.5 | -9.3 |     | 6.48 | 208 | 3.3*      |
| CIZ | S    | 09 54 20   | -7.8 |     | 7.76 | 142 |           |

|             |     |         |     |         |     |         |
|-------------|-----|---------|-----|---------|-----|---------|
| AMPLITUDES: | WTZ | 15 9.2  | WNZ | 0.4     | GNZ | 5.5 11  |
|             | ECZ | 0.8 1.4 | TRZ | 0.7 2.8 | TNZ | 0.1     |
|             | MNG | 3.7 6.5 | WEL | 0.7     | COB | 0.1 0.7 |
|             | KAI | 0.1     | GPZ | 0.2     |     |         |

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AUG 09 10<sup>h</sup>41<sup>m</sup>07<sup>s</sup>.6 33°.68s 179°.08w 12 km M = 4.3

± 2.1 0.09 0.23 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| ECZ | Pn    | 10 | 42 | 15.5 |     | 1.7  | 99  | 4.45 | 205 |     | 4.5 | 4.5 |     |   |
|     | Sn    |    | 43 | 05.5 |     | 1.6  | 99  |      |     |     |     |     |     |   |
|     | eS*   |    |    | 17   |     | -5.6 |     |      |     |     |     |     |     |   |
| WTZ | Pn    | 10 | 42 | 25   |     | -1.2 | 100 | 5.35 | 216 |     | 4.3 | 4.3 |     |   |
|     | Sn    |    | 43 | 25   |     | -0.7 | 100 |      |     |     |     |     |     |   |
|     | eSg   |    | 44 | 05   |     | -3.0 |     |      |     |     |     |     |     |   |
| GNZ | Pn    | 10 | 42 | 26.5 |     | -1.4 | 100 | 5.48 | 204 |     | 4.3 | 4.1 |     |   |
|     | P*    |    |    | 44.5 |     | 2.2  |     |      |     |     |     |     |     |   |
|     | Sn    |    | 43 | 28   |     | -0.7 | 100 |      |     |     |     |     |     |   |
|     | Sg    |    | 44 | 09   |     | -3.3 |     |      |     |     |     |     |     |   |
| ONE | Pn    | 10 | 42 | 32.5 |     | 0.3  | 100 | 5.80 | 247 |     |     |     |     |   |
| KRP | Pn    | 10 | 42 | 37   |     | 0.8  | 100 | 6.09 | 224 |     |     |     |     |   |
| CRZ | Pn    | 10 | 42 | 47   |     | -0.1 |     | 6.88 | 261 |     | 5.0 |     |     |   |
| CNZ | eS*   | 10 | 44 | 37   |     | -2.4 |     | 7.01 | 217 |     |     |     |     |   |
| MNG | ePn   | 10 | 43 | 07.5 |     | 2.8  |     | 8.18 | 210 |     | 4.0 | 4.2 |     |   |
|     | P*    |    |    | 23   |     | -5.3 |     |      |     |     |     |     |     |   |
|     | e(S)  |    | 44 | 28   |     | -5.5 |     |      |     |     |     |     |     |   |
|     | S*    |    | 45 | 09   |     | -5.4 |     |      |     |     |     |     |     |   |
| WEL | eSn   | 10 | 44 | 47   |     | -7.0 |     | 9.04 | 211 |     |     |     |     |   |
| COB | eSn   | 10 | 45 | 08.5 |     | -5.3 |     | 9.85 | 219 |     |     |     | 3.7 |   |

|             |     |         |     |         |     |         |
|-------------|-----|---------|-----|---------|-----|---------|
| AMPLITUDES: | ECZ | 0.3 0.4 | WTZ | 0.8 0.6 | GNZ | 0.5 0.6 |
|             | CRZ | 0.2     | MNG | 0.3 0.6 | COB | 0.1     |

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AUG 10 00<sup>h</sup>36<sup>m</sup>10<sup>s</sup>.4 40°.50s 177°.03E 12 km M = 3.7

± 1.0 0.04 0.08 R S.E. of RES. 1.8

| STN | PHASE | H  | M  | S    | DIR | RES | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|------|-----|-----|-----|------|-----|-----|---|---|---|---|
| CAZ | iPg   | 00 | 36 | 26.1 | U   | 0.8 | 100 | 0.73 | 236 |     |   |   |   |   |
|     | Sg    |    |    | 37   |     | 1.8 | 100 |      |     |     |   |   |   |   |



|             |      |            |      |         |      |     |     |     |
|-------------|------|------------|------|---------|------|-----|-----|-----|
| TRZ         | P*   | 00 36 28.5 | 0.5  | 100     | 0.96 | 351 | 3.9 | 3.7 |
|             | Pg   | 32         | 2.0  |         |      |     |     |     |
| MNG         | P*   | 00 36 30.5 | -1.2 | 100     | 1.18 | 264 |     |     |
| GSZ         | Pg   | 00 36 45.5 | 1.7  |         | 1.65 | 317 |     |     |
|             | S*   | 37 01.5    | -0.0 |         |      |     |     |     |
| CNZ         | Pn   | 00 36 40.5 | 1.0  | 100     | 1.73 | 318 |     |     |
|             | Pg   | 47         | 1.6  | 100     |      |     |     |     |
|             | S*   | 37 04.5    | 0.6  | 100     |      |     |     |     |
| WEL         | Pn   | 00 36 40.5 | -1.1 | 100     | 1.88 | 245 | 3.8 |     |
|             | Sn   | 37 01.5    | -3.5 | 98      |      |     |     |     |
|             | Sg   | 17         | 3.1  |         |      |     |     |     |
| GNZ         | Pn   | 00 36 43.5 | 0.1  | 100     | 2.01 | 23  | 3.6 | 3.6 |
|             | ePg  | 50         | -1.1 |         |      |     |     |     |
|             | S*   | 37 11.5    | -0.8 | 100     |      |     |     |     |
| WTZ         | Pn?  | 00 36 52   | 1.8  |         | 2.52 | 359 | 3.6 | 3.7 |
|             | Pg   | 37 03.5    | 2.2  |         |      |     |     |     |
|             | Sn   | 18.5       | -1.7 | 100     |      |     |     |     |
| KRP         | P*   | 00 37 02   | 2.2  | 100     | 2.83 | 335 |     |     |
|             | Pg   | 10         | 2.5  | 99      |      |     |     |     |
|             | (S*) | 34.5       | -2.2 |         |      |     |     |     |
|             | Sg   | 43         | -2.5 | 99      |      |     |     |     |
| COB         | ePn  | 00 37 00.5 | -0.6 |         | 3.31 | 258 | 3.9 | 3.6 |
|             | P*   | 09.5       | 1.4  |         |      |     |     |     |
|             | Sn   | 39         | -0.3 | 100     |      |     |     |     |
|             | Sg   | 59         | -3.0 |         |      |     |     |     |
| GPZ         | Sn   | 00 38 06   | -3.4 |         | 4.56 | 224 | 4.0 |     |
| KAI         | Sn   | 00 38 08   | -4.2 |         | 4.68 | 243 | 3.7 |     |
| MJZ         | Pn   | 00 37 39   | 1.4  |         | 5.98 | 232 |     |     |
|             | Sn   | 38 40      | -3.7 |         |      |     |     |     |
| OMZ         | Sn   | 00 38 52.5 | -1.3 |         | 6.41 | 223 |     | 3.6 |
| AMPLITUDES: |      |            |      |         |      |     |     |     |
|             | TRZ  | 3.2 3.2    | WEL  | 0.7     | GNZ  | 0.9 | 1.4 |     |
|             | WTZ  | 0.6 0.7    | COB  | 0.4 0.7 | GPZ  | 0.3 |     |     |
|             | KAI  | 0.1        | OMZ  | 0.1     |      |     |     |     |

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AUG 10 09<sup>h</sup>40<sup>m</sup>41<sup>s</sup>.5 37°.57s 177°.51E 98 km M = 3.2  
 ± 0.9 0.07 0.06 10 S.E. of RES. 0.9

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT      | DIST | AZ  | W-A | W P     | W S  |
|-------------|-------|----|----|---------|-----|------|---------|------|-----|-----|---------|------|
| WTZ         | iP    | 09 | 40 | 57.3    | D   | -0.6 | 100     | 0.58 | 225 |     | 3.7     | 3.5  |
|             | S     |    | 41 | 10.5    |     | -0.0 | 100     |      |     |     |         |      |
| ECZ         | P     | 09 | 41 | 00.5    |     | 0.3  | 100     | 0.83 | 99  |     | 3.4     | 3.1  |
|             | eS    |    |    | 19      |     | 4.7  |         |      |     |     |         |      |
| GNZ         | P     | 09 | 41 | 03      |     | -0.7 | 99      | 1.14 | 160 |     | 3.0     | 3.1  |
|             | S     |    |    | 21      |     | 0.5  | 100     |      |     |     |         |      |
| KRP         | iP    | 09 | 41 | 10.0    | DE  | 0.6  | 100     | 1.60 | 257 |     |         |      |
| TRZ         | P     | 09 | 41 | 15      |     | -0.1 |         | 2.05 | 195 |     | 3.2     | 3.1  |
|             | S     |    |    | 45      |     | 4.9  |         |      |     |     |         |      |
| CNZ         | P     | 09 | 41 | 19.4    |     | 1.7  |         | 2.24 | 223 |     |         |      |
| MNG         | P     | 09 | 41 | 31      |     | -3.2 |         | 3.43 | 207 |     | 3.1     | 3.1  |
|             | e(S)  |    |    | 42 13   |     | -0.9 |         |      |     |     |         |      |
| WEL         | eS    | 09 | 42 | 33      |     | -1.8 |         | 4.27 | 209 |     |         |      |
| COB         | e(S)  | 09 | 42 | 55      |     | -0.3 |         | 5.11 | 225 |     |         | 2.7* |
| AMPLITUDES: |       |    |    |         |     |      |         |      |     |     |         |      |
|             | WTZ   |    |    | 5.0 4.0 | ECZ |      | 0.8 0.4 | GNZ  |     |     | 0.5 0.9 |      |
|             | TRZ   |    |    | 0.1 0.2 | MNG |      | 0.2 0.3 | COB  |     |     |         | 0.2  |

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AUG 11 14<sup>h</sup>47<sup>m</sup>56<sup>s</sup>.9 38°.35S 175°.54E 257 km M = 5.6  
                   ± 0.7           0.02           0.04           5   S.E. of RES. 0.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|
| WNZ | P     | 14 | 48 | 31.5 |     | 0.6  | 100 | 0.52 | 123 |      |      |      |
| CNZ | iP    | 14 | 48 | 32.3 |     | 0.1  | 100 | 0.85 | 180 |      |      |      |
|     | S     |    |    | 59.5 |     | -0.0 | 100 |      |     |      |      |      |
| WTZ | iP    | 14 | 48 | 33.6 | D   | -0.4 | 100 | 1.20 | 73  |      | 5.2  | 5.3  |
|     | eS    |    | 49 | 03   |     | 0.1  |     |      |     |      |      |      |
| TNZ | P     | 14 | 48 | 33.6 | U   | -0.7 | 100 | 1.23 | 227 |      |      |      |
| TRZ | iP    | 14 | 48 | 37.2 | D   | 0.6  | 100 | 1.56 | 141 |      |      |      |
|     | eS    |    | 49 | 10   |     | 2.5  |     |      |     |      |      |      |
| AUC | iP    | 14 | 48 | 36.7 | U   | -0.3 | 100 | 1.61 | 338 |      |      |      |
| GNZ | iP    | 14 | 48 | 40.9 | DNW | 0.9  |     | 1.97 | 99  |      |      |      |
|     | eS    |    | 49 | 15   |     | 1.6  |     |      |     |      |      |      |
| MNG | iP    | 14 | 48 | 41.5 |     | -1.2 |     | 2.27 | 181 |      |      |      |
| ECZ | iP    | 14 | 48 | 45.6 | D   | 1.0  | 99  | 2.47 | 75  |      | 5.6  | 5.6  |
|     | S     |    | 49 | 21   |     | -0.7 | 100 |      |     |      |      |      |
| CAZ | iP    | 14 | 48 | 45.6 | D   | -0.4 | 100 | 2.60 | 169 |      |      |      |
|     | S     |    | 49 | 24.5 |     | 0.1  | 100 |      |     |      |      |      |
| ONE | P     | 14 | 48 | 47   |     | -0.5 | 100 | 2.74 | 339 | 3.5* |      |      |
|     | S     |    | 49 | 27.5 |     | 0.6  | 100 |      |     |      |      |      |
| WEL | P     | 14 | 48 | 47.7 | U   | -2.4 |     | 2.99 | 191 | 6.1  |      |      |
|     | S     |    | 49 | 27   |     | -4.5 |     |      |     |      |      |      |
| CRZ | iP    | 14 | 49 | 05.6 | DE  | -2.5 |     | 4.54 | 329 |      | 4.0* |      |
|     | e     |    | 27 |      |     |      |     |      |     |      |      |      |
| KAI | P     | 14 | 49 | 12   |     | -4.3 |     | 5.23 | 216 | 4.8* |      |      |
|     | S     |    | 50 | 11   |     | -7.2 |     |      |     |      |      |      |
| GPZ | iPn   | 14 | 49 | 17.5 |     | -5.5 |     | 5.78 | 201 | 5.3* |      |      |
|     | S     |    | 50 | 22   |     | -8.3 |     |      |     |      |      |      |
| MNW | P     | 14 | 50 | 02   |     | -7.6 |     | 9.48 | 216 | 3.9* | 4.4* | 4.2* |
|     | S     |    | 51 | 44   |     | -9.8 |     |      |     |      |      |      |

AMPLITUDES: WTZ 20 30 ECZ 14 12 ONE 0.6  
                   WEL 38 CRZ 1.1 KAI 5.0  
                   GPZ 26 MNW 0.5 2.7 3.7

FELT: Central and Southern parts of the North Island. Maximum intensity MM V at Wanganui (57).

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AUG 11 15<sup>h</sup>10<sup>m</sup>49<sup>s</sup>.8 40°.15S 174°.90E 12 km M = 2.7  
                   ± 0.3           0.01           0.02           R   S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| MNG | iP*   | 15 | 11 | 01.5 | U   | -0.4 | 100 | 0.65 | 137 |     | 2.6 | 2.6 |
|     | Pg    |    |    | 03   |     | 0.0  | 100 |      |     |     |     |     |
|     | S*    |    |    | 10.5 |     | -0.2 | 100 |      |     |     |     |     |
| TNZ | e(P*) | 15 | 11 | 09   |     | 0.3  |     | 1.04 | 337 |     | 2.4 |     |
|     | Sg    |    |    | 26   |     | 0.9  | 100 |      |     |     |     |     |
| CNZ | P*    | 15 | 11 | 08.1 |     | -1.1 | 99  | 1.07 | 28  |     |     |     |
|     | S*    |    |    | 22.5 |     | -1.1 | 99  |      |     |     |     |     |
| WEL | S*    | 15 | 11 | 26   |     | 0.4  | 100 | 1.14 | 185 | 2.7 |     |     |
| TRZ | Sg    | 15 | 11 | 45   |     | 1.4  | 99  | 1.59 | 69  |     |     | 2.6 |
| COB | P*    | 15 | 11 | 23.8 |     | 0.5  | 100 | 1.90 | 240 |     | 3.1 | 2.7 |
|     | S*    |    |    | 48   |     | -0.3 | 100 |      |     |     |     |     |

AMPLITUDES: MNG 1.8 2.0 TNZ 0.1 WEL 0.1  
                   TRZ 0.1 COB 0.2 0.3

FELT: Levin (65)

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AUG 13 03<sup>h</sup>03<sup>m</sup>38<sup>s</sup>.1 45°.05s 167°.65E 100 km M = 4.7  
 ± 0.8 0.03 0.05 7 S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|-----|-----|
| MSZ | iP    | 03 | 03 | 53.9 | U   | 0.3  | 100 | 0.42 | 27  |      |     |     |
|     | eS    |    | 04 | 02   |     | -3.4 |     |      |     |      |     |     |
| MNW | iP    | 03 | 03 | 55.9 | U   | -0.1 | 100 | 0.74 | 182 |      |     |     |
|     | S     |    | 04 | 09   |     | -0.7 | 100 |      |     |      |     |     |
| ROX | iP    | 03 | 04 | 02.9 | D   | 1.1  | 99  | 1.26 | 111 |      |     |     |
|     | S     |    |    | 21   |     | 1.3  | 99  |      |     |      |     |     |
| OBZ | P     | 03 | 04 | 09.5 | U   | -0.1 | 100 | 1.89 | 170 |      |     |     |
|     | S     |    |    | 33   |     | -0.2 | 100 |      |     |      |     |     |
| MJZ | iP    | 03 | 04 | 14.5 | D   | -0.4 | 100 | 2.28 | 63  |      | 4.5 | 4.7 |
|     | S     |    |    | 42   |     | -0.3 | 100 |      |     |      |     |     |
| OMZ | iP    | 03 | 04 | 15.9 | D   | 0.4  | 100 | 2.32 | 92  |      |     |     |
|     | S     |    |    | 42   |     | -1.2 | 99  |      |     |      |     |     |
| KAI | eP    | 03 | 04 | 35   |     | 0.4  |     | 3.72 | 49  | 4.6  |     |     |
|     | S     |    | 05 | 16   |     | -1.6 |     |      |     |      |     |     |
| GPZ | eP    | 03 | 04 | 37   |     | 0.8  |     | 3.83 | 71  | 5.0  |     |     |
|     | S     |    | 05 | 17   |     | -3.5 |     |      |     |      |     |     |
| COB | P     | 03 | 04 | 56.5 |     | -1.7 |     | 5.44 | 45  |      | 4.6 | 4.8 |
|     | S     |    | 05 | 56   |     | -4.0 |     |      |     |      |     |     |
| WEL | S     | 03 | 06 | 17   |     | -7.2 |     | 6.43 | 57  | 3.2* |     |     |

AMPLITUDES: MJZ 11 27 KAI 0.8 GPZ 2.9  
 COB 0.6 1.8 WEL 0.1

FELT: Te Anau (130) MM IV

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AUG 14 01<sup>h</sup>06<sup>m</sup>06<sup>s</sup>.3 39°.21s 177°.21E 12 km M = 3.9  
 ± 0.4 0.02 0.03 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ | iPg   | 01 | 06 | 16.8 | D   | 1.0  | 100 | 0.46 | 220 |     | 3.6 |     |
|     | e(Sg) |    |    | 25   |     | 2.9  |     |      |     |     |     |     |
| GNZ | Pg    | 01 | 06 | 23.8 |     | 0.2  | 100 | 0.85 | 49  |     |     |     |
|     | S*    |    |    | 31.5 |     | -1.9 |     |      |     |     |     |     |
| WNZ | P*    | 01 | 06 | 26   |     | 0.9  | 100 | 1.03 | 303 |     | 4.0 | 4.1 |
|     | eSg   |    |    | 43   |     | 1.7  |     |      |     |     |     |     |
| WTZ | iP*   | 01 | 06 | 29.3 | U   | 0.8  | 100 | 1.23 | 352 |     | 3.6 | 3.8 |
|     | Sg    |    |    | 48   |     | 0.1  | 100 |      |     |     |     |     |
| CNZ | iP*   | 01 | 06 | 30.9 |     | 1.5  | 99  | 1.29 | 270 |     |     |     |
|     | Sg    |    |    | 51.5 |     | 1.7  | 99  |      |     |     |     |     |
| KRP | P*    | 01 | 06 | 38   |     | -0.6 | 100 | 1.83 | 314 |     |     |     |
|     | (Pg)  |    |    | 42   |     | -1.3 | 100 |      |     |     |     |     |
|     | Sg    |    | 07 | 07   |     | -1.0 | 100 |      |     |     |     |     |
| ECZ | eP*   | 01 | 06 | 39.5 |     | 0.6  | 100 | 1.84 | 35  |     | 4.0 |     |
| CAZ | Pn    | 01 | 06 | 36.2 | D   | -0.9 | 100 | 1.85 | 204 |     |     |     |
|     | Pg    |    |    | 43   |     | -0.8 | 100 |      |     |     |     |     |
|     | eSg   |    | 07 | 19   |     | 10.1 |     |      |     |     |     |     |
| MNG | iPn   | 01 | 06 | 37.1 | U   | -1.1 | 100 | 1.93 | 223 |     | 3.9 | 3.8 |
|     | Pg    |    |    | 46.5 |     | 1.0  | 100 |      |     |     |     |     |
|     | (Sg)  |    | 07 | 19   |     | 7.4  |     |      |     |     |     |     |
| TNZ | P*    | 01 | 06 | 44   |     | -0.9 | 100 | 2.20 | 270 |     | 4.0 | 4.1 |
|     | Pg    |    |    | 49.5 |     | -1.2 | 100 |      |     |     |     |     |
|     | e(Sg) |    | 07 | 25   |     | 4.7  |     |      |     |     |     |     |

|             |     |          |      |         |     |     |         |
|-------------|-----|----------|------|---------|-----|-----|---------|
| WEL         | Sn  | 01 07 23 | 0.2  | 2.80    | 221 | 3.6 |         |
| COB         | Pn  | 01 07 04 | -1.1 | 3.91    | 240 |     | 4.0 3.5 |
|             | Sg  | 08 18    | -0.0 |         |     |     |         |
| GPZ         | Sn  | 01 08 29 | -2.4 | 5.65    | 216 | 4.2 |         |
| AMPLITUDES: | TRZ | 8.0      | WNZ  | 0.7 1.2 | WTZ |     | 2.5 4.0 |
|             | ECZ | 0.6      | MNG  | 4.2 3.6 | TNZ |     | 0.3 0.4 |
|             | WEL | 0.2      | COB  | 0.4 0.4 | GPZ | 0.3 |         |

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AUG 14 14<sup>h</sup>02<sup>m</sup>03<sup>s</sup>.8 38°.41s 175°.87E 165 km M = 3.6  
 ± 0.6 0.02 0.03 4 S.E. of RES. 0.4

| STN         | PHASE | H     | M       | S   | DIR | RES     | WT  | DIST | AZ  | W-A     | W P W S   |
|-------------|-------|-------|---------|-----|-----|---------|-----|------|-----|---------|-----------|
| KRP         | iP    | 14 02 | 27.4    |     | D   | 0.1     | 100 | 0.56 | 331 |         |           |
|             | S     |       | 45.5    |     |     | 0.1     | 100 |      |     |         |           |
| CNZ         | iP    | 14 02 | 28.4    |     |     | -0.5    | 99  | 0.83 | 198 |         |           |
|             | eS    |       | 48      |     |     | -0.3    |     |      |     |         |           |
| WTZ         | (P)   | 14 02 | 30      |     |     | -0.0    | 100 | 0.98 | 64  |         | 3.0 3.1   |
|             | e(S)  |       | 52      |     |     | 1.8     |     |      |     |         |           |
| TRZ         | P     | 14 02 | 33.4    |     | U   | -0.0    | 100 | 1.36 | 147 |         | 4.1 4.0   |
|             | S     |       | 56.5    |     |     | 0.3     | 100 |      |     |         |           |
| GNZ         | P     | 14 02 | 37.3    |     |     | 0.4     | 100 | 1.70 | 98  |         | 3.3 3.7   |
|             | S     |       | 03 02   |     |     | -0.5    | 99  |      |     |         |           |
| MNG         | iP    | 14 02 | 40.0    |     | U   | -2.8    |     | 2.22 | 188 |         | 4.1 4.0   |
|             | S     |       | 03 07   |     |     | -5.9    |     |      |     |         |           |
| ECZ         | e(S)  | 14 03 | 15      |     |     | 2.0     |     | 2.23 | 72  |         | 3.6       |
| CAZ         | P     | 14 02 | 44      |     |     | -2.3    |     | 2.50 | 174 |         |           |
| WEL         | P     | 14 02 | 48.5    |     |     | -3.9    |     | 3.00 | 196 | 3.4     |           |
|             | S     |       | 03 23.5 |     |     | -6.1    |     |      |     |         |           |
| COB         | P     | 14 02 | 54.5    |     |     | -5.7    |     | 3.61 | 221 |         | 3.5* 3.0* |
|             | S     |       | 03 37   |     |     | -6.5    |     |      |     |         |           |
| GPZ         | P     | 14 03 | 22      |     |     | -7.0    |     | 5.82 | 204 | 3.4*    |           |
|             | S     |       | 04 24.5 |     |     | -10.8   |     |      |     |         |           |
| AMPLITUDES: | WTZ   |       | 0.3 0.4 | TRZ |     | 1.1 1.9 | GNZ |      |     | 0.4 1.4 |           |
|             | MNG   |       | 4.0 4.5 | ECZ |     |         | 0.2 | WEL  | 0.1 |         |           |
|             | COB   |       | 0.5 0.6 | GPZ | 0.3 |         |     |      |     |         |           |

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AUG 15 06<sup>h</sup>37<sup>m</sup>34<sup>s</sup>.5 42°.54s 173°.64E 33 km M = 3.5  
 ± 0.1 0.01 0.01 R S.E. of RES. 0.3

| STN         | PHASE | H     | M     | S   | DIR | RES     | WT  | DIST | AZ  | W-A     | W P W S |
|-------------|-------|-------|-------|-----|-----|---------|-----|------|-----|---------|---------|
| KKY         | iP*   | 06 37 | 40.5  |     | D   | 0.1     | 100 | 0.13 | 19  |         |         |
|             | S*    |       | 45    |     |     | 0.4     | 99  |      |     |         |         |
| GPZ         | Sn    | 06 38 | 13.5  |     |     | 0.1     | 100 | 1.37 | 212 | 3.5     |         |
| WEL         | ePn?  | 06 37 | 58    |     |     | -0.7    |     | 1.51 | 34  | 2.9     |         |
|             | Sn    |       | 38 17 |     |     | 0.2     | 100 |      |     |         |         |
| COB         | iPn   | 06 37 | 59.9  |     | D   | 0.0     | 100 | 1.60 | 335 |         | 4.3 4.0 |
|             | Sn    |       | 38 19 |     |     | 0.1     | 100 |      |     |         |         |
| KAI         | Sn    | 06 38 | 20    |     |     | -0.1    | 100 | 1.65 | 270 | 3.3     |         |
| MNG         | Pn    | 06 38 | 10    |     |     | -0.4    | 99  | 2.37 | 36  |         | 3.3 3.3 |
|             | Sn    |       | 37    |     |     | -0.3    | 99  |      |     |         |         |
| MJZ         | P*    | 06 38 | 22    |     |     | -0.4    |     | 2.74 | 237 |         | 3.1 3.5 |
|             | Sn    |       | 46    |     |     | -0.2    | 100 |      |     |         |         |
| CNZ         | P*    | 06 38 | 40    |     |     | 2.2     |     | 3.64 | 24  |         |         |
| AMPLITUDES: | GPZ   |       | 1.2   | WEL | 0.1 |         |     | COB  |     | 4.1 8.5 |         |
|             | KAI   |       | 0.3   | MNG |     | 0.6 0.8 | MJZ |      |     | 0.3 1.3 |         |



|                                                                                          |       |     |    |      |     |      |     |      |     |     |         | 77/ 516 |
|------------------------------------------------------------------------------------------|-------|-----|----|------|-----|------|-----|------|-----|-----|---------|---------|
| AUG 15 14 <sup>h</sup> 27 <sup>m</sup> 31 <sup>s</sup> .0 35°.05S 178°.94W 33 km M = 4.2 |       |     |    |      |     |      |     |      |     |     |         |         |
| ± 2.4 0.07 0.24 R S.E. of RES. 1.2                                                       |       |     |    |      |     |      |     |      |     |     |         |         |
| STN                                                                                      | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |         |
| ECZ                                                                                      | P*    | 14  | 28 | 30   |     | 0.9  | 100 | 3.33 | 217 |     | 4.2 4.2 |         |
|                                                                                          | (Sn)  |     | 29 | 02.5 |     | 5.5  |     |      |     |     |         |         |
| GNZ                                                                                      | Pn    | 14  | 28 | 34.5 |     | 0.7  | 100 | 4.34 | 213 |     | 4.1 4.1 |         |
|                                                                                          | Sn    |     | 29 | 21   |     | -0.2 | 100 |      |     |     |         |         |
|                                                                                          | S*    |     |    | 40   |     | -2.7 |     |      |     |     |         |         |
| WTZ                                                                                      | Pn    | 14  | 28 | 33.5 |     | -1.1 | 100 | 4.40 | 227 |     | 4.2 4.1 |         |
|                                                                                          | e(S*) |     | 29 | 42   |     | -2.5 |     |      |     |     |         |         |
| KRP                                                                                      | Pn    | 14  | 28 | 45.5 |     | -1.4 | 99  | 5.30 | 236 |     |         |         |
|                                                                                          | e(Sn) |     | 29 | 48   |     | 3.7  |     |      |     |     |         |         |
| ONE                                                                                      | Pn    | 14  | 28 | 53   |     | 3.0  |     | 5.52 | 261 |     |         |         |
| TRZ                                                                                      | Sn    | 14  | 29 | 52.5 |     | 0.3  | 100 | 5.62 | 216 |     |         | 4.0     |
| CRZ                                                                                      | Pn    | 14  | 29 | 10   |     | 0.8  | 100 | 6.93 | 273 |     | 4.9     |         |
| MNG                                                                                      | ePn   | 14  | 29 | 08   |     | -3.5 |     | 7.10 | 217 |     | 4.2 4.1 |         |
|                                                                                          | P*    |     |    | 29.5 |     | -3.7 |     |      |     |     |         |         |
|                                                                                          | S*    |     | 31 | 06   |     | 0.7  |     |      |     |     |         |         |
| WEL                                                                                      | Sn    | 14  | 30 | 40.5 |     | -7.8 |     | 7.96 | 217 | 4.2 |         |         |
| AMPLITUDES:                                                                              |       | ECZ |    | 0.3  | 0.4 | GNZ  |     | 0.6  | 0.9 | WTZ |         | 0.8 0.6 |
|                                                                                          |       | TRZ |    |      | 0.2 | CRZ  |     | 0.2  |     | MNG |         | 0.6 0.6 |
|                                                                                          |       | WEL |    | 0.1  |     |      |     |      |     |     |         |         |

|                                                                                          |       |     |    |       |     |      |     |      |     |     |         | 77/ 517 |
|------------------------------------------------------------------------------------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|---------|---------|
| AUG 15 20 <sup>h</sup> 32 <sup>m</sup> 13 <sup>s</sup> .7 37°.53S 179°.44E 33 km M = 4.2 |       |     |    |       |     |      |     |      |     |     |         |         |
| ± 1.3 0.06 0.10 R S.E. of RES. 1.0                                                       |       |     |    |       |     |      |     |      |     |     |         |         |
| STN                                                                                      | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |         |
| ECZ                                                                                      | iPn   | 20  | 32 | 26.7  | U   | -0.5 | 100 | 0.73 | 257 |     | 4.2 4.2 |         |
|                                                                                          | e(Sn) |     |    | 37    |     | -0.2 |     |      |     |     |         |         |
| GNZ                                                                                      | Pn    | 20  | 32 | 38.2  |     | -0.6 | 100 | 1.57 | 225 |     | 4.2 4.3 |         |
|                                                                                          | P*    |     |    | 42    |     | 0.0  |     |      |     |     |         |         |
|                                                                                          | Sn    |     |    | 56.5  |     | -1.1 | 100 |      |     |     |         |         |
| WTZ                                                                                      | Pn    | 20  | 32 | 44.8  |     | 0.3  | 100 | 2.00 | 256 |     | 4.4 4.5 |         |
|                                                                                          | P*    |     |    | 49.5  |     | 0.4  |     |      |     |     |         |         |
|                                                                                          | Sn    |     | 33 | 07    |     | -0.6 |     |      |     |     |         |         |
| TRZ                                                                                      | Pn    | 20  | 32 | 56    |     | -0.6 | 100 | 2.88 | 225 |     | 4.1 4.2 |         |
|                                                                                          | Sn    |     | 33 | 30.5  |     | 1.6  | 99  |      |     |     |         |         |
| KRP                                                                                      | Pn    | 20  | 33 | 01    |     | 1.1  | 100 | 3.12 | 262 |     |         |         |
|                                                                                          | Sn    |     |    | 34    |     | -0.7 | 100 |      |     |     |         |         |
| CNZ                                                                                      | Pn    | 20  | 33 | 05    |     | 0.1  | 100 | 3.48 | 240 |     |         |         |
|                                                                                          | e(Sn) |     |    | 46.5  |     | 3.0  |     |      |     |     |         |         |
| MNG                                                                                      | Pn    | 20  | 33 | 14    |     | -2.8 |     | 4.36 | 224 |     | 4.2 4.1 |         |
|                                                                                          | e(Sn) |     |    | 34 02 |     | -2.5 |     |      |     |     |         |         |
| WEL                                                                                      | Sn    | 20  | 34 | 19.5  |     | -5.5 |     | 5.21 | 223 | 4.0 |         |         |
| GPZ                                                                                      | Sn    | 20  | 35 | 27    |     | -5.9 |     | 8.05 | 218 | 4.0 |         |         |
| AMPLITUDES:                                                                              |       | ECZ |    | 6.0   | 8.5 | GNZ  |     | 5.5  | 9.5 | WTZ |         | 6.0 8.0 |
|                                                                                          |       | TRZ |    | 0.6   | 1.0 | MNG  |     | 1.7  | 1.5 | WEL | 0.1     |         |
|                                                                                          |       | GPZ |    | 0.1   |     |      |     |      |     |     |         |         |

|                                                                                           |       |    |    |      |     |      |     |      |     |     |         | 77/ 518 |
|-------------------------------------------------------------------------------------------|-------|----|----|------|-----|------|-----|------|-----|-----|---------|---------|
| AUG 16 06 <sup>h</sup> 59 <sup>m</sup> 47 <sup>s</sup> .1 37°.60S 176°.51E 188 km M = 5.1 |       |    |    |      |     |      |     |      |     |     |         |         |
| ± 0.5 0.03 0.04 5 S.E. of RES. 0.6                                                        |       |    |    |      |     |      |     |      |     |     |         |         |
| STN                                                                                       | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |         |
| WTZ                                                                                       | iP    | 07 | 00 | 12.5 | U   | -0.6 | 100 | 0.54 | 136 |     |         |         |

|             |      |       |             |          |       |     |      |      |      |
|-------------|------|-------|-------------|----------|-------|-----|------|------|------|
|             | eS   |       | 33          | -0.3     |       |     |      |      |      |
| KRP         | iP   | 07 00 | 14.8 S      | 0.1 100  | 0.84  | 247 |      |      |      |
|             | S    |       | 36.5        | 0.4 100  |       |     |      |      |      |
| WNZ         | P    | 07 00 | 16 D        | -0.4 100 | 1.08  | 197 | 4.7  |      |      |
| AUC         | iP   | 07 00 | 21.1 DN     | 0.3 100  | 1.57  | 297 |      |      |      |
| GNZ         | iP   | 07 00 | 21.0        | 0.1 100  | 1.58  | 132 |      |      |      |
|             | S    |       | 46          | -0.9     |       |     |      |      |      |
| ECZ         | iP   | 07 00 | 21.9 D      | 0.7 99   | 1.62  | 94  | 5.0  | 5.5  |      |
|             | eS   |       | 52          | 4.5      |       |     |      |      |      |
| CNZ         | P    | 07 00 | 22.5        | -0.2 100 | 1.77  | 205 |      |      |      |
| Gsz         | S    | 07 00 | 52          | 0.7      | 1.83  | 203 |      |      |      |
| TRZ         | P    | 07 00 | 24.2 U      | -0.6 100 | 1.97  | 173 | 5.0  | 5.0  |      |
|             | eS   |       | 55          | 1.1      |       |     |      |      |      |
| TNZ         | P    | 07 00 | 29.2 D      | 0.6 99   | 2.31  | 226 | 4.3* | 4.1* |      |
|             | S    |       | 01 04       | 3.4      |       |     |      |      |      |
| ONE         | P    | 07 00 | 31          | 0.1 100  | 2.51  | 316 | 3.4* |      |      |
|             | S    |       | 01 04       | -0.5 100 |       |     |      |      |      |
| MNG         | iP   | 07 00 | 35.4 DE     | -2.8     | 3.12  | 195 |      |      |      |
| WEL         | P    | 07 00 | 44.4        | -3.8     | 3.92  | 200 | 5.4  |      |      |
|             | S    |       | 01 31       | -4.4     |       |     |      |      |      |
| CRZ         | P    | 07 00 | 54 D        | -0.7     | 4.43  | 314 | 3.0* |      |      |
| COB         | P    | 07 00 | 51.9        | -4.3     | 4.55  | 219 | 4.5* | 4.5* |      |
|             | e(S) |       | 01 46       | -3.7     |       |     |      |      |      |
| CIZ         | eS   | 07 03 | 17          | 0.7      | 8.24  | 143 |      |      |      |
| MNW         | P    | 07 02 | 09          | -5.2     | 10.54 | 216 | 3.7* | 4.4* | 4.1* |
|             | S    |       | 04 00.5     | -9.2     |       |     |      |      |      |
| AMPLITUDES: |      | WNZ   | 0.6         | ECZ      | 7.0   | 21  | TRZ  | 5.3  | 10   |
|             |      | TNZ   | 2.5 2.2     | ONE      | 0.5   |     | WEL  | 5.4  |      |
|             |      | CRZ   | 0.1         | COB      | 4.5   | 14  | CIZ  |      | 1.2  |
|             |      | MNW   | 0.3 2.2 2.7 |          |       |     |      |      |      |

FELT: Rotorua (33) and Waingarara (35)

AUG 16 13<sup>h</sup>26<sup>m</sup>20<sup>s</sup>.2 39°.98s 175°.06E 33 km M = 3.5  
 ± 0.2 0.01 0.02 R S.E. of RES. 0.7

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MNG | iP*   | 13 | 26 | 34.3  | U   | 0.3  | 100 | 0.71 | 153 |     |     |     |
| GSZ | P*    | 13 | 26 | 35.0  |     | -0.6 | 100 | 0.81 | 30  |     |     |     |
|     | S*    |    |    | 47    |     | -0.0 | 100 |      |     |     |     |     |
| TNZ | P*    | 13 | 26 | 36.9  |     | -1.1 | 99  | 0.95 | 326 |     | 3.8 | 3.8 |
|     | S*    |    |    | 51.5  |     | 0.4  | 100 |      |     |     |     |     |
| CAZ | e     | 13 | 26 | 51.5  |     |      |     | 1.28 | 136 |     |     |     |
|     | Sn    |    |    | 57    |     | 0.1  | 100 |      |     |     |     |     |
| WEL | Pn    | 13 | 26 | 42.5  |     | 0.7  | 100 | 1.32 | 190 | 3.5 |     |     |
|     | S*    |    |    | 27 01 |     | -0.9 | 99  |      |     |     |     |     |
| TRZ | P*    | 13 | 26 | 46    |     | 0.2  | 100 | 1.42 | 73  |     | 3.2 | 3.2 |
|     | S*    |    |    | 27 11 |     | 6.1  |     |      |     |     |     |     |
| KRP | Pn    | 13 | 26 | 52    |     | -0.2 | 100 | 2.09 | 10  |     |     |     |
|     | P*    |    |    | 58    |     | 0.9  | 99  |      |     |     |     |     |
|     | Sn    |    |    | 27 18 |     | 1.6  |     |      |     |     |     |     |
|     | S*    |    |    | 25    |     | 0.3  |     |      |     |     |     |     |
| COB | Pn    | 13 | 26 | 52    |     | -0.3 | 100 | 2.09 | 237 |     | 3.8 | 3.4 |
|     | Sn    |    |    | 27 17 |     | 0.6  | 100 |      |     |     |     |     |
| WTZ | ePn   | 13 | 26 | 59.5  |     | 1.7  |     | 2.50 | 38  |     | 3.4 | 3.8 |
|     | S*    |    |    | 27 34 |     | -2.9 |     |      |     |     |     |     |
| GNZ | Pn    | 13 | 27 | 02    |     | 2.0  |     | 2.65 | 61  |     | 3.4 | 3.4 |
|     | Sn    |    |    | 36    |     | 6.0  |     |      |     |     |     |     |

|             |     |            |         |         |         |         |
|-------------|-----|------------|---------|---------|---------|---------|
| GPZ         | Sn  | 13 28 04.5 | -0.9    | 4.13    | 205     | 3.4     |
| AMPLITUDES: | TNZ | 2.5 3.0    | WEL 0.7 | TRZ     | 0.3 0.5 |         |
|             | COB | 0.9 1.3    | WTZ     | 0.2 0.4 | GNZ     | 0.3 0.5 |
|             | GPZ | 0.1        |         |         |         |         |

FELT: Wanganui (57) MM IV

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AUG 16 21<sup>h</sup>47<sup>m</sup>23<sup>s</sup>.9 36°.51s 177°.56E 184 km M = 4.0  
 $\pm 1.7$  0.10 0.14 16 S.E. of RES. 1.3

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W   | P   | W    | S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|------|-----|-----|------|---|
| ECZ         |       |     |    |      |     |      |     | 1.42 | 147 |      |     |     | 3.9  |   |
| WTZ         | P     | 21  | 47 | 56.5 |     | -0.2 | 100 | 1.54 | 197 |      |     | 3.7 | 4.0  |   |
|             | S     |     | 48 | 23   |     | 0.7  | 100 |      |     |      |     |     |      |   |
| KRP         | P     | 21  | 48 | 04   |     | 0.8  | 100 | 2.15 | 228 |      |     |     |      |   |
| GNZ         | P     | 21  | 48 | 03   |     | -0.2 | 100 | 2.16 | 170 |      |     | 4.2 | 4.1  |   |
|             | S     |     |    | 33   |     | -0.7 | 100 |      |     |      |     |     |      |   |
| TRZ         | S     | 21  | 48 | 52   |     | -1.4 | 99  | 3.10 | 191 |      |     |     | 4.1  |   |
| CNZ         | P     | 21  | 48 | 16   |     | 1.2  | 99  | 3.12 | 210 |      |     |     |      |   |
|             | e(S)  |     |    | 58   |     | 4.0  |     |      |     |      |     |     |      |   |
| MNG         |       |     |    |      |     |      |     | 4.42 | 201 |      |     | 3.9 | 3.8  |   |
| CRZ         | S     | 21  | 49 | 24   |     | -0.8 | 100 | 4.49 | 296 |      |     |     | 2.9* |   |
| WEL         |       |     |    |      |     |      |     | 5.25 | 204 | 3.9  |     |     |      |   |
| COB         |       |     |    |      |     |      |     | 5.93 | 218 |      |     |     | 2.9* |   |
| GPZ         |       |     |    |      |     |      |     | 8.11 | 206 | 3.1* |     |     |      |   |
| AMPLITUDES: | ECZ   |     |    | 0.6  |     | WTZ  | 0.9 | 2.0  | GNZ |      | 1.9 | 2.7 |      |   |
|             | TRZ   |     |    |      | 0.8 | MNG  | 0.7 | 0.8  | CRZ |      |     | 0.1 |      |   |
|             | WEL   | 0.1 |    |      |     | COB  |     | 0.3  | GPZ | 0.1  |     |     |      |   |

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AUG 17 01<sup>h</sup>39<sup>m</sup>15<sup>s</sup>.2 32°.40s 179°.29w 33 km M = 4.7  
 $\pm 2.0$  0.13 0.34 R S.E. of RES. 1.4

| STN         | PHASE | H   | M  | S    | DIR | RES   | WT  | DIST  | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|----|------|-----|-------|-----|-------|-----|-----|-----|-----|-----|---|
| ECZ         | ePn   | 01  | 40 | 36   |     | 1.1   | 100 | 5.58  | 198 |     |     | 4.7 | 4.7 |   |
|             | eSn   |     | 41 | 36   |     | 0.9   | 100 |       |     |     |     |     |     |   |
| WTZ         | Pn    | 01  | 40 | 45   |     | -0.5  | 100 | 6.35  | 208 |     |     | 4.6 | 4.7 |   |
|             | Sn    |     | 41 | 55   |     | 1.1   | 100 |       |     |     |     |     |     |   |
| GNZ         | ePn   | 01  | 40 | 49   |     | 0.1   | 100 | 6.61  | 199 |     |     | 4.6 | 4.7 |   |
|             | Sn    |     | 41 | 58   |     | -2.0  | 99  |       |     |     |     |     |     |   |
| KRP         | Pn    | 01  | 40 | 53   |     | -0.7  | 100 | 6.96  | 216 |     |     |     |     |   |
| TRZ         | Sn    | 01  | 42 | 26.5 |     | -2.3  |     | 7.81  | 203 |     |     |     | 4.9 |   |
| MNG         | Pn    | 01  | 41 | 16.5 |     | -8.1  |     | 9.22  | 206 |     |     | 4.7 | 4.9 |   |
|             | Sn    |     | 42 | 52   |     | -10.8 |     |       |     |     |     |     |     |   |
| WEL         | Sn    | 01  | 43 | 12   |     | -11.1 |     | 10.07 | 207 | 4.6 |     |     |     |   |
| KAI         |       |     |    |      |     |       |     | 12.52 | 213 | 4.6 |     |     |     |   |
| GPZ         |       |     |    |      |     |       |     | 12.94 | 207 | 5.0 |     |     |     |   |
| AMPLITUDES: | ECZ   |     |    | 0.3  | 0.4 | WTZ   | 1.1 | 1.1   | GNZ |     | 0.7 | 1.6 |     |   |
|             | TRZ   |     |    |      | 0.7 | MNG   | 1.2 | 2.0   | WEL | 0.1 |     |     |     |   |
|             | KAI   | 0.1 |    |      |     | GPZ   | 0.4 |       |     |     |     |     |     |   |

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AUG 17 02<sup>h</sup>22<sup>m</sup>21<sup>s</sup>.8 34°.12s 179°.56E 33 km M = 4.4  
 $\pm 4.9$  0.20 0.48 R S.E. of RES. 2.7

| STN | PHASE | H  | M  | S  | DIR | RES | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|----|-----|-----|-----|------|-----|-----|---|-----|-----|---|
| ECZ | Pn    | 02 | 23 | 17 |     | 1.7 | 100 | 3.66 | 193 |     |   | 4.5 | 4.6 |   |
|     | Sn    |    |    | 59 |     | 3.2 | 99  |      |     |     |   |     |     |   |

|             |      |            |     |       |     |       |     |     |     |
|-------------|------|------------|-----|-------|-----|-------|-----|-----|-----|
| WTZ         | Pn   | 02 23 24.8 | D   | -0.4  | 100 | 4.38  | 208 | 4.5 | 4.3 |
|             | eSn  | 24 11      |     | -2.1  |     |       |     |     |     |
|             | S*   | 20.5       |     | -14.4 |     |       |     |     |     |
| ONE         | Pn   | 02 23 28   |     | 0.1   | 100 | 4.58  | 247 |     |     |
| GNZ         | Pn   | 02 23 27   |     | -2.3  | 100 | 4.69  | 195 | 4.3 | 4.5 |
|             | Sn   | 24 17      |     | -3.3  | 99  |       |     |     |     |
| KRP         | Pn   | 02 23 34   |     | 0.3   | 100 | 5.00  | 219 |     |     |
|             | Sn   | 24 28      |     | -0.1  |     |       |     |     |     |
|             | S*   | 37         |     | -16.4 |     |       |     |     |     |
| CRZ         | ePn? | 02 23 44   |     | 0.7   |     | 5.71  | 265 |     |     |
| TRZ         |      |            |     |       |     | 5.86  | 201 |     | 4.6 |
| MNG         | Pn   | 02 23 57.5 |     | -6.9  |     | 7.25  | 205 | 4.2 | 4.3 |
|             | Sn   | 25 13      |     | -9.2  |     |       |     |     |     |
| GPZ         |      |            |     |       |     | 10.98 | 207 | 4.3 |     |
| AMPLITUDES: | ECZ  | 0.5        | 0.7 | WTZ   | 1.6 | 0.9   | GNZ | 0.7 | 1.9 |
|             | TRZ  | 0.6        | MNG | 0.5   | 0.8 | GPZ   | 0.1 |     |     |

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AUG 17 03<sup>h</sup>13<sup>m</sup>29<sup>s</sup>.5 37°.30s 176°.97E 253 km M = 3.7  
 $\pm 2.2$  0.25 0.31 31 S.E. of RES. 1.2

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S  |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|------|-----|------|
| WTZ         | P?    | 03  | 14  | 05   |     | 1.4  |     | 0.68 | 179 |      | 3.3 |      |
| KRP         | eP?   | 03  | 14  | 06   |     | -0.9 |     | 1.30 | 241 |      |     |      |
| GNZ         | P     | 03  | 14  | 10   |     | 0.9  | 100 | 1.58 | 149 |      | 3.7 | 3.6  |
|             | S     |     |     | 39   |     | -0.6 | 100 |      |     |      |     |      |
| TRZ         | P?    | 03  | 14  | 18   |     | 3.0  |     | 2.26 | 183 |      | 3.5 | 3.8  |
|             | S     |     |     | 57   |     | 6.8  |     |      |     |      |     |      |
| MNG         | P     | 03  | 14  | 27.5 | U   | -0.8 | 100 | 3.52 | 199 |      | 3.9 | 3.8  |
|             | S     |     | 15  | 15   |     | 0.9  | 100 |      |     |      |     |      |
| WEL         | S     | 03  | 15  | 31   |     | -0.3 | 100 | 4.34 | 203 | 3.7  |     |      |
| COB         | S     | 03  | 15  | 46   |     | -0.0 | 100 | 5.02 | 220 |      |     | 2.7* |
| GPZ         | S     | 03  | 16  | 33   |     | -1.7 |     | 7.20 | 206 | 3.0* |     |      |
| MJZ         | S     | 03  | 16  | 59   |     | -1.1 |     | 8.32 | 214 |      |     |      |
| AMPLITUDES: | WTZ   | 0.3 |     |      |     | GNZ  | 0.7 | 0.8  | TRZ | 0.1  | 0.5 |      |
|             | MNG   | 1.1 | 1.0 |      |     | WEL  | 0.1 |      | COB |      | 0.2 |      |
|             | GPZ   | 0.1 |     |      |     |      |     |      |     |      |     |      |

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AUG 18 14<sup>h</sup>35<sup>m</sup>24<sup>s</sup>.1 33°.56s 179°.24w 33 km M = 4.6  
 $\pm 1.8$  0.08 0.12 R S.E. of RES. 1.5

| STN | PHASE | H  | M  | S       | DIR | RES   | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|-------|-----|------|-----|-----|-----|-----|
| ECZ | e(Pn) | 14 | 36 | 31      |     | 1.9   | 99  | 4.51 | 203 |     | 4.7 | 4.8 |
|     | Sn    |    |    | 37 19   |     | 0.7   | 100 |      |     |     |     |     |
| WTZ | Pn    | 14 | 36 | 39.5    |     | -1.5  | 100 | 5.38 | 214 |     | 4.5 | 4.4 |
|     | Sn    |    |    | 37 38.5 |     | -0.8  | 100 |      |     |     |     |     |
| GNZ | Pn    | 14 | 36 | 41      |     | -2.3  | 99  | 5.54 | 203 |     | 4.7 | 4.6 |
|     | Sn    |    |    | 37 43   |     | -0.2  | 100 |      |     |     |     |     |
| ONE | Pn    | 14 | 36 | 48      |     | 2.3   | 99  | 5.72 | 245 |     |     |     |
| KRP | Pn    | 14 | 36 | 50.5    |     | -0.2  | 100 | 6.08 | 223 |     |     |     |
|     | eP*   |    |    | 37 09   |     | -0.0  | 100 |      |     |     |     |     |
| CRZ | Pn    | 14 | 36 | 59.5    |     | -0.6  | 100 | 6.78 | 260 |     | 5.2 |     |
|     | Sn    |    |    | 38 12.5 |     | -0.3  | 100 |      |     |     |     |     |
| TRZ | eS*   | 14 | 38 | 46      |     | -2.5  |     | 6.78 | 207 |     | 4.5 | 4.5 |
| CNZ | P*    | 14 | 37 | 19      |     | -6.0  |     | 7.03 | 215 |     |     |     |
|     | S*    |    |    | 38 45   |     | -11.2 |     |      |     |     |     |     |
| MNG | ePn   | 14 | 37 | 16.5    |     | -3.3  |     | 8.22 | 209 |     | 4.3 | 4.5 |
|     | P*    |    |    | 34      |     | -11.2 |     |      |     |     |     |     |



|             |     |     |       |      |     |      |     |     |     |
|-------------|-----|-----|-------|------|-----|------|-----|-----|-----|
|             | Sn  | 38  | 45.5  | -1.9 |     |      |     |     |     |
|             | S*  | 39  | 29    | -2.7 |     |      |     |     |     |
| WEL         | Sn  | 14  | 39 02 | -6.0 |     | 9.07 | 210 | 4.3 |     |
| AMPLITUDES: | ECZ | 0.5 | 0.8   | WTZ  | 1.2 | 0.8  | GNZ | 1.2 | 1.5 |
|             | CRZ | 0.3 |       | TRZ  | 0.3 | 0.4  | MNG | 0.5 | 1.1 |
|             | WEL | 0.1 |       |      |     |      |     |     |     |

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AUG 19 13<sup>h</sup>15<sup>m</sup>20<sup>s</sup>.0 40°.44s 174°.40E 12 km M = 4.3

RES. 1.5

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|---------|
| MNG         | iP*   | 13  | 15 | 36.0 |     | 0.4  | 100 | 0.85 | 103 |     |         |
| WEL         | P*    | 13  | 15 | 36.0 |     | -0.4 | 100 | 0.89 | 162 | 4.2 |         |
|             | i     |     |    | 38.2 |     |      |     |      |     |     |         |
|             | S*    |     |    | 48.8 |     | 0.4  | 100 |      |     |     |         |
| COB         | P*    | 13  | 15 | 43.9 |     | -1.5 | 100 | 1.42 | 242 |     |         |
| CAZ         | e     | 13  | 15 | 52.5 |     |      |     | 1.47 | 109 |     |         |
|             | i     |     |    | 58.3 |     |      |     |      |     |     |         |
| GSZ         | Pn    | 13  | 15 | 46.0 |     | 0.3  | 100 | 1.48 | 39  |     |         |
|             | Sn    | 16  |    | 02.2 |     | -2.7 | 99  |      |     |     |         |
| KKY         | eP*   | 13  | 15 | 56.2 |     | 0.1  | 100 | 2.05 | 195 |     |         |
|             | e     | 16  |    | 00.2 |     |      |     |      |     |     |         |
|             | e     |     |    | 02.0 |     |      |     |      |     |     |         |
|             | e     |     |    | 31.5 |     |      |     |      |     |     |         |
| TRZ         | ePn   | 13  | 15 | 52.2 |     | -1.4 | 100 | 2.06 | 65  |     | 3.3 4.2 |
|             | e     | 16  |    | 02.8 |     |      |     |      |     |     |         |
| WNZ         | i     | 13  | 16 | 14.2 |     |      |     | 2.24 | 37  |     |         |
|             | iSn   |     |    | 25.0 |     | 1.9  |     |      |     |     |         |
|             | i     |     |    | 41.8 |     |      |     |      |     |     |         |
| KRP         | Pn    | 13  | 16 | 01.1 |     | -0.7 | 100 | 2.66 | 20  |     | 4.9     |
|             | iP*   |     |    | 07.3 |     | 0.7  | 100 |      |     |     |         |
|             | iSn   |     |    | 32.5 |     | -0.9 | 100 |      |     |     |         |
|             | i     |     |    | 48.0 |     |      |     |      |     |     |         |
| KAI         | eP*   | 13  | 16 | 16.0 |     | 2.5  | 99  | 3.07 | 226 | 4.6 |         |
|             | Sn    |     |    | 43.0 |     | -0.1 | 100 |      |     |     |         |
|             | e     |     |    | 52   |     |      |     |      |     |     |         |
| WTZ         | ePn   | 13  | 16 | 10.3 |     | 1.5  | 100 | 3.18 | 40  |     |         |
|             | eP*   |     |    | 18.0 |     | 2.7  | 99  |      |     |     |         |
| GNZ         | ePn   | 13  | 16 | 09.8 |     | -1.1 | 100 | 3.33 | 59  |     |         |
|             | e     |     |    | 21.7 |     |      |     |      |     |     |         |
|             | e     |     |    | 32.0 |     |      |     |      |     |     |         |
|             | e     |     |    | 41.5 |     |      |     |      |     |     |         |
|             | e     |     |    | 53   |     |      |     |      |     |     |         |
| AUC         | ePn   | 13  | 16 | 16   |     | 1.5  | 100 | 3.59 | 5   |     |         |
|             | e     |     |    | 30.0 |     |      |     |      |     |     |         |
|             | e     |     |    | 41.2 |     |      |     |      |     |     |         |
|             | iSn   |     |    | 56.2 |     | 0.6  | 100 |      |     |     |         |
| MJZ         | ePn   | 13  | 16 | 28.0 |     | -0.2 | 100 | 4.60 | 218 |     | 4.3 4.3 |
|             | eSn   | 17  |    | 20.8 |     | 1.0  | 100 |      |     |     |         |
| MSZ         | ePn   | 13  | 16 | 51   |     | -1.7 | 100 | 6.39 | 226 |     | 4.4 4.7 |
|             | Sn    | 18  |    | 01   |     | -1.9 | 99  |      |     |     |         |
| AMPLITUDES: | WEL   | 8.5 |    |      | TRZ | 0.2  | 2.3 | KRP  |     | 5.0 |         |
|             | KAI   | 1.8 |    |      | MJZ | 1.8  | 2.9 | MSZ  |     | 0.8 | 3.2     |

FELT: Wanganui (57) Stephens Island (73) MM IV

AUG 19 16<sup>h</sup>33<sup>m</sup>26<sup>s</sup>.3 37°.04s 177°.51E 201 km 77/ 526  
 ± 1.2 0.05 0.08 7 S.E. of RES. 1.3 M = 4.1

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|------|-----|
| WTZ         | P     | 16  | 33  | 56.0 |     | -0.5 | 100 | 1.03 | 204 |     | 3.7  | 3.8 |
|             | S     |     | 34  | 18.0 |     | -1.9 | 99  |      |     |     |      |     |
| ECZ         |       |     |     |      |     |      |     | 1.05 | 129 |     | 3.7  | 3.9 |
| GNZ         | P     | 16  | 34  | 01.9 |     | 0.2  | 100 | 1.66 | 166 |     | 4.7  | 4.5 |
|             | e     |     |     | 21.7 |     |      |     |      |     |     |      |     |
|             | S     |     |     | 29.1 |     | 0.0  | 100 |      |     |     |      |     |
| KRP         | eP    | 16  | 34  | 05.0 |     | 1.8  | 99  | 1.80 | 240 |     | 2.9* |     |
|             | eS    |     |     | 32.0 |     | 0.4  | 100 |      |     |     |      |     |
| AUC         | P     | 16  | 34  | 08.8 |     | 1.5  | 100 | 2.20 | 274 |     |      |     |
| TRZ         | P     | 16  | 34  | 12.0 |     | 0.6  | 100 | 2.56 | 192 |     | 4.0  | 4.3 |
|             | S     |     |     | 47.8 |     | 1.5  | 100 |      |     |     |      |     |
| ONE         | eP    | 16  | 34  | 13   |     | -1.5 | 100 | 2.83 | 295 |     |      |     |
| MNG         | P     | 16  | 34  | 27.2 |     | -0.4 | 100 | 3.91 | 203 |     | 3.8  | 4.1 |
|             | S     |     | 35  | 16.0 |     | 0.9  | 100 |      |     |     |      |     |
| WEL         | e     | 16  | 35  | 34.8 |     |      |     | 4.75 | 206 | 4.3 |      |     |
| COB         | eS    | 16  | 35  | 51   |     | -0.1 | 100 | 5.49 | 221 |     | 2.9* |     |
| GPZ         | eS    | 16  | 36  | 39   |     | -1.6 | 99  | 7.62 | 208 |     | 2.9* |     |
| AMPLITUDES: |       | WTZ |     | 1.1  | 1.5 | ECZ  |     | 0.5  | 0.7 | GNZ | 7.5  | 7.3 |
|             |       | KRP |     | 0.5  |     | TRZ  |     | 0.3  | 1.6 | MNG | 0.8  | 1.7 |
|             |       | WEL | 0.3 |      |     | COB  |     |      | 0.3 | GPZ |      | 0.2 |

AUG 19 23<sup>h</sup>34<sup>m</sup>25<sup>s</sup>.3 37°.42s 177°.38E 167 km 77/ 527  
 ± 1.6 0.06 0.09 9 S.E. of RES. 1.5 M = 4.0

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|------|-----|
| WTZ         | P     | 23  | 34  | 48.3 |     | -1.1 | 100 | 0.64 | 209 |     | 4.0  | 4.0 |
|             | eS    |     | 35  | 05.7 |     | -2.3 | 99  |      |     |     |      |     |
| ECZ         |       |     |     |      |     |      |     | 0.97 | 107 |     | 3.9  | 3.7 |
| GNZ         | P     | 23  | 34  | 54.7 |     | 0.0  | 100 | 1.32 | 158 |     | 4.5  | 4.2 |
|             | e     |     | 35  | 11.5 |     |      |     |      |     |     |      |     |
|             | S     |     |     | 18.0 |     | 0.7  | 100 |      |     |     |      |     |
| KRP         | P     | 23  | 34  | 57.9 |     | 1.0  | 100 | 1.55 | 251 |     | 3.3* |     |
|             | eS    |     | 35  | 22.2 |     | 1.0  | 100 |      |     |     |      |     |
| AUC         | iP    | 23  | 35  | 04   |     | 0.5  | 100 | 2.15 | 284 |     |      |     |
| TRZ         | eS    | 23  | 35  | 36.2 |     | 2.7  | 98  | 2.17 | 191 |     | 3.9  |     |
| MNG         | P     | 23  | 35  | 20.0 |     | -0.4 | 100 | 3.52 | 204 |     | 3.7  | 3.8 |
|             | S     |     | 36  | 02.8 |     | -0.2 | 100 |      |     |     |      |     |
| WEL         | eS    | 23  | 36  | 21   |     | -1.4 | 100 | 4.36 | 207 | 4.0 |      |     |
| COB         | S     | 23  | 36  | 40.2 |     | -0.4 | 100 | 5.14 | 223 |     | 3.0* |     |
| AMPLITUDES: |       | WTZ |     | 3.6  | 4.6 | ECZ  |     | 1.0  | 0.7 | GNZ | 7.3  | 6.0 |
|             |       | KRP |     | 1.8  |     | TRZ  |     |      | 0.8 | MNG | 0.7  | 1.3 |
|             |       | WEL | 0.2 |      |     | COB  |     |      | 0.4 |     |      |     |

AUG 20 06<sup>h</sup>59<sup>m</sup>23<sup>s</sup>.5 45°.85s 166°.90E 111 km 77/ 528  
 ± 1.7 0.09 0.15 11 S.E. of RES. 1.5 M = 4.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| OBZ | S-P   |    |    | 18.0 |     | -1.3 | 100 | 1.35 | 142 |     |     |     |
| MSZ | P     | 06 | 59 | 48.9 |     | -0.4 | 100 | 1.39 | 32  |     |     |     |
|     | S     | 07 | 00 | 08.2 |     | -0.8 | 100 |      |     |     |     |     |
| OMZ | P     | 07 | 00 | 10.0 |     | 0.4  | 100 | 2.93 | 76  |     | 4.3 |     |

|             |     |       |      |      |     |      |     |      |      |
|-------------|-----|-------|------|------|-----|------|-----|------|------|
| MJZ         | eS  |       | 47.5 | 3.2  |     |      |     |      |      |
|             | P   | 07 00 | 13.0 | 0.5  | 100 | 3.15 | 55  | 4.1  | 4.8  |
|             | e   |       | 22.2 |      |     |      |     |      |      |
|             | S   |       | 51.2 | 1.7  | 99  |      |     |      |      |
| GPZ         |     |       |      |      |     | 4.63 | 64  | 4.7  |      |
| KAI         | e   | 07 00 | 49   |      |     | 4.65 | 46  | 4.7  |      |
|             | eS  | 01    | 28   | 2.0  | 99  |      |     |      |      |
| COB         | eP  | 07 00 | 56   | -0.4 | 100 | 6.38 | 44  | 5.0  | 4.9  |
|             | e   | 01    | 07.0 |      |     |      |     |      |      |
|             | eS  | 02    | 07   | -1.5 | 100 |      |     |      |      |
| MNG         | eP  | 07 01 | 20.8 | 0.1  | 100 | 8.16 | 53  | 3.2* | 3.1* |
|             | eS  | 02    | 50   | -1.9 | 99  |      |     |      |      |
| AMPLITUDES: |     |       |      |      |     |      |     |      |      |
|             | OMZ |       |      | 1.7  | MJZ | 1.8  | 12  | GPZ  | 0.6  |
|             | KAI | 0.4   |      |      | COB | 0.6  | 0.8 | MNG  | 0.4  |
|             |     |       |      |      |     |      |     |      | 0.4  |

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AUG 20 23<sup>h</sup>21<sup>m</sup>39<sup>s</sup>.7 38°.73s 176°.08E 139 km M = 4.1  
 $\pm 0.9$  0.04 0.05 6 S.E. of RES. 1.4

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S   |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----------|
| WNZ         | eP    | 23  | 22 | 00      |     | 1.4  | 100 | 0.10 | 9   |     |           |
|             | S     |     |    | 14.0    |     | 1.0  | 100 |      |     |     |           |
| GSZ         | P     | 23  | 22 | 02.2    |     | 1.3  | 100 | 0.67 | 215 |     |           |
|             | eS    |     |    | 16.8    |     | -0.4 | 100 |      |     |     |           |
| KRP         | P     | 23  | 22 | 04.0    |     | 1.3  | 100 | 0.92 | 332 |     | 3.5*      |
|             | iS    |     |    | 20.0    |     | -0.4 | 100 |      |     |     |           |
| TRZ         | P     | 23  | 22 | 04.4    |     | 0.9  | 100 | 1.00 | 145 |     |           |
|             | S     |     |    | 22.2    |     | 0.4  | 100 |      |     |     |           |
| WTZ         | P     | 23  | 22 | 03.9    |     | 0.1  | 100 | 1.03 | 44  |     | 4.1 4.1   |
|             | e     |     |    | 15.5    |     |      |     |      |     |     |           |
|             | S     |     |    | 20.2    |     | -2.1 | 99  |      |     |     |           |
| GNZ         | P     | 23  | 22 | 09.8    |     | 0.8  | 100 | 1.52 | 87  |     |           |
|             | S     |     |    | 29.2    |     | -2.2 | 99  |      |     |     |           |
| MNG         | P     | 23  | 22 | 14.8    |     | 1.1  | 100 | 1.93 | 194 |     |           |
| CAZ         | P     | 23  | 22 | 17.9    |     | 1.3  | 100 | 2.17 | 177 |     |           |
|             | S     |     |    | 45.8    |     | 1.1  | 100 |      |     |     |           |
| WEL         | P     | 23  | 22 | 23.8    |     | -0.2 | 100 | 2.74 | 201 | 4.1 |           |
|             | S     |     |    | 55.2    |     | -2.6 | 98  |      |     |     |           |
| COB         | P     | 23  | 22 | 32.8    |     | -1.1 | 100 | 3.49 | 227 |     | 3.4* 3.4* |
|             | S     |     |    | 23 14.0 |     | -1.1 | 100 |      |     |     |           |
| AMPLITUDES: |       |     |    |         |     |      |     |      |     |     |           |
|             | WNZ   |     |    | 0.3     | 0.6 | KRP  | 4.0 | WTZ  |     | 4.3 | 5.2       |
|             | WEL   | 0.6 |    |         |     | COB  | 0.4 | 1.6  |     |     |           |

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AUG 21 11<sup>h</sup>28<sup>m</sup>19<sup>s</sup>.7 32°.89s 179°.80W 448 km M = 5.2  
 $\pm 1.7$  0.17 0.31 12 S.E. of RES. 1.9

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---------|
| WTZ | eP    | 11 | 29 | 50.2    |     | -1.7 | 100 | 5.71 | 206 |     | 5.9     |
|     | i     |    |    | 53.8    |     |      |     |      |     |     |         |
|     | eS    |    |    | 31 05   |     | 0.4  | 100 |      |     |     |         |
| GNZ | eP    | 11 | 29 | 53.5    |     | -1.4 | 100 | 6.01 | 197 |     | 5.5 4.8 |
|     | i     |    |    | 57.5    |     |      |     |      |     |     |         |
|     | S     |    |    | 31 10.2 |     | 0.2  | 100 |      |     |     |         |
|     | i     |    |    | 14.1    |     |      |     |      |     |     |         |
| KRP | eP    | 11 | 29 | 59.0    |     | 1.0  | 100 | 6.30 | 216 |     | 3.9*    |
|     | i     |    |    | 30 00.7 |     |      |     |      |     |     |         |
|     | eS    |    |    | 31 17   |     | 1.4  | 100 |      |     |     |         |
| TRZ | eP    | 11 | 30 | 08.0    |     | 0.5  | 100 | 7.19 | 201 |     | 5.2 5.0 |

|             |     |       |      |      |     |       |     |      |      |
|-------------|-----|-------|------|------|-----|-------|-----|------|------|
|             | e   |       | 10.0 |      |     |       |     |      |      |
|             | S   | 31    | 34.8 | 2.1  | 100 |       |     |      |      |
| MNG         | eP  | 11 30 | 20.0 | -2.9 | 99  | 8.59  | 205 |      |      |
|             | i   |       | 23.0 |      |     |       |     |      |      |
|             | eS  | 32    | 00   | -0.5 | 100 |       |     |      |      |
| WEL         | eP  | 11 30 | 32   | -0.3 | 100 | 9.44  | 206 | 4.9  |      |
|             | eS  | 32    | 16   | -1.4 | 100 |       |     |      |      |
| COB         | eP  | 11 30 | 40   | 0.1  | 100 | 10.13 | 214 | 3.7* | 3.7* |
|             | eS  | 32    | 29.5 | -1.8 | 100 |       |     |      |      |
| KAI         | eS  | 11 33 | 05.0 | -1.6 | 100 | 11.87 | 213 | 3.7* |      |
| GPZ         | eS  | 11 33 | 17.0 | 1.6  | 100 | 12.31 | 207 | 4.1* |      |
| MJZ         | eP  | 11 31 | 20   | 4.0  | 97  | 13.45 | 212 | 3.3* |      |
| AMPLITUDES: | WTZ | 11    |      | GNZ  | 4.8 | 1.7   | KRP | 1.6  |      |
|             | TRZ | 0.7   | 1.0  | WEL  | 0.3 |       | COB | 0.3  | 1.0  |
|             | KAI | 0.2   |      | GPZ  | 0.7 |       | MJZ | 0.3  |      |

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AUG 21 21<sup>h</sup>12<sup>m</sup>20<sup>s</sup>.0 42°.97S 171°.54E 0 km M = 3.1  
 ± 0.3 0.01 0.03 R S.E. of RES. 0.9

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|---------|
| KAI         | ePg   | 21  | 12  | 29   |     | -0.2 | 100 | 0.45 | 348 |     |         |
|             | iSg   |     |     | 34.2 |     | -1.1 | 99  |      |     |     |         |
| GPZ         | ePg   | 21  | 12  | 41   |     | -0.9 | 100 | 1.09 | 132 | 3.0 |         |
|             | eSg   |     |     | 56.5 |     | -0.0 | 100 |      |     |     |         |
| MJZ         | Pn    | 21  | 12  | 44.2 |     | -0.4 | 100 | 1.29 | 217 | 3.4 |         |
|             | iPg   |     |     | 46.8 |     | 0.9  | 100 |      |     |     |         |
|             | eSg   |     | 13  | 03.8 |     | 0.6  | 100 |      |     |     |         |
|             | e     |     |     | 06.2 |     |      |     |      |     |     |         |
| COB         | ePn   | 21  | 12  | 56.5 |     | 1.0  | 100 | 2.08 | 26  | 3.4 | 3.0     |
|             | eSn   |     | 13  | 23   |     | 1.1  | 99  |      |     |     |         |
| MSZ         | ePn   | 21  | 13  | 09   |     | -0.8 | 100 | 3.12 | 236 | 3.1 | 2.9     |
|             | e     |     |     | 19   |     |      |     |      |     |     |         |
|             | eSn   |     |     | 47   |     | -0.0 |     |      |     |     |         |
| AMPLITUDES: | GPZ   | 0.5 |     |      |     | MJZ  | 2.6 |      | COB | 0.3 | 0.5     |
|             | MSZ   |     | 0.2 | 0.2  |     |      |     |      |     |     |         |

FELT: Otira (93) MM IV

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AUG 22 09<sup>h</sup>43<sup>m</sup>40<sup>s</sup>.7 39°.42S 175°.68E 9 km M = 3.4  
 ± 0.6 0.03 0.04 4 S.E. of RES. 1.4

| STN         | PHASE | H  | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|----|-----|------|-----|------|-----|------|-----|-----|---------|
| GSZ         | Pg    | 09 | 43  | 44.1 |     | -0.2 | 100 | 0.16 | 333 |     |         |
|             | Sg    |    |     | 48.0 |     | 1.3  | 100 |      |     |     |         |
| TRZ         | iPg   | 09 | 43  | 59.8 |     | 1.0  | 100 | 0.89 | 99  | 3.4 | 3.1     |
| TNZ         | Pg    | 09 | 44  | 00   |     | -1.7 | 99  | 1.03 | 283 | 3.3 | 3.2     |
|             | Sg    |    |     | 16   |     | 0.3  | 100 |      |     |     |         |
| MNG         | Pn    | 09 | 44  | 01.2 |     | -1.9 | 99  | 1.21 | 187 |     |         |
|             | eSn   |    |     | 17   |     | -2.7 |     |      |     |     |         |
| KRP         | Pn    | 09 | 44  | 06.5 |     | -0.5 | 100 | 1.49 | 356 | 3.5 | 3.7     |
|             | Sn    |    |     | 27.0 |     | 0.3  | 100 |      |     |     |         |
| WEL         | ePn   | 09 | 44  | 13   |     | -0.8 | 100 | 1.99 | 200 | 3.4 |         |
|             | eSn   |    |     | 40.5 |     | 1.9  | 99  |      |     |     |         |
|             | e     |    |     | 43   |     |      |     |      |     |     |         |
| COB         | ePn   | 09 | 44  | 24   |     | -0.9 | 100 | 2.81 | 233 | 3.6 | 3.1     |
|             | eSn   |    |     | 59   |     | 0.9  | 100 |      |     |     |         |
| AMPLITUDES: | TRZ   |    | 1.2 | 0.9  |     | TNZ  | 0.6 | 0.7  | KRP | 0.7 | 0.8     |



|             |                                                    |         |          |        |                  |      |         |      |     |         |      |      |  |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|---------|------|-----|---------|------|------|--|
|             |                                                    | WEL 0.2 |          |        | COB              |      | 0.3 0.3 |      |     |         |      |      |  |
|             |                                                    |         |          |        |                  |      |         |      |     | 77/ 533 |      |      |  |
| AUG 23      | 12 <sup>h</sup> 36 <sup>m</sup> 50 <sup>s</sup> .1 | 38°.46s | 175°.91E | 167 km | M = 3.7          |      |         |      |     |         |      |      |  |
|             | ± 1.2                                              | 0.05    | 0.06     | 9      | S.E. of RES. 1.4 |      |         |      |     |         |      |      |  |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT      | DIST | AZ  | W-A     | W P  | W S  |  |
| KRP         | P                                                  | 12      | 37       | 15.0   |                  | 1.0  | 100     | 0.61 | 331 |         | 3.3* |      |  |
|             | S                                                  |         |          | 32.8   |                  | 0.3  | 100     |      |     |         |      |      |  |
| WTZ         | P                                                  | 12      | 37       | 15.8   |                  | -0.6 | 100     | 0.97 | 61  |         | 3.6  | 3.4  |  |
|             | S                                                  |         |          | 35     |                  | -1.6 | 99      |      |     |         |      |      |  |
| TRZ         | eS                                                 | 12      | 37       | 44     |                  | 2.2  | 98      | 1.30 | 147 |         |      | 3.9  |  |
| GNZ         | P                                                  | 12      | 37       | 24.0   |                  | 1.1  | 100     | 1.66 | 97  |         | 3.6  | 3.7  |  |
|             | S                                                  |         |          | 47     |                  | -1.2 | 100     |      |     |         |      |      |  |
| MNG         | P                                                  | 12      | 37       | 29.8   |                  | 1.1  | 100     | 2.19 | 189 |         | 4.0  | 3.9  |  |
|             | S                                                  |         |          | 58     |                  | -0.5 | 100     |      |     |         |      |      |  |
| WEL         | eS                                                 | 12      | 38       | 14     |                  | -1.2 | 100     | 2.96 | 197 | 3.7     |      |      |  |
| COB         | eP                                                 | 12      | 37       | 46     |                  | -0.3 | 100     | 3.59 | 222 |         | 3.1* | 2.7* |  |
|             | eS                                                 |         |          | 38 29  |                  | -0.6 | 100     |      |     |         |      |      |  |
| GPZ         | eS                                                 | 12      | 39       | 16     |                  | -4.9 |         | 5.79 | 204 | 3.2*    |      |      |  |
| AMPLITUDES: |                                                    | KRP     | 2.5      | WTZ    | 1.1              | 0.8  | TRZ     | 1.6  |     |         |      |      |  |
|             |                                                    | GNZ     | 0.8      | 1.7    | MNG              | 3.0  | 3.0     | WEL  | 0.2 |         |      |      |  |
|             |                                                    | COB     | 0.2      | 0.3    | GPZ              | 0.2  |         |      |     |         |      |      |  |

|             |                                                    |     |     |      |         |          |       |                  |     |     |     |     |         |  |
|-------------|----------------------------------------------------|-----|-----|------|---------|----------|-------|------------------|-----|-----|-----|-----|---------|--|
|             |                                                    |     |     |      |         |          |       |                  |     |     |     |     | 77/ 534 |  |
| AUG 24      | 03 <sup>h</sup> 52 <sup>m</sup> 32 <sup>s</sup> .4 |     |     |      | 39°.18s | 175°.29E | 12 km | M = 3.8          |     |     |     |     |         |  |
|             | ± 0.4                                              |     |     |      | 0.03    | 0.03     | R     | S.E. of RES. 1.3 |     |     |     |     |         |  |
| STN         | PHASE                                              | H   | M   | S    | DIR     | RES      | WT    | DIST             | AZ  | W-A | W P | W S |         |  |
| GSZ         | Pg                                                 | 03  | 52  | 38.6 |         | 0.7      | 100   | 0.25             | 113 |     |     |     |         |  |
|             | eSg                                                |     |     | 41.0 |         | -0.6     | 100   |                  |     |     |     |     |         |  |
|             | e                                                  |     |     | 43.2 |         |          |       |                  |     |     |     |     |         |  |
| TNZ         | ePg                                                | 03  | 52  | 45.8 |         | -1.0     | 100   | 0.71             | 269 |     | 2.9 |     |         |  |
|             | Sg                                                 |     |     | 55.8 |         | -0.7     | 100   |                  |     |     |     |     |         |  |
| KRP         | Pn                                                 | 03  | 52  | 55.2 |         | -0.0     | 100   | 1.27             | 9   |     | 4.3 | 4.2 |         |  |
|             | Sn                                                 |     | 53  | 13.0 |         | 0.7      | 100   |                  |     |     |     |     |         |  |
| MNG         | Pn                                                 | 03  | 52  | 56.4 |         | -1.2     | 100   | 1.45             | 174 |     | 4.1 | 3.7 |         |  |
|             | eSn                                                |     | 53  | 15.5 |         | -1.0     | 100   |                  |     |     |     |     |         |  |
| WEL         | ePn                                                | 03  | 53  | 08   |         | 0.8      | 100   | 2.14             | 191 | 3.6 |     |     |         |  |
|             | eSn                                                |     |     | 34   |         | 0.7      | 100   |                  |     |     |     |     |         |  |
| COB         | ePn                                                | 03  | 53  | 14   |         | -1.2     | 100   | 2.74             | 225 |     | 3.8 | 3.4 |         |  |
|             | eSn                                                |     |     | 50   |         | 2.5      | 97    |                  |     |     |     |     |         |  |
| GPZ         | eSn                                                | 03  | 54  | 36   |         | -4.3     |       | 4.93             | 203 | 3.9 |     |     |         |  |
| AMPLITUDES: |                                                    | TNZ | 0.4 |      |         | KRP      | 7.2   | 4.6              | MNG | 10  |     |     | 4.8     |  |
|             |                                                    | WEL | 0.3 |      |         | COB      | 0.4   | 0.6              | GPZ | 0.2 |     |     |         |  |

|        |                                                    |    |    |         |     |          |     |        |     |                  |      |         |  |  |
|--------|----------------------------------------------------|----|----|---------|-----|----------|-----|--------|-----|------------------|------|---------|--|--|
|        |                                                    |    |    |         |     |          |     |        |     |                  |      | 77/ 535 |  |  |
| AUG 25 | 10 <sup>h</sup> 34 <sup>m</sup> 53 <sup>s</sup> .3 |    |    | 32°.11s |     | 179°.94E |     | 439 km |     | M = 4.7          |      |         |  |  |
|        | ± 2.2                                              |    |    | 0.20    |     | 0.49     |     | 28     |     | S.E. of RES. 1.8 |      |         |  |  |
| STN    | PHASE                                              | H  | M  | S       | DIR | RES      | WT  | DIST   | AZ  | W-A              | W P  | W S     |  |  |
| WTZ    | eP                                                 | 10 | 36 | 30.0    |     | -1.6     | 100 | 6.34   | 202 |                  | 4.9  | 4.7     |  |  |
|        | i                                                  |    |    | 32.1    |     |          |     |        |     |                  |      |         |  |  |
|        | eS                                                 |    |    | 37 49   |     | -0.3     | 100 |        |     |                  |      |         |  |  |
| GNZ    | P                                                  | 10 | 36 | 36.0    |     | 0.4      | 100 | 6.71   | 193 |                  | 4.6  | 4.6     |  |  |
|        | eS                                                 |    |    | 37 55.5 |     | -0.9     | 100 |        |     |                  |      |         |  |  |
| KRP    | eP                                                 | 10 | 36 | 39      |     | 2.0      | 99  | 6.84   | 211 |                  | 3.0* |         |  |  |
| TRZ    | S                                                  | 10 | 38 | 21.2    |     | 2.2      | 99  | 7.85   | 198 |                  |      | 5.0     |  |  |
| MNG    | P                                                  | 10 | 37 | 02.8    |     | -0.6     | 100 | 9.22   | 202 |                  | 4.3  | 4.8     |  |  |



|             |     |       |      |     |      |     |      |     |         |
|-------------|-----|-------|------|-----|------|-----|------|-----|---------|
| WTZ         | eSn |       | 40.2 |     | -0.9 | 100 |      |     |         |
|             | Pn  | 08 37 | 35.3 |     | 0.1  | 100 | 2.30 | 280 | 4.1     |
|             | iP* |       | 41.8 |     | 1.1  | 100 |      |     |         |
| KRP         | e   |       | 48.0 |     |      |     |      |     |         |
|             | ePn | 08 37 | 48.2 |     | -2.5 | 98  | 3.44 | 277 | 3.8     |
|             | e   | 38    | 12.0 |     |      |     |      |     |         |
| MNG         | e   |       | 24.2 |     |      |     |      |     |         |
|             | Pn  | 08 37 | 59.5 |     | 0.6  | 100 | 4.03 | 236 | 3.6 3.8 |
|             | eP* | 38    | 08.0 |     | -2.2 | 99  |      |     |         |
| WEL         | eSn |       | 44.2 |     | 1.0  | 100 |      |     |         |
|             | e   |       | 51.3 |     |      |     |      |     |         |
|             | eSn | 08 39 | 03   |     | 0.2  | 100 | 4.85 | 232 | 4.1     |
| COB         | eSn | 08 39 | 33   |     | 0.1  | 100 | 6.10 | 242 | 3.7     |
| AMPLITUDES: |     | ECZ   | 3.6  | 6.5 | GNZ  | 2.6 | 5.3  | WTZ | 2.4     |
|             |     | KRP   | 0.3  |     | MNG  | 0.5 | 0.8  | WEL | 0.2     |
|             |     | COB   |      | 0.3 |      |     |      |     |         |

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AUG 29 12<sup>h</sup>06<sup>m</sup>25<sup>s</sup>.1 38°.38s 179°.56E 33 km M = 3.8  
 ± 1.4 0.04 0.11 R S.E. of RES. 1.3

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | Pn    | 12  | 06  | 42.3 |     | -0.8 | 100 | 1.05 | 310 |     | 4.0 | 4.3 |
|             | i     |     |     | 50.8 |     |      |     |      |     |     |     |     |
|             | iSn   |     |     | 56.8 |     | 0.3  | 100 |      |     |     |     |     |
| GNZ         | Pn    | 12  | 06  | 45.2 |     | -0.3 | 100 | 1.23 | 257 |     | 3.5 | 3.7 |
|             | eP*   |     |     | 49.0 |     | 1.4  | 100 |      |     |     |     |     |
|             | Sn    |     | 07  | 01.5 |     | 0.8  | 100 |      |     |     |     |     |
| WTZ         | Pn    | 12  | 06  | 56.3 |     | -0.5 | 100 | 2.07 | 280 |     | 3.7 |     |
|             | iP*   |     | 07  | 00.3 |     | -1.3 | 100 |      |     |     |     |     |
|             | e     |     |     | 18.8 |     |      |     |      |     |     |     |     |
| TRZ         | ePn   | 12  | 07  | 02.0 |     | 0.1  | 100 | 2.43 | 240 |     | 3.6 |     |
|             | eP*   |     |     | 10.0 |     | 2.1  | 99  |      |     |     |     |     |
| KRP         | ePn   | 12  | 07  | 12.0 |     | -0.4 | 100 | 3.20 | 277 |     | 3.7 |     |
| MNG         | Pn    | 12  | 07  | 20.8 |     | -0.6 | 100 | 3.86 | 233 |     | 3.5 | 3.5 |
|             | Sn    |     | 08  | 04   |     | 0.1  | 100 |      |     |     |     |     |
| TNZ         | ePn   | 12  | 07  | 25   |     | 0.0  | 100 | 4.13 | 257 |     | 4.4 |     |
| WEL         | e     | 12  | 08  | 16   |     |      |     | 4.69 | 230 | 4.0 |     |     |
|             | eSn   |     |     | 21   |     | -2.8 | 96  |      |     |     |     |     |
| COB         | ePn   | 12  | 07  | 51   |     | 1.6  | 99  | 5.91 | 241 |     | 4.1 | 3.7 |
|             | eSn   |     | 08  | 53   |     | -0.2 | 100 |      |     |     |     |     |
| AMPLITUDES: |       | ECZ | 2.0 | 4.3  | GNZ | 1.9  | 4.3 | WTZ  | 1.2 |     |     |     |
|             |       | TRZ | 0.3 |      | KRP | 0.3  |     | MNG  | 0.4 | 0.5 |     |     |
|             |       | TNZ | 0.2 |      | WEL | 0.2  |     | COB  | 0.2 | 0.3 |     |     |

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AUG 29 16<sup>h</sup>54<sup>m</sup>42<sup>s</sup>.0 38°.77s 175°.56E 12 km M = 4.4  
 ± 0.4 0.02 0.04 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WNZ | Pg    | 16 | 54 | 50.8 |     | -0.5 | 100 | 0.45 | 72  |     |     |     |
| GSZ | Pg    | 16 | 54 | 52.0 |     | -0.4 | 100 | 0.50 | 177 |     |     |     |
|     | Sg    |    |    | 58.2 |     | -1.2 | 100 |      |     |     |     |     |
| KRP | iPg   | 16 | 54 | 58.7 |     | -0.5 | 100 | 0.85 | 359 |     |     |     |
|     | Sg    |    | 55 | 09.5 |     | -1.2 | 100 |      |     |     |     |     |
| TNZ | Pg    | 16 | 55 | 03.8 |     | 1.4  | 100 | 1.01 | 245 |     |     |     |
| TRZ | Pg    | 16 | 55 | 06.2 |     | -1.3 | 100 | 1.26 | 129 |     | 4.0 | 4.1 |
|     | eSg   |    |    | 25   |     | 0.5  | 100 |      |     |     |     |     |
| WTZ | Pn    | 16 | 55 | 06.0 |     | -0.2 | 100 | 1.38 | 56  |     | 4.1 |     |

|             |       |       |         |      |     |      |       |         |
|-------------|-------|-------|---------|------|-----|------|-------|---------|
|             | iPg   |       | 11.4    | 1.6  | 99  |      |       |         |
|             | e     |       | 27.7    |      |     |      |       |         |
| MNG         | Pn    | 16 55 | 14.8    | 2.1  | 99  | 1.84 | 182   | 4.5 4.5 |
|             | i     |       | 16.2    |      |     |      |       |         |
|             | iPg   |       | 18.2    | -1.2 | 100 |      |       |         |
|             | Sg    |       | 44.5    | 0.2  |     |      |       |         |
| GNZ         | eP*   | 16 55 | 16      | -0.2 | 100 | 1.93 | 87    | 4.5 4.4 |
|             | e     |       | 19.7    |      |     |      |       |         |
|             | iPg   |       | 22.3    | 1.1  | 100 |      |       |         |
|             | e     |       | 25.7    |      |     |      |       |         |
|             | e(Sg) |       | 53.5    | 6.2  |     |      |       |         |
| AUC         | iP*   | 16 55 | 21      | 3.6  |     | 2.01 | 342   |         |
|             | iPg   |       | 25      | 2.4  |     |      |       |         |
| WEL         | P*    | 16 55 | 29.0    | 1.7  |     | 2.58 | 193   | 4.4     |
|             | ePg   |       | 36.0    | 1.7  |     |      |       |         |
|             | S*    |       | 56 05   | 3.9  |     |      |       |         |
| ECZ         | e(Pn) | 16 55 | 27.3    | 4.4  |     | 2.59 | 66    | 4.3     |
|             | eP*   |       | 29.3    | 1.9  |     |      |       |         |
|             | ePg   |       | 35.4    | 1.0  |     |      |       |         |
| ONE         | ePg   | 16 55 | 44.5    | -1.0 |     | 3.14 | 342   |         |
| COB         | ePn   | 16 55 | 33.8    | 3.0  |     | 3.18 | 222   | 4.7     |
|             | e     |       | 37.2    |      |     |      |       |         |
|             | eP*   |       | 38.8    | 1.5  |     |      |       |         |
|             | ePg   |       | 43.0    | -3.1 |     |      |       |         |
| AMPLITUDES: | TRZ   |       | 1.7 2.5 | WTZ  | 2.6 | MNG  | 10 12 |         |
|             | GNZ   |       | 3.7 3.7 | WEL  | 0.7 | ECZ  | 0.3   |         |
|             | COB   |       | 1.8     |      |     |      |       |         |

FELT: Southern Waikato MM IV

AUG 29 18<sup>h</sup>42<sup>m</sup>26<sup>s</sup>.3 38°.39s 179°.66E 33 km 77/ 541  
 ± 1.6 0.05 0.13 R S.E.of RES. 1.5 M= 4.0

| STN         | PHASE | H  | M   | S       | DIR | RES     | WT  | DIST    | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|-----|---------|-----|---------|-----|---------|-----|-----|-----|-----|---|---|
| ECZ         | Pn    | 18 | 42  | 45.6    |     | 0.4     | 100 | 1.13    | 308 |     |     |     |   |   |
|             | iSn   |    |     | 59      |     | -0.2    | 100 |         |     |     |     |     |   |   |
| GNZ         | Pn    | 18 | 42  | 48.0    |     | 0.3     | 100 | 1.31    | 258 |     | 3.7 | 3.9 |   |   |
|             | Sn    |    | 43  | 01.5    |     | -2.2    | 99  |         |     |     |     |     |   |   |
| WTZ         | Pn    | 18 | 42  | 58.5    |     | -0.6    | 100 | 2.14    | 280 |     | 3.9 | 4.2 |   |   |
|             | eP*   |    | 43  | 05.2    |     | 1.0     | 100 |         |     |     |     |     |   |   |
|             | e     |    |     | 12.0    |     |         |     |         |     |     |     |     |   |   |
| TRZ         | ePn   | 18 | 43  | 05.6    |     | 1.6     | 100 | 2.50    | 241 |     | 3.7 | 3.9 |   |   |
|             | Sn    |    |     | 35.5    |     | 3.1     | 97  |         |     |     |     |     |   |   |
| KRP         | ePn   | 18 | 43  | 14.5    |     | -0.2    | 100 | 3.28    | 277 |     | 3.7 |     |   |   |
|             | e     |    |     | 35      |     |         |     |         |     |     |     |     |   |   |
| GSZ         | ePn   | 18 | 43  | 16.2    |     | 1.2     | 100 | 3.30    | 253 |     |     |     |   |   |
|             | e     |    |     | 19.5    |     |         |     |         |     |     |     |     |   |   |
| MNG         | Pn    | 18 | 43  | 22.8    |     | -0.6    | 100 | 3.92    | 234 |     | 3.8 | 3.9 |   |   |
|             | iP*   |    |     | 33.0    |     | -1.4    | 100 |         |     |     |     |     |   |   |
|             | Sn    |    | 44  | 07.2    |     | 0.6     | 100 |         |     |     |     |     |   |   |
| TNZ         | ePn   | 18 | 43  | 29      |     | 1.8     |     | 4.20    | 257 |     | 4.4 |     |   |   |
| WEL         | Sn    | 18 | 44  | 26      |     | -0.4    | 100 | 4.75    | 231 | 4.2 |     |     |   |   |
| COB         | ePn   | 18 | 43  | 49      |     | -2.5    | 99  | 5.98    | 241 |     | 4.3 | 3.9 |   |   |
|             | eSn   |    | 44  | 55      |     | -1.0    | 100 |         |     |     |     |     |   |   |
| AMPLITUDES: | GNZ   |    |     | 2.6 6.7 | WTZ | 1.8 3.4 | TRZ | 0.3 0.7 |     |     |     |     |   |   |
|             | KRP   |    |     | 0.3     | MNG | 0.8 1.3 | TNZ | 0.2     |     |     |     |     |   |   |
|             | WEL   |    | 0.3 |         | COB | 0.3 0.5 |     |         |     |     |     |     |   |   |



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AUG 29 22<sup>h</sup>04<sup>m</sup>33<sup>s</sup>.7 38°.22s 176°.39E 94 km M = 3.7  
 ± 1.9 0.08 0.08 18 S.E. of RES. 2.4

| STN  | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|------|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| WITZ | P     | 22 | 04 | 48.1 |     | -1.2 | 100 | 0.53 | 64  |     | 3.2  | 3.4  |
|      | eS    |    |    | 59.0 |     | -2.2 | 100 |      |     |     |      |      |
| KRP  | iP    | 22 | 04 | 52.8 |     | 1.7  | 100 | 0.74 | 293 |     | 3.8* | 2.8* |
|      | S     |    | 05 | 06.3 |     | 2.0  | 100 |      |     |     |      |      |
| GSZ  | P     | 22 | 04 | 56.0 |     | -0.7 | 100 | 1.23 | 210 |     |      |      |
|      | S     |    | 05 | 12.8 |     | -1.3 | 100 |      |     |     |      |      |
| GNZ  | P     | 22 | 04 | 56.5 |     | -1.7 | 100 | 1.35 | 109 |     | 3.5  | 3.7  |
|      | e     |    | 05 | 13.5 |     |      |     |      |     |     |      |      |
|      | S     |    |    | 20.5 |     | 3.7  | 99  |      |     |     |      |      |
| TRZ  | P     | 22 | 04 | 58.0 |     | -0.5 | 100 | 1.38 | 166 |     |      |      |
|      | S     |    | 05 | 15.5 |     | -1.8 | 100 |      |     |     |      |      |
| MNG  | iP    | 22 | 05 | 14.5 |     | 1.1  | 100 | 2.50 | 196 |     | 3.7  | 4.1  |
|      | S     |    |    | 47.1 |     | 4.0  | 99  |      |     |     |      |      |
| WEL  | e(S)  | 22 | 06 | 09.5 |     | 6.5  |     | 3.31 | 202 | 4.2 |      |      |
| COB  | eP    | 22 | 05 | 34   |     | -0.4 | 100 | 4.02 | 223 |     | 3.1* |      |
|      | eS    |    | 06 | 18   |     | -2.7 | 100 |      |     |     |      |      |

AMPLITUDES: WITZ 1.9 3.8 KRP 10 1.3 GNZ 1.2 3.2  
 MNG 1.7 4.5 WEL 0.5 COB 0.2

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AUG 31 01<sup>h</sup>37<sup>m</sup>13<sup>s</sup>.5 38°.81s 174°.03E 12 km M = 3.7  
 ± 0.9 0.04 0.07 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| TNZ | P*    | 01 | 37 | 21.7 |     | -1.0 | 100 | 0.47 | 145 |     |     |     |
| GSZ | P*    | 01 | 37 | 35.8 |     | -1.0 | 100 | 1.30 | 112 |     |     |     |
|     | eS*   |    |    | 54.0 |     | -0.1 | 100 |      |     |     |     |     |
| KRP | Pn    | 01 | 37 | 38.0 |     | -1.1 | 100 | 1.48 | 54  |     | 3.3 | 3.9 |
|     | eP*   |    |    | 42.5 |     | 2.6  | 99  |      |     |     |     |     |
|     | S*    |    |    | 58.2 |     | -1.1 | 100 |      |     |     |     |     |
| MNG | Pn    | 01 | 37 | 49.0 |     | 0.9  | 100 | 2.13 | 149 |     | 3.8 | 3.7 |
|     | iP*   |    |    | 53.1 |     | 2.1  | 99  |      |     |     |     |     |
|     | e     |    |    | 58.3 |     |      |     |      |     |     |     |     |
|     | S*    |    | 38 | 19.2 |     | 0.2  | 100 |      |     |     |     |     |
| COB | ePn   | 01 | 37 | 52.0 |     | -1.0 | 100 | 2.49 | 203 |     | 3.8 |     |
|     | eP*   |    |    | 56.8 |     | -0.4 | 100 |      |     |     |     |     |
|     | e     |    | 38 | 03.0 |     |      |     |      |     |     |     |     |
| WEL | eSn   | 01 | 38 | 26   |     | 2.0  | 99  | 2.55 | 167 | 3.7 |     |     |
|     | eS*   |    |    | 29.5 |     | -1.9 | 99  |      |     |     |     |     |
|     | e     |    |    | 40.5 |     |      |     |      |     |     |     |     |
| GPZ | eSn   | 01 | 39 | 19   |     | -4.1 |     | 5.00 | 192 | 3.9 |     |     |

AMPLITUDES: KRP 1.2 5.8 MNG 2.3 2.8 COB 0.6  
 WEL 0.3 GPZ 0.2

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AUG 31 06<sup>h</sup>12<sup>m</sup>45<sup>s</sup>.6 46°.18s 165°.27E 33 km M = 3.9  
 ± 2.1 0.09 0.17 R S.E. of RES. 2.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| OBZ | P     | 06 | 13 | 19.0 |     | 1.3  | 100 | 2.10 | 111 |     |     |     |
|     | S     |    |    | 41.0 |     | -0.8 | 100 |      |     |     |     |     |
| MSZ | eP    | 06 | 13 | 22.6 |     | 0.8  | 100 | 2.39 | 52  |     | 4.1 | 3.8 |
|     | i     |    |    | 23.6 |     |      |     |      |     |     |     |     |

[illegible]

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|-------------|-------|----------------------------------------------------|----|---------|---------|------|----------|---------|--------|-----|------------------|-----|
| AUG 31      |       | 14 <sup>b</sup> 16 <sup>m</sup> 07 <sup>s</sup> .3 |    |         | 44° 97s |      | 167°.67E |         | 111 km |     | M = 3.5          |     |
|             |       | ± 0.7                                              |    |         | 0.03    |      | 0.05     |         | 5      |     | S.E. of RES. 0.7 |     |
| STN         | PHASE | H                                                  | M  | S       | DIR     | RES  | WT       | DIST    | AZ     | W-A | W P              | W S |
| MSZ         | P     | 14                                                 | 16 | 24.6    |         | 1.0  | 99       | 0.34    | 30     |     |                  |     |
|             | S     |                                                    |    | 35.5    |         | -0.5 | 100      |         |        |     |                  |     |
| ROX         | S-P   |                                                    |    | 18.6    |         | 0.0  | 100      | 1.27    | 114    |     | 3.6              | 3.5 |
| OBZ         | P     | 14                                                 | 16 | 40.5    |         | 0.2  | 100      | 1.96    | 171    |     |                  |     |
|             | S     |                                                    |    | 17 04.5 |         | -0.4 | 100      |         |        |     |                  |     |
| MJZ         | P     | 14                                                 | 16 | 43.0    |         | -0.8 | 99       | 2.23    | 65     |     | 3.3              | 3.7 |
|             | S     |                                                    |    | 17 11.0 |         | -0.1 | 100      |         |        |     |                  |     |
| OMZ         | S     | 14                                                 | 17 | 13.3    |         | 0.4  | 100      | 2.30    | 94     |     |                  | 3.4 |
| AMPLITUDES: |       | ROX                                                |    | 0.9 1.7 |         | MJZ  |          | 0.6 2.0 |        | OMZ |                  | 0.4 |

|        |  |       |  |       |  |      |  |     |  |                                                    |  |         |  |          |  |         |  |             |  |
|--------|--|-------|--|-------|--|------|--|-----|--|----------------------------------------------------|--|---------|--|----------|--|---------|--|-------------|--|
| AUG 31 |  |       |  |       |  |      |  |     |  | 22 <sup>h</sup> 24 <sup>m</sup> 07 <sup>s</sup> .1 |  | 38°.74S |  | 174°.01E |  | 12 km   |  | 77/ 547     |  |
|        |  |       |  |       |  |      |  |     |  | ± 0.5                                              |  | 0.03    |  | 0.05     |  | R       |  | M = 4.5     |  |
|        |  |       |  |       |  |      |  |     |  |                                                    |  |         |  |          |  | S.E. of |  | RES. 1.8    |  |
| STN    |  | PHASE |  | H M   |  | S    |  | DIR |  | RES                                                |  | WT      |  | DIST     |  | AZ      |  | W-A W P W S |  |
| TNZ    |  | Pg    |  | 22 24 |  | 16.8 |  |     |  | -1.3                                               |  | 100     |  | 0.53     |  | 147     |  |             |  |



## INSTRUMENTAL DATA

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|             |     |       |      |      |     |      |     |     |      |
|-------------|-----|-------|------|------|-----|------|-----|-----|------|
| KRP         | P*  | 22 44 | 13.0 | -0.7 | 100 | 1.48 | 54  | 3.0 | 3.9  |
|             | S*  |       | 33.6 | 0.2  | 100 |      |     |     |      |
| MNG         | P*  | 22 44 | 24.2 | -0.6 | 100 | 2.13 | 148 | 3.8 | 3.7  |
|             | S*  |       | 52.2 | -0.7 | 100 |      |     |     |      |
| COB         | ePn | 22 44 | 26.0 | -0.6 | 100 | 2.48 | 203 | 3.5 | 3.1  |
|             | eP* |       | 32.0 | 1.2  | 99  |      |     |     |      |
|             | eSn |       | 57   | 0.7  | 100 |      |     |     |      |
| GPZ         | eSn | 22 45 | 56   | -0.7 | 100 | 4.99 | 192 |     | 3.5* |
| AMPLITUDES: |     | TNZ   | 1.3  | KRP  | 0.7 | 5.6  | MNG | 2.7 | 2.8  |
|             |     | COB   | 0.3  | 0.4  | GPZ | 0.2  |     |     |      |

SEP 01 00<sup>h</sup>11<sup>m</sup>57<sup>s</sup>.3 37°.60S 178°.66E 33 km M = 3.6  
 ± 2.7 0.11 0.14 R S.E. of RES. 2.3

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|---------|
| GNZ         | Pn    | 00  | 12  | 15.8 |     | -0.9 | 100 | 1.16 | 206 |     | 3.6 3.6 |
|             | iP*   |     |     | 19.1 |     | 0.5  | 100 |      |     |     |         |
|             | Sn    |     |     | 31.0 |     | -0.2 | 100 |      |     |     |         |
|             | S*    |     |     | 36   |     | 1.7  | 100 |      |     |     |         |
| WIZ         | S*    | 00  | 12  | 33.5 |     | -1.1 | 100 | 1.17 | 273 |     |         |
| WTZ         | P*    | 00  | 12  | 27   |     | 4.7  | 97  | 1.39 | 253 | 3.1 | 3.5     |
|             | eS*   |     |     | 39.5 |     | -1.3 | 100 |      |     |     |         |
|             | e     |     |     | 51.5 |     |      |     |      |     |     |         |
| KRP         | eP*   | 00  | 12  | 42   |     | 0.8  | 100 | 2.50 | 261 |     | 3.6     |
| MNG         | ePn   | 00  | 12  | 50.5 |     | -3.6 | 99  | 3.91 | 218 | 4.0 | 3.7     |
|             | iP*   |     | 13  | 04.9 |     | -0.1 | 100 |      |     |     |         |
|             | eSn   |     |     | 36   |     | -1.1 | 100 |      |     |     |         |
|             | e     |     |     | 42.5 |     |      |     |      |     |     |         |
| COB         | eSn   | 00  | 14  | 26   |     | 4.1  |     | 5.77 | 231 |     | 3.7     |
| AMPLITUDES: |       | GNZ | 2.6 | 4.2  | WTZ | 0.7  | 1.7 | KRP  |     | 0.3 |         |
|             |       | MNG | 1.2 | 0.8  | COB |      | 0.3 |      |     |     |         |

SEP 01 03<sup>h</sup>18<sup>m</sup>02<sup>s</sup>.0 38°.77S 174°.02E 12 km M = 3.4  
 ± 1.2 0.05 0.08 R S.E. of RES. 1.9

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|---------|
| GSZ         | P*    | 03  | 18  | 25.8 |     | 0.1  | 100 | 1.32 | 113 |     |         |
|             | S*    |     |     | 42.0 |     | -1.2 | 100 |      |     |     |         |
| KRP         | P*    | 03  | 18  | 27.8 |     | -0.3 | 100 | 1.47 | 55  |     | 3.2 3.3 |
|             | S*    |     |     | 48.0 |     | 0.5  | 100 |      |     |     |         |
| MNG         | ePn   | 03  | 18  | 38.8 |     | 1.8  | 100 | 2.16 | 149 |     | 3.6 3.5 |
|             | iP*   |     |     | 40.0 |     | -0.0 | 100 |      |     |     |         |
|             | S*    |     | 19  | 06.8 |     | -1.6 | 100 |      |     |     |         |
| COB         | ePn   | 03  | 18  | 40   |     | -1.8 | 100 | 2.52 | 203 |     | 3.3 3.0 |
|             | eSn   |     | 19  | 11   |     | -0.8 | 100 |      |     |     |         |
| WEL         | eSn   | 03  | 19  | 17   |     | 3.8  | 97  | 2.57 | 167 | 3.5 |         |
| AMPLITUDES: |       | KRP | 1.2 | 1.7  | MNG | 1.6  | 1.6 | COB  |     | 0.2 | 0.3     |
|             |       | WEL | 0.2 |      |     |      |     |      |     |     |         |

SEP 01 18<sup>h</sup>37<sup>m</sup>40<sup>s</sup>.9 36°.39S 177°.69E 292 km M = 4.9  
 ± 0.7 0.03 0.06 4 S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| WIZ | P     | 18 | 38 | 21.3 |     | -0.3 | 100 | 1.21 | 199 |     |         |
|     | S     |    |    | 52.5 |     | -1.0 | 100 |      |     |     |         |
| WTZ | P     | 18 | 38 | 24.2 |     | -0.6 | 100 | 1.69 | 199 | 4.9 | 5.1     |



|             |     |       |         |      |     |      |        |      |         |
|-------------|-----|-------|---------|------|-----|------|--------|------|---------|
|             | S   |       | 54.1    | -4.9 | 0   |      |        |      |         |
| GNZ         | P   | 18 38 | 29.9    | 0.4  | 100 | 2.27 | 173    | 5.1  | 3.8     |
|             | S   |       | 39 06   | -1.4 | 99  |      |        |      |         |
| KRP         | P   | 18 38 | 31.1    | 1.3  | 99  | 2.30 | 228    | 4.0* | 3.3*    |
|             | S   |       | 39 09.0 | 1.0  | 100 |      |        |      |         |
| AUC         | P   | 18 38 | 32.0    | 1.4  | 99  | 2.39 | 258    |      |         |
| WNZ         | P   | 18 38 | 33.4    | 1.1  | 100 | 2.57 | 209    | 5.2  | 5.0     |
| ONE         | eP  | 18 38 | 33.5    | -0.7 | 100 | 2.76 | 282    | 3.7* |         |
|             | S   |       | 39 14.2 | -1.4 | 99  |      |        |      |         |
| TRZ         | P   | 18 38 | 39.2    | 0.4  | 100 | 3.24 | 192    | 5.1  |         |
|             | e   |       | 39 18.0 |      |     |      |        |      |         |
|             | S   |       | 24      | -0.1 | 100 |      |        |      |         |
| GSZ         | P   | 18 38 | 40.7    | 0.9  | 100 | 3.33 | 209    |      |         |
|             | S   |       | 39 27.7 | 1.8  | 99  |      |        |      |         |
| CRZ         | P   | 18 38 | 53.0    | -0.2 | 100 | 4.54 | 294    | 4.1* |         |
|             | eS  |       | 39 45.8 | -4.0 |     |      |        |      |         |
| MNG         | P   | 18 38 | 53.0    | -0.6 | 100 | 4.57 | 202    |      |         |
|             | e   |       | 39 29.5 |      |     |      |        |      |         |
|             | S   |       | 51.5    | 1.0  | 100 |      |        |      |         |
| WEL         | eP  | 18 39 | 02.0    | -1.4 | 99  | 5.40 | 204    | 5.2  |         |
|             | S   |       | 40 07.0 | -1.0 | 100 |      |        |      |         |
| COB         | eP  | 18 39 | 11.2    | -0.4 | 100 | 6.09 | 218    | 3.8* | 4.0*    |
|             | S   |       | 40 22.0 | -0.8 | 100 |      |        |      |         |
| KAI         |     |       |         |      |     | 7.83 | 216    | 4.1* |         |
| GPZ         | eP  | 18 39 | 39      | 0.6  | 100 | 8.26 | 206    | 4.7* |         |
|             | S   |       | 41 09.8 | -1.0 | 100 |      |        |      |         |
| AMPLITUDES: |     |       |         |      |     |      |        |      |         |
|             | WTZ |       | 7.2     | 12   | GNZ |      | 10 0.8 | KRP  | 4.7 1.2 |
|             | WNZ |       | 0.6     | 0.3  | ONE |      | 0.9    | TRZ  | 2.5     |
|             | CRZ |       | 1.2     |      | WEL |      | 2.0    | COB  | 0.6 3.6 |
|             | KAI |       | 0.7     |      | GPZ |      | 3.8    |      |         |

SEP 01 19<sup>h</sup>23<sup>m</sup>08<sup>s</sup>.5 40°.03s 174°.79E 12 km 77/ 552  
 ± 0.4 0.02 0.04 R S.E.of RES. 1.4 M= 3.8

| STN         | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-------|---------|---|-----|------|-----|------|-----|-----|---------|
| MNG         | P*    | 19 23 | 24.1    |   |     | 1.0  | 100 | 0.79 | 138 |     |         |
|             | S*    |       | 32.2    |   |     | -1.6 | 100 |      |     |     |         |
| GSZ         | P*    | 19 23 | 26.2    |   |     | -0.1 | 100 | 0.98 | 40  |     |         |
|             | i     |       | 27.8    |   |     |      |     |      |     |     |         |
|             | S*    |       | 39.0    |   |     | -0.4 | 100 |      |     |     |         |
| WEL         | P*    | 19 23 | 30.2    |   |     | -0.8 | 100 | 1.25 | 181 | 4.2 |         |
|             | S*    |       | 44.8    |   |     | -2.8 | 98  |      |     |     |         |
| CAZ         | S*    | 19 23 | 55.2    |   |     | 3.0  | 97  | 1.40 | 129 |     |         |
| TRZ         | eP*   | 19 23 | 38.2    |   |     | 0.5  | 100 | 1.64 | 74  |     | 3.4     |
|             | e     |       | 24 06.2 |   |     |      |     |      |     |     |         |
| COB         | e     | 19 23 | 41.3    |   |     |      |     | 1.88 | 235 |     | 3.8 3.1 |
|             | iP*   |       | 42.5    |   |     | 0.7  | 100 |      |     |     |         |
|             | S*    |       | 24 07.0 |   |     | 0.3  | 100 |      |     |     |         |
| KRP         | eP*   | 19 23 | 48.0    |   |     | 1.0  | 100 | 2.19 | 16  |     | 3.7 4.3 |
|             | S*    |       | 24 15.2 |   |     | -0.5 | 100 |      |     |     |         |
| KKY         | ePn   | 19 23 | 48.6    |   |     | 0.2  | 100 | 2.52 | 199 |     |         |
|             | eP*   |       | 54.2    |   |     | 1.5  | 100 |      |     |     |         |
|             | e     |       | 58.4    |   |     |      |     |      |     |     |         |
| WTZ         | ePn   | 19 23 | 50      |   |     | -0.5 | 100 | 2.67 | 41  |     | 3.7     |
|             | eP*   |       | 54      |   |     | -1.2 | 100 |      |     |     |         |
| GNZ         | Pn    | 19 23 | 46.6    |   |     | -6.5 |     | 2.87 | 62  |     | 3.8     |
| AMPLITUDES: |       |       |         |   |     |      |     |      |     |     |         |
|             | WEL   |       | 3.8     |   | TRZ |      | 0.4 | COB  |     | 1.0 | 0.8     |

|             |                                                    |         |          |       |              |         |     |         |         |     |     |     |  |
|-------------|----------------------------------------------------|---------|----------|-------|--------------|---------|-----|---------|---------|-----|-----|-----|--|
|             |                                                    | KRP     | 0.5      | 1.4   | WTZ          | 0.3     | GNZ | 1.0     |         |     |     |     |  |
|             |                                                    |         |          |       |              |         |     |         | 77/ 553 |     |     |     |  |
| SEP 01      | 19 <sup>h</sup> 48 <sup>m</sup> 30 <sup>s</sup> .7 | 38°.70s | 173°.89E | 33 km | M = 3.6      |         |     |         |         |     |     |     |  |
|             | ± 1.2                                              | 0.06    | 0.09     | R     | S.E. of RES. | 1.6     |     |         |         |     |     |     |  |
| STN         | PHASE                                              | H       | M        | S     | DIR          | RES     | WT  | DIST    | AZ      | W-A | W P | W S |  |
| GSZ         | P                                                  | 19      | 48       | 52.8  |              | -1.1    | 100 | 1.44    | 114     |     |     |     |  |
|             | S                                                  | 49      | 09.0     |       |              | -2.3    | 99  |         |         |     |     |     |  |
| KRP         | P                                                  | 19      | 48       | 54.8  |              | -0.1    | 100 | 1.51    | 60      |     | 3.3 | 3.7 |  |
|             | S                                                  | 49      | 14.2     |       |              | 1.3     | 100 |         |         |     |     |     |  |
| MNG         | P                                                  | 19      | 49       | 05.8  |              | 0.5     | 100 | 2.28    | 148     |     | 3.8 | 3.7 |  |
|             | S                                                  |         |          | 33.8  |              | 2.5     | 99  |         |         |     |     |     |  |
| COB         | eP                                                 | 19      | 49       | 08.2  |              | -0.8    | 100 | 2.55    | 200     |     | 3.5 | 3.1 |  |
|             | eS                                                 |         |          | 38.5  |              | 0.7     | 100 |         |         |     |     |     |  |
| WEL         | eS                                                 | 19      | 49       | 46    |              | 5.2     |     | 2.66    | 166     | 3.5 |     |     |  |
| GPZ         | eS                                                 | 19      | 50       | 38    |              | -0.7    | 100 | 5.08    | 190     | 3.9 |     |     |  |
| AMPLITUDES: |                                                    | KRP     | 1.2 3.6  |       | MNG          | 2.1 2.1 | COB | 0.3 0.4 |         |     |     |     |  |
|             |                                                    | WEL     | 0.2      |       | GPZ          | 0.2     |     |         |         |     |     |     |  |

|             |                                                    |     |     |         |          |       |                  |      |     |     |      |      |
|-------------|----------------------------------------------------|-----|-----|---------|----------|-------|------------------|------|-----|-----|------|------|
| 77/ 554     |                                                    |     |     |         |          |       |                  |      |     |     |      |      |
| SEP 02      | 04 <sup>h</sup> 09 <sup>m</sup> 10 <sup>s</sup> .9 |     |     | 39°.48s | 173°.49E | 98 km | M = 3.7          |      |     |     |      |      |
|             | ± 0.4                                              |     |     | 0.01    | 0.02     | 6     | S.E. of RES. 0.3 |      |     |     |      |      |
| STN         | PHASE                                              | H   | M   | S       | DIR      | RES   | WT               | DIST | AZ  | W-A | W P  | W S  |
| TNZ         | eP                                                 | 04  | 09  | 34      |          | 5.2   |                  | 0.75 | 67  |     | 3.3* |      |
| NGZ         | P                                                  | 04  | 09  | 39.8    |          | 0.1   | 100              | 1.67 | 80  |     |      |      |
|             | S                                                  |     |     | 10 01.0 |          | -0.3  | 100              |      |     |     |      |      |
| COB         | P                                                  | 04  | 09  | 40.0    |          | -0.1  | 100              | 1.71 | 200 |     | 3.6* | 3.1* |
|             | eS                                                 |     |     | 10 02   |          | 0.0   | 100              |      |     |     |      |      |
| MNG         | P                                                  | 04  | 09  | 42.5    |          | -0.2  | 100              | 1.91 | 127 |     | 3.6  | 3.7  |
|             | S                                                  |     |     | 10 06.0 |          | -0.2  | 100              |      |     |     |      |      |
| WEL         | eS                                                 | 04  | 10  | 10      |          | 0.5   | 98               | 2.05 | 152 | 3.7 |      |      |
| KRP         | P                                                  | 04  | 09  | 56.2    |          | 9.1   |                  | 2.23 | 47  |     | 2.9* | 2.9* |
|             | eS                                                 |     |     | 10 14   |          | 0.2   | 100              |      |     |     |      |      |
| AMPLITUDES: |                                                    | TNZ | 0.7 |         | COB      | 1.5   | 1.5              | MNG  |     |     | 2.0  | 3.0  |
|             |                                                    | WEL | 0.4 |         | KRP      | 0.5   | 0.6              |      |     |     |      |      |

|             |                                                    |     |    |         |          |      |                  |         |     |     |         |
|-------------|----------------------------------------------------|-----|----|---------|----------|------|------------------|---------|-----|-----|---------|
| 77/ 555     |                                                    |     |    |         |          |      |                  |         |     |     |         |
| SEP 02      | 04 <sup>h</sup> 34 <sup>m</sup> 10 <sup>s</sup> .5 |     |    | 37°.79s | 176°.68E | 0 km | M = 3.7          |         |     |     |         |
|             | ± 1.0                                              |     |    | 0.05    | 0.05     | 8    | S.E. of RES. 1.9 |         |     |     |         |
| STN         | PHASE                                              | H   | M  | S       | DIR      | RES  | WT               | DIST    | AZ  | W-A | W P W S |
| WIZ         | iPg!                                               | 04  | 34 | 15.6    |          | -1.1 | 100              | 0.31    | 128 |     |         |
| WIZ         | iP*                                                | 04  | 34 | 20.6    |          | -0.5 | 100              | 0.49    | 57  |     |         |
|             | eSg                                                |     |    | 27      |          | 0.2  | 100              |         |     |     |         |
| KRP         | P*                                                 | 04  | 34 | 30.1    |          | 1.6  | 100              | 0.92    | 261 |     | 3.3 3.5 |
|             | eS*                                                |     |    | 43      |          | 1.7  | 100              |         |     |     |         |
| GNZ         | Pn                                                 | 04  | 34 | 37.6    |          | 1.4  | 100              | 1.36    | 129 |     | 4.1 3.6 |
|             | Pg                                                 |     |    | 40.1    |          | 2.2  | 99               |         |     |     |         |
|             | eSn                                                |     |    | 57      |          | 2.0  | 100              |         |     |     |         |
| TRZ         | P*                                                 | 04  | 34 | 44.8    |          | 1.9  | 100              | 1.76    | 177 |     | 4.1     |
| MNG         | eP*                                                | 04  | 35 | 02      |          | -1.6 | 100              | 2.97    | 198 |     | 3.6     |
|             | ePg                                                |     |    | 10      |          | -0.6 | 100              |         |     |     |         |
| AMPLITUDES: |                                                    | KRP |    | 1.8 2.5 | GNZ      |      |                  | 4.5 2.2 | TRZ |     | 1.0     |
|             |                                                    | MNG |    | 0.5     |          |      |                  |         |     |     |         |

SEP 02 05<sup>h</sup>37<sup>m</sup>27<sup>s</sup>.7 33°.81s 179°.81w 271 km 77/ 556  
 ± 1.6 0.08 0.21 23 S.E. of RES. 1.8 M = 4.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|-----|---|
| ECZ | S-P   |    |    | 50   |     | -1.7 | 100 | 4.10 | 199 |      | 4.4  | 5.0  |     |   |
| WIZ | eP    | 05 | 38 | 39   |     | 0.9  | 100 | 4.45 | 213 |      |      |      |     |   |
|     | eS    |    | 39 | 34   |     | 0.9  | 100 |      |     |      |      |      |     |   |
| WTZ | P     | 05 | 38 | 43.3 |     | -0.3 | 100 | 4.91 | 211 |      | 5.1  | 5.1  |     |   |
|     | i     |    |    | 45.0 |     |      |     |      |     |      |      |      |     |   |
| GNZ | eP    | 05 | 38 | 45.5 |     | -0.8 | 100 | 5.14 | 199 |      | 4.4  | 5.1  |     |   |
|     | e     |    | 39 | 43   |     |      |     |      |     |      |      |      |     |   |
|     | eS    |    |    | 46   |     | -1.8 | 100 |      |     |      |      |      |     |   |
| ONE | eP    | 05 | 38 | 47.5 |     | 0.6  | 100 | 5.18 | 246 | 3.4* |      |      |     |   |
| TUA | S-P   |    | 1  | 05   |     | -0.5 | 100 | 5.56 | 205 |      |      |      |     |   |
| KRP | P     | 05 | 38 | 54.3 |     | 2.5  | 99  | 5.58 | 221 |      | 3.4* | 3.0* |     |   |
|     | e(S)  |    | 40 | 05   |     | 7.5  |     |      |     |      |      |      |     |   |
| CRZ | P     | 05 | 38 | 57.0 |     | -3.1 | 98  | 6.26 | 262 |      | 3.6* | 3.5* |     |   |
|     | e     |    | 40 | 30   |     |      |     |      |     |      |      |      |     |   |
| TRZ | e(S)  | 05 | 40 | 20   |     | 5.7  |     | 6.34 | 204 |      |      |      | 5.4 |   |
| NGZ | eP    | 05 | 39 | 04   |     | 0.9  | 100 | 6.51 | 213 |      |      |      |     |   |
|     | eS    |    | 40 | 20.5 |     | 2.4  | 99  |      |     |      |      |      |     |   |
| MNG | P     | 05 | 39 | 17.6 |     | -1.3 | 100 | 7.77 | 208 |      | 4.4  | 5.0  |     |   |
|     | eS    |    | 40 | 45   |     | -1.2 | 100 |      |     |      |      |      |     |   |
| WEL | eS    | 05 | 41 | 05   |     | -0.3 | 100 | 8.62 | 208 | 5.1  |      |      |     |   |

AMPLITUDES: ECZ 0.4 1.7 WTZ 3.0 3.8 GNZ 0.7 4.7  
 ONE 0.3 KRP 0.7 0.3 CRZ 0.3 0.3  
 TRZ 3.6 MNG 0.8 4.1 WEL 0.7

SEP 03 02<sup>h</sup>04<sup>m</sup>15<sup>s</sup>.0 38°.67s 175°.21E 260 km 77/ 557  
 ± 1.1 0.05 0.08 8 S.E. of RES. 1.4 M = 4.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|-----|---|
| KRP | iP    | 02 | 04 | 51.4 | DNW | 1.2  | 100 | 0.79 | 19  |     | 4.0* | 3.4* |     |   |
|     | S     |    | 05 | 19.0 |     | 1.5  | 100 |      |     |     |      |      |     |   |
| TRZ | eS    | 02 | 05 | 27.3 |     | 1.8  | 99  | 1.53 | 126 |     |      |      | 4.7 |   |
| WTZ | iP    | 02 | 04 | 54.7 | D   | -0.2 | 100 | 1.56 | 64  |     | 4.7  | 4.6  |     |   |
|     | S     |    | 05 | 23.8 |     | -2.0 | 99  |      |     |     |      |      |     |   |
| WIZ | P     | 02 | 04 | 57.2 |     | -0.8 | 100 | 1.93 | 54  |     |      |      |     |   |
|     | e     |    | 05 | 27   |     |      |     |      |     |     |      |      |     |   |
| MNG | iP    | 02 | 04 | 58.4 | U   | 0.2  | 100 | 1.96 | 174 |     | 5.1  | 4.8  |     |   |
|     | S     |    | 05 | 31.3 |     | -0.3 | 100 |      |     |     |      |      |     |   |
| GNZ | iP    | 02 | 05 | 00.7 | D   | 0.3  | 100 | 2.20 | 90  |     | 5.0  | 5.0  |     |   |
|     | eS    |    |    | 34   |     | -1.6 | 100 |      |     |     |      |      |     |   |
| CAZ | P     | 02 | 05 | 02.8 |     | 0.9  | 100 | 2.37 | 161 |     |      |      |     |   |
|     | eS    |    |    | 40   |     | 1.6  | 100 |      |     |     |      |      |     |   |
| WEL | eP    | 02 | 05 | 05   |     | 0.4  | 100 | 2.64 | 187 | 4.5 |      |      |     |   |
|     | eS    |    |    | 42   |     | -1.2 | 100 |      |     |     |      |      |     |   |
| ECZ | S-P   |    |    | 38.5 |     | -1.5 | 100 | 2.81 | 71  |     | 5.3  | 4.7  |     |   |
| COB | iP    | 02 | 05 | 08.7 | U   | -0.6 | 100 | 3.08 | 217 |     | 4.4* | 4.1* |     |   |
|     | S     |    |    | 49.7 |     | -1.8 | 99  |      |     |     |      |      |     |   |

AMPLITUDES: KRP 6.6 2.2 TRZ 4.5 WTZ 5.5 4.8  
 MNG 29 19 GNZ 9.2 13 WEL 1.2  
 ECZ 4.8 1.5 COB 4.5 8.0

SEP 04 01<sup>h</sup>21<sup>m</sup>45<sup>s</sup>.5 33°.14s 179°.57W 434 km 77/ 558  
 $\pm 1.7$  0.20 0.41 21 S.E. of RES. 1.6  $M = 4.9$

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|-----|---|---|
| WIZ | P     | 01 | 23 | 15.3 |     | -0.5 | 100 | 5.59 | 209 |     | 5.2  | 4.7 |   |   |
|     | S     |    | 24 | 24.7 |     | -2.2 | 99  |      |     |     |      |     |   |   |
| GNZ | eP    | 01 | 23 | 17   |     | -1.3 | 100 | 5.83 | 199 |     | 5.0  | 4.7 |   |   |
|     | eS    |    | 24 | 33   |     | 1.6  | 100 |      |     |     |      |     |   |   |
| KRP | P     | 01 | 23 | 23.8 |     | 1.3  | 100 | 6.23 | 218 |     | 3.6* |     |   |   |
| TRZ | eP    | 01 | 23 | 33   |     | 1.8  | 99  | 7.04 | 203 |     | 4.9  | 5.0 |   |   |
|     | e(S)  |    | 25 | 01   |     | 6.2  |     |      |     |     |      |     |   |   |
| NGZ | P     | 01 | 23 | 33.2 |     | 0.3  | 100 | 7.18 | 211 |     |      |     |   |   |
|     | eS    |    | 24 | 59   |     | 1.3  | 100 |      |     |     |      |     |   |   |
| MNG | P     | 01 | 23 | 45.8 |     | -1.2 | 100 | 8.46 | 207 |     | 5.2  | 4.7 |   |   |
|     | eS    |    | 25 | 23   |     | -0.2 | 100 |      |     |     |      |     |   |   |
| WEL | eS    | 01 | 25 | 40   |     | -0.4 | 100 | 9.31 | 207 | 4.9 |      |     |   |   |

AMPLITUDES: WIZ 2.5 0.9 GNZ 1.6 1.5 KRP 0.9  
 TRZ 0.4 1.1 MNG 3.7 1.5 WEL 0.3

SEP 04 13<sup>h</sup>27<sup>m</sup>58<sup>s</sup>.8 44°.83s 167°.57E 6 km 77/ 559  
 $\pm 1.0$  0.03 0.07 6 S.E. of RES. 1.3  $M = 3.8$

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| MSZ | iPg   | 13 | 28 | 04.3 | U   | -0.5 | 100 | 0.30 | 57  |     |     |     |   |   |
| MNW | P*    | 13 | 28 | 16.0 |     | -0.8 | 100 | 0.95 | 178 | 4.1 |     |     |   |   |
|     | S*    |    |    | 29.8 |     | 0.0  | 100 |      |     |     |     |     |   |   |
| ROX | Sn-Pn |    |    | 18.0 |     | -0.8 | 100 | 1.39 | 118 |     | 3.8 | 3.6 |   |   |
| OBZ | Pn    | 13 | 28 | 35.0 |     | 1.1  | 100 | 2.11 | 170 |     |     |     |   |   |
|     | eSn   |    | 29 | 01   |     | 0.8  | 100 |      |     |     |     |     |   |   |
|     | eS*   |    |    | 03   |     | -1.5 | 99  |      |     |     |     |     |   |   |
| MJZ | Pn    | 13 | 28 | 36.1 |     | 0.4  | 100 | 2.24 | 69  |     | 3.7 | 3.5 |   |   |
|     | eS*   |    | 29 | 07   |     | -1.5 | 99  |      |     |     |     |     |   |   |
| OMZ | Pn    | 13 | 28 | 38.8 |     | 1.1  | 100 | 2.38 | 97  |     | 3.7 | 3.6 |   |   |
|     | S*    |    | 29 | 13   |     | 0.1  | 100 |      |     |     |     |     |   |   |
| GPZ | eS*   | 13 | 29 | 58   |     | 2.2  | 98  | 3.82 | 74  | 3.7 |     |     |   |   |
| COB | ePn   | 13 | 29 | 18   |     | 0.2  | 100 | 5.33 | 47  |     | 4.2 | 3.7 |   |   |
|     | eSn   |    | 30 | 16   |     | -1.5 | 99  |      |     |     |     |     |   |   |

AMPLITUDES: MNW 6.9 ROX 2.0 3.0 MJZ 1.7 2.0  
 OMZ 0.5 0.8 GPZ 0.2 COB 0.3 0.4

SEP 04 19<sup>h</sup>59<sup>m</sup>10<sup>s</sup>.5 39°.34s 177°.24E 67 km 77/ 560  
 $\pm 0.8$  0.03 0.05 8 S.E. of RES. 1.4  $M = 3.8$

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|-----|---|
| TRZ | iP    | 19 | 59 | 23.0  | D   | 0.4  | 100 | 0.39 | 236 |     | 3.4  |     |     |   |
|     | S     |    |    | 31.5  |     | -0.1 | 100 |      |     |     |      |     |     |   |
| TUA | S-P   |    |    | 08.0  |     | -2.0 | 99  | 0.54 | 353 |     |      |     |     |   |
| GNZ | iP    | 19 | 59 | 29.2  | DSE | 0.8  | 100 | 0.93 | 42  |     | 3.8  | 3.8 |     |   |
|     | eS    |    |    | 42    |     | 0.3  | 100 |      |     |     |      |     |     |   |
| WNZ | S     | 19 | 59 | 48.7  |     | 2.2  | 99  | 1.13 | 308 |     |      |     | 4.2 |   |
| WIZ | P     | 19 | 59 | 33.7  |     | -0.4 | 100 | 1.37 | 352 |     | 3.5  | 4.1 |     |   |
|     | S     |    |    | 50.0  |     | -2.0 | 99  |      |     |     |      |     |     |   |
| MNG | iP    | 19 | 59 | 40.0  |     | -0.8 | 100 | 1.86 | 226 |     | 3.9  | 3.7 |     |   |
|     | eS    |    | 20 | 00 04 |     | 0.7  | 100 |      |     |     |      |     |     |   |
| KRP | P     | 19 | 59 | 42.0  |     | 0.0  | 100 | 1.94 | 316 |     | 2.6* |     |     |   |



|             |     |          |     |  |      |     |      |     |     |      |
|-------------|-----|----------|-----|--|------|-----|------|-----|-----|------|
| TNZ         | eS  | 20 00 12 |     |  | -0.2 | 100 | 2.22 | 273 |     | 3.1* |
| WEL         | eS  | 20 00 23 |     |  | -1.5 | 100 | 2.71 | 223 | 3.8 |      |
| AMPLITUDES: | TRZ | 3.0      |     |  | GNZ  | 6.0 | 9.0  | WNZ |     | 0.4  |
|             | WIZ | 1.2      | 5.2 |  | MNG  | 4.6 | 3.5  | KRP |     | 0.3  |
|             | TNZ | 0.3      |     |  | WEL  | 0.3 |      |     |     |      |

SEP 05 12<sup>h</sup>52<sup>m</sup>19<sup>s</sup>.9 38°.65s 177°.24E 12 km M = 3.6  
 ± 0.5 0.03 0.04 R S.E. of RES. 1.8

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| GNZ         | iP*   | 12  | 52 | 33.3  | DE  | 1.8  | 100 | 0.61 | 90  |     | 3.6 | 3.8 |
|             | eS*   |     |    | 39    |     | -0.8 | 100 |      |     |     |     |     |
|             | eSg   |     |    | 41.5  |     | 0.7  | 100 |      |     |     |     |     |
| WTZ         | iP*   | 12  | 52 | 33.3  | U   | 0.3  | 100 | 0.69 | 343 |     |     |     |
| WNZ         | ePg   | 12  | 52 | 40    |     | 1.9  | 100 | 0.89 | 271 |     | 3.8 | 3.6 |
|             | eSg   |     |    | 52    |     | 1.7  | 100 |      |     |     |     |     |
|             | e     |     |    | 53 08 |     |      |     |      |     |     |     |     |
| TRZ         | eP*   | 12  | 52 | 38.5  |     | 1.0  | 100 | 0.96 | 200 |     |     | 3.6 |
|             | eS*   |     |    | 52    |     | 1.7  | 100 |      |     |     |     |     |
| WIZ         | P*    | 12  | 52 | 39.7  |     | -0.6 | 100 | 1.13 | 358 |     |     |     |
|             | eS*   |     |    | 54    |     | -1.2 | 100 |      |     |     |     |     |
| KRP         | Pn    | 12  | 52 | 45.2  |     | -1.1 | 100 | 1.53 | 298 |     | 3.6 |     |
| MNG         | e?    | 12  | 52 | 55    |     |      |     | 2.39 | 214 |     | 3.6 | 3.4 |
|             | ePg   |     |    | 53 06 |     | -2.3 | 99  |      |     |     |     |     |
|             | e     |     |    | 57    |     |      |     |      |     |     |     |     |
| WEL         | eSn   | 12  | 53 | 44    |     | -3.3 | 98  | 3.25 | 215 | 3.9 |     |     |
| AMPLITUDES: | GNZ   | 9.0 | 20 |       | WNZ | 0.5  | 0.5 | TRZ  |     |     | 2.3 |     |
|             | KRP   | 1.0 |    |       | MNG | 1.3  | 1.0 | WEL  | 0.3 |     |     |     |

SEP 07 15<sup>h</sup>59<sup>m</sup>02<sup>s</sup>.0 45°.19s 168°.22E 12 km M = 3.0  
 ± 0.3 0.02 0.03 R S.E. of RES. 0.9

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ         | iP*   | 15  | 59  | 11.9 | U   | -1.0 | 100 | 0.57 | 337 |     | 3.2 | 3.2 |
|             | S*    |     |     | 21.3 |     | 0.6  | 100 |      |     |     |     |     |
| MNW         | e?    | 15  | 59  | 12   |     |      |     | 0.73 | 216 | 2.7 |     |     |
|             | eS*   |     |     | 26   |     | 0.6  | 100 |      |     |     |     |     |
| ROX         |       |     |     |      |     |      |     | 0.83 | 110 |     |     | 2.1 |
| OBZ         | ePn   | 15  | 59  | 31   |     | 0.0  | 100 | 1.72 | 182 |     |     |     |
|             | eSn   |     |     | 52   |     | -0.6 | 100 |      |     |     |     |     |
| OMZ         | iPn   | 15  | 59  | 34.7 | D   | 1.1  | 99  | 1.91 | 87  |     | 3.8 | 2.8 |
|             | eS*   | 16  | 00  | 01   |     | 0.0  | 100 |      |     |     |     |     |
| MJZ         | Pn    | 15  | 59  | 33.8 |     | -1.1 | 99  | 2.01 | 54  |     | 3.2 | 3.0 |
|             | eSn   | 16  | 00  | 00   |     | 0.4  | 100 |      |     |     |     |     |
| AMPLITUDES: | MSZ   | 7.5 | 13  |      | MNW | 0.5  |     | ROX  |     |     | 0.3 |     |
|             | OMZ   | 0.9 | 0.2 |      | MJZ | 0.7  | 0.8 |      |     |     |     |     |

SEP 07 21<sup>h</sup>01<sup>m</sup>57<sup>s</sup>.4 41°.00s 172°.40E 12 km M = 3.4  
 ± R R R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| COB | iPg   | 21 | 02 | 02.0 | D   | -1.2 | 100 | 0.27 | 109 |     |     |     |
|     | P*    |    |    | 03.3 |     | 0.2  | 100 |      |     |     |     |     |
| WEL | ePn   | 21 | 02 | 29   |     | 1.4  | 99  | 1.81 | 100 | 3.4 |     |     |
|     | eSn   |    |    | 50   |     | -0.3 | 100 |      |     |     |     |     |

AMPLITUDES: WEL 0.3

FELT: Bainham(72)

SEP 08 05<sup>h</sup>49<sup>m</sup>30<sup>s</sup>.9 38°.91s 175°.65E 12 km 77/ 564  
 ± 0.4 0.02 0.03 R S.E. of RES. 1.3 M = 3.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| NGZ | eP*   | 05 | 49 | 37.5 |     | 0.7  | 100 | 0.27 | 186 |     |     |     |   |   |
| WNZ | P*    | 05 | 49 | 39.7 |     | -0.0 | 100 | 0.45 | 52  |     | 3.5 | 3.2 |   |   |
|     | e     |    |    | 56.5 |     |      |     |      |     |     |     |     |   |   |
| KRP | iP*   | 05 | 49 | 49.7 | UNW | 0.8  | 100 | 0.99 | 355 |     | 3.8 | 3.9 |   |   |
|     | S*    |    | 50 | 02.8 |     | 0.6  | 100 |      |     |     |     |     |   |   |
| TRZ | P*    | 05 | 49 | 49.7 |     | -1.4 | 100 | 1.12 | 126 |     | 3.9 | 4.1 |   |   |
|     | Pg    |    |    | 54.0 |     | 0.5  | 100 |      |     |     |     |     |   |   |
|     | eSg   |    | 50 | 09   |     | 0.4  | 100 |      |     |     |     |     |   |   |
| WTZ | ePn   | 05 | 49 | 54   |     | -1.5 | 100 | 1.40 | 49  |     | 3.4 |     |   |   |
| GNZ | ePg   | 05 | 50 | 07   |     | -1.8 | 99  | 1.87 | 83  |     | 4.1 | 3.9 |   |   |
|     | eSg   |    |    | 36   |     | 1.9  | 99  |      |     |     |     |     |   |   |
| WEL | eP*   | 05 | 50 | 16   |     | 1.8  | 99  | 2.47 | 196 | 3.9 |     |     |   |   |
|     | eSg   |    |    | 53   |     | -1.1 | 100 |      |     |     |     |     |   |   |
| COB | eP*   | 05 | 50 | 24   |     | -1.4 | 100 | 3.12 | 225 |     | 4.0 | 3.5 |   |   |
|     | ePg   |    |    | 33.5 |     | -0.6 | 100 |      |     |     |     |     |   |   |
|     | eSg   |    | 51 | 17   |     | 0.8  | 100 |      |     |     |     |     |   |   |

AMPLITUDES: WNZ 1.0 0.8 KRP 4.5 4.5 TRZ 1.8 3.8  
 WTZ 0.6 GNZ 1.6 1.5 WEL 0.3  
 COB 0.4 0.4

SEP 08 06<sup>h</sup>19<sup>m</sup>31<sup>s</sup>.2 38°.93s 175°.77E 12 km 77/ 565  
 ± 0.4 0.02 0.03 R S.E. of RES. 1.3 M = 3.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| NGZ | iP    | 06 | 19 | 36.2 | U   | -0.9 | 100 | 0.28 | 206 |     |     |     |   |   |
| WNZ | eS*   | 06 | 19 | 46   |     | 1.3  | 100 | 0.40 | 41  |     |     | 2.8 |   |   |
| KRP | P*    | 06 | 19 | 48.7 |     | -1.1 | 100 | 1.02 | 350 |     | 3.7 | 3.4 |   |   |
|     | Sg    |    | 20 | 06   |     | 0.2  | 100 |      |     |     |     |     |   |   |
| TRZ | P*    | 06 | 19 | 49.7 |     | -0.2 | 100 | 1.03 | 128 |     | 3.6 | 3.8 |   |   |
|     | Pg    |    |    | 53.2 |     | 1.1  | 100 |      |     |     |     |     |   |   |
|     | (Sg)  |    | 20 | 10.2 |     | 4.2  |     |      |     |     |     |     |   |   |
| TNZ | ePg   | 06 | 19 | 55   |     | 1.2  | 100 | 1.12 | 256 |     | 3.6 |     |   |   |
| WTZ | ePn   | 06 | 19 | 55   |     | -0.0 | 100 | 1.34 | 46  |     | 3.1 |     |   |   |
| GNZ | Pg    | 06 | 20 | 07.0 |     | -0.3 | 100 | 1.78 | 81  |     | 3.7 | 3.5 |   |   |
|     | eSg   |    |    | 30   |     | -1.4 | 100 |      |     |     |     |     |   |   |
| WEL | eP*   | 06 | 20 | 16   |     | 1.4  | 100 | 2.47 | 198 |     |     |     |   |   |
|     | eS*   |    |    | 48   |     | 0.9  | 100 |      |     |     |     |     |   |   |
| COB | ePn   | 06 | 20 | 23.5 |     | 3.4  |     | 3.18 | 226 |     | 3.9 | 3.6 |   |   |
|     | eSg   |    | 21 | 16   |     | -2.2 | 98  |      |     |     |     |     |   |   |

AMPLITUDES: WNZ 0.4 KRP 3.0 1.3 TRZ 1.2 2.3  
 TNZ 0.6 WTZ 0.4 GNZ 0.9 0.7  
 COB 0.3 0.4

SEP 08 06<sup>h</sup>27<sup>m</sup>10<sup>s</sup>.8 38°.84s 175°.74E 12 km 77/ 566  
 ± 0.7 0.04 0.05 R S.E. of RES. 1.8 M = 3.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|---|---|---|
| NGZ | iP*   | 06 | 27 | 16.0 | U   | -2.1 | 99  | 0.36 | 196 |     |     |   |   |   |
| KRP | P*    | 06 | 27 | 28.5 |     | 0.7  | 100 | 0.93 | 350 |     | 3.3 |   |   |   |

|             |     |            |          |          |         |     |
|-------------|-----|------------|----------|----------|---------|-----|
| TRZ         | eP* | 06 27 29.5 | -1.3 100 | 1.11 131 | 3.3 3.6 |     |
|             | ePg | 33         | -0.2 100 |          |         |     |
|             | Sg  | 49.8       | 1.6 100  |          |         |     |
| TNZ         | ePg | 06 27 36   | 2.6 99   | 1.12 251 | 3.5     |     |
| WTZ         | eP* | 06 27 33.5 | -0.6 100 | 1.30 49  | 3.2     |     |
| WEL         | eS* | 06 28 31   | 1.8 100  | 2.56 197 |         |     |
|             | e   | 50         |          |          |         |     |
| COB         | eP* | 06 28 06   | -1.0 100 | 3.22 225 | 4.0 3.5 |     |
|             | eSg | 58         | -1.4 100 |          |         |     |
| AMPLITUDES: | KRP | 1.8        | TRZ      | 0.5 1.0  | TNZ     | 0.5 |
|             | WTZ | 0.4        | COB      | 0.3 0.3  |         |     |

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SEP 08    10<sup>h</sup>12<sup>m</sup>23<sup>s</sup>.8    41°.01S    172°.40E    12 km    M = 3.6  
                                  ± 5.5                   0.23                   0.33                   R    S.E. of RES. 2.1

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| COB         | iPg!  | 10  | 12 | 27.1  |     | -2.4 | 99  | 0.26 | 106 |     |     |     |
|             | P*    |     |    | 29.0  |     | -0.4 | 100 |      |     |     |     |     |
| WEL         | ePn   | 10  | 12 | 55    |     | 1.0  | 100 | 1.81 | 99  | 3.6 |     |     |
|             | eSn   |     |    | 13 18 |     | 1.4  | 100 |      |     |     |     |     |
| GPZ         | eSn   | 10  | 13 | 38    |     | 0.3  | 100 | 2.69 | 176 | 3.5 |     |     |
| AMPLITUDES: | WEL   | 0.5 |    |       |     | GPZ  | 0.3 |      |     |     |     |     |

FELT: Bainham(72)

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SEP 09    03<sup>h</sup>45<sup>m</sup>58<sup>s</sup>.1    41°.27S    172°.69E    33 km    M = 4.4  
                                  ± 0.4                   0.03                   0.04                   R    S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| KKY | ePn   | 03 | 46 | 23.4    |     | 3.0  | 99  | 1.38 | 147 |     |     |     |
|     | e     |    |    | 26.6    |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 39.6    |     | 2.5  | 99  |      |     |     |     |     |
| WEL | Pn    | 03 | 46 | 24.7    |     | 1.6  | 100 | 1.57 | 91  | 4.5 |     |     |
|     | S*    |    |    | 45.0    |     | -2.1 | 100 |      |     |     |     |     |
| KAI | Sn-Pn |    |    | 20      |     | 1.2  | 100 | 1.57 | 217 |     |     |     |
| MNG | Pn    | 03 | 46 | 30.8    |     | -1.1 | 100 | 2.21 | 74  |     | 4.0 | 4.7 |
|     | e     |    |    | 49      |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 56      |     | -1.3 | 100 |      |     |     |     |     |
| GPZ | ePn   | 03 | 46 | 35      |     | 0.2  | 100 | 2.43 | 181 | 4.4 |     |     |
|     | eSn   |    |    | 47 01.5 |     | -0.9 | 100 |      |     |     |     |     |
| TNZ | Pn    | 03 | 46 | 37.5    |     | 2.3  | 99  | 2.45 | 32  |     | 4.1 | 4.5 |
|     | eSn   |    |    | 47 06   |     | 3.0  | 99  |      |     |     |     |     |
| CAZ | eSn   | 03 | 47 | 10      |     | 1.0  | 100 | 2.70 | 83  |     |     |     |
| NGZ | Pn    | 03 | 46 | 43.8    |     | 0.3  | 100 | 3.06 | 48  |     |     |     |
|     | e     |    |    | 47 11.5 |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 19      |     | 1.4  | 100 |      |     |     |     |     |
| MJZ | Pn    | 03 | 46 | 44.7    |     | -0.3 | 100 | 3.18 | 210 |     | 4.4 | 4.0 |
|     | e     |    |    | 48.5    |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 47 20   |     | -0.4 | 100 |      |     |     |     |     |
| GSP | Pn    | 03 | 46 | 48.9    |     | -0.2 | 100 | 3.47 | 214 |     |     |     |
|     | e(P*) |    |    | 53      |     | -5.6 |     |      |     |     |     |     |
|     | eSn   |    |    | 47 29   |     | 1.4  | 100 |      |     |     |     |     |
| TRZ | Sn    | 03 | 47 | 31.2    |     | 0.7  | 100 | 3.59 | 63  |     | 4.8 |     |
| KRP | Pn    | 03 | 46 | 56.1    |     | -0.2 | 100 | 4.00 | 34  |     | 4.2 |     |
|     | e     |    |    | 47 33.8 |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 39      |     | -1.3 | 100 |      |     |     |     |     |
|     | e     |    |    | 42.0    |     |      |     |      |     |     |     |     |

|             |       |            |      |     |      |     |     |     |
|-------------|-------|------------|------|-----|------|-----|-----|-----|
| OMZ         | Pn    | 03 46 55.8 | -0.7 | 100 | 4.01 | 198 | 4.1 | 4.0 |
|             | eSn   | 47 40.3    | -0.3 | 100 |      |     |     |     |
| WTZ         | eSn   | 03 47 56.7 | 0.4  | 100 | 4.67 | 47  | 5.2 |     |
| GNZ         | ePn   | 03 47 08   | -0.1 | 100 | 4.87 | 59  | 4.4 | 4.8 |
|             | e(Sn) | 55         | -6.1 | 42  |      |     |     |     |
| MSZ         | Pn    | 03 47 07.2 | -1.1 | 100 | 4.89 | 224 | 4.7 | 4.4 |
|             | eSn   | 59.5       | -1.9 | 100 |      |     |     |     |
| AMPLITUDES: |       |            |      |     |      |     |     |     |
|             | WEL   | 5.2        | MNG  | 3.7 | 22   | GPZ | 2.5 |     |
|             | TNZ   | 0.7 2.5    | MJZ  | 4.3 | 3.5  | TRZ | 2.2 |     |
|             | KRP   | 1.4        | OMZ  | 0.5 | 0.8  | WTZ |     | 0.9 |
|             | GNZ   | 0.8 3.5    | MSZ  | 2.8 | 2.5  |     |     |     |

FELT: Kelburn (68) MM IV

SEP 09 05<sup>h</sup>22<sup>m</sup>55<sup>s</sup>.6 45°.26S 168°.25E 12 km M = 4.0  
 ± 0.4 0.03 0.04 R S.E. of RES. 1.5

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| MSZ         | P*    | 05 | 23 | 06.9 |     | -0.7 | 100 | 0.64 | 338 |     |   |     |     |   |
|             | eS*   |    |    | 17   |     | 0.7  | 100 |      |     |     |   |     |     |   |
| MNW         | Pn    | 05 | 23 | 08.9 |     | -1.5 | 100 | 0.68 | 220 |     |   |     |     |   |
|             | Sg    |    |    | 21.8 |     | 3.0  | 98  |      |     |     |   |     |     |   |
| OBZ         | Pn    | 05 | 23 | 22.5 |     | -1.1 | 100 | 1.65 | 183 |     |   |     |     |   |
|             | Sn    |    |    | 42.7 |     | -1.8 | 100 |      |     |     |   |     |     |   |
|             | S*    |    |    | 46.5 |     | -0.1 | 100 |      |     |     |   |     |     |   |
| GSP         | iPn   | 05 | 23 | 22.9 | D   | -1.3 | 100 | 1.69 | 49  |     |   |     |     |   |
|             | eS*   |    |    | 48   |     | 0.0  | 100 |      |     |     |   |     |     |   |
| OMZ         | Pn    | 05 | 23 | 28.9 |     | 1.9  | 99  | 1.90 | 85  |     |   |     | 3.9 |   |
|             | eS*   |    |    | 55   |     | 0.9  | 100 |      |     |     |   |     |     |   |
| MJZ         | iPn   | 05 | 23 | 27.1 | DSE | -1.7 | 100 | 2.03 | 52  |     |   | 4.1 | 4.0 |   |
|             | eSn   |    |    | 54.5 |     | 0.7  | 100 |      |     |     |   |     |     |   |
| GPZ         | eSn   | 05 | 24 | 30   |     | 0.6  | 100 | 3.52 | 65  |     |   |     |     |   |
| AMPLITUDES: |       |    |    |      |     |      |     |      |     |     |   |     |     |   |
|             | OMZ   |    |    | 2.5  | MJZ |      |     | 5.5  | 8.5 |     |   |     |     |   |

SEP 09 17<sup>h</sup>35<sup>m</sup>47<sup>s</sup>.1 38°.39S 179°.27E 12 km M = 3.7  
 ± 1.4 0.05 0.09 R S.E. of RES. 1.3

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| ECZ         | S*-P* |    |    | 14.3  |     | 2.2  | 99  | 0.90 | 320 |     | 3.8 | 4.2 |   |   |
| GNZ         | Pn    | 17 | 36 | 07.0  |     | 0.6  | 100 | 1.01 | 255 |     | 3.4 | 3.5 |   |   |
|             | e(Pg) |    |    | 13    |     | 5.3  |     |      |     |     |     |     |   |   |
|             | eSn   |    |    | 22    |     | 1.2  | 100 |      |     |     |     |     |   |   |
| WTZ         | Pn    | 17 | 36 | 18.3  |     | 0.5  | 100 | 1.84 | 282 |     | 3.6 | 3.8 |   |   |
|             | Pg    |    |    | 23.6  |     | -0.8 | 100 |      |     |     |     |     |   |   |
|             | Sn    |    |    | 39.0  |     | -1.8 | 99  |      |     |     |     |     |   |   |
| WIZ         | Pg    | 17 | 36 | 25.0  |     | 0.3  | 100 | 1.85 | 297 |     |     |     |   |   |
| TRZ         | ePn   | 17 | 36 | 24.5  |     | 1.4  | 100 | 2.23 | 238 |     | 3.6 | 3.6 |   |   |
|             | eS*   |    |    | 55    |     | -0.8 | 100 |      |     |     |     |     |   |   |
| KRP         | eP*   | 17 | 36 | 39    |     | -0.1 | 100 | 2.98 | 278 |     | 3.6 |     |   |   |
| MNG         | ePn   | 17 | 36 | 42.0  |     | -0.8 | 100 | 3.68 | 232 |     | 3.6 | 3.6 |   |   |
|             | eSn   |    |    | 37 26 |     | 1.1  | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: |       |    |    |       |     |      |     |      |     |     |     |     |   |   |
|             | ECZ   |    |    | 1.5   | 4.6 | GNZ  | 2.0 | 4.5  | WTZ |     | 1.3 | 1.6 |   |   |
|             | TRZ   |    |    | 0.3   | 0.5 | KRP  |     | 0.3  | MNG |     | 0.5 | 0.7 |   |   |

SEP 10 16<sup>h</sup>55<sup>m</sup>06<sup>s</sup>.2 45°.09S 167°.69E 77 km M = 3.3  
 ± 0.4 0.01 0.03 3 S.E. of RES. 0.5



| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|------|------|------|
| MSZ         | iP    | 16  | 55 | 19.7  | U   | -0.0 | 100 | 0.45 | 21  |      | 3.3* | 3.2* |
|             | i     |     |    | 20.1  |     |      |     |      |     |      |      |      |
|             | eS    |     |    | 30    |     | 0.2  | 100 |      |     |      |      |      |
| MNW         | S     | 16  | 55 | 33.7  |     | -0.1 | 100 | 0.69 | 184 | 3.2* |      |      |
| ROX         | S-P   |     |    | 16    |     | -0.5 | 100 | 1.21 | 109 |      |      |      |
| OBZ         | eP    | 16  | 55 | 37    |     | 0.6  | 99  | 1.84 | 171 |      |      |      |
|             | eS    |     |    | 58.5  |     | -0.4 | 100 |      |     |      |      |      |
| GSP         | eP    | 16  | 55 | 37    |     | -0.5 | 100 | 1.92 | 61  |      |      |      |
|             | eS    |     |    | 56 01 |     | 0.4  | 100 |      |     |      |      |      |
| MJZ         | iP    | 16  | 55 | 41.7  | D   | -0.7 | 99  | 2.27 | 62  |      | 3.3  | 3.3  |
|             | eS    |     |    | 56 09 |     | -0.2 | 100 |      |     |      |      |      |
| OMZ         | P     | 16  | 55 | 42.9  |     | 0.3  | 100 | 2.29 | 91  |      | 3.6  | 3.2  |
|             | eS    |     |    | 56 10 |     | 0.4  | 100 |      |     |      |      |      |
| AMPLITUDES: |       | MSZ |    | 7.8   | 12  | MNW  | 1.3 |      | MJZ |      | 1.0  | 1.4  |
|             |       | OMZ |    | 0.6   | 0.4 |      |     |      |     |      |      |      |

SEP 10 22<sup>h</sup>18<sup>m</sup>11<sup>s</sup>.2 37°.80s 176°.73E 4 km M = 3.9  
 ± 0.3 0.02 0.02 7 S.E. of RES. 0.8

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | iPg!  | 22  | 18 | 16.1 |     | -0.6 | 100 | 0.27 | 133 |     |     |     |
| WIZ         | iPg   | 22  | 18 | 20.6 | U   | 0.3  | 100 | 0.45 | 53  |     |     |     |
|             | eSg   |     |    | 26.5 |     | 0.1  | 100 |      |     |     |     |     |
| KRP         | Pg    | 22  | 18 | 30.3 |     | -0.2 | 100 | 0.95 | 262 |     | 3.8 | 3.7 |
|             | eSg   |     |    | 44   |     | 0.6  | 100 |      |     |     |     |     |
| GNZ         | ePg   | 22  | 18 | 37.5 |     | -0.4 | 100 | 1.32 | 130 |     | 4.3 | 3.6 |
|             | eSg   |     |    | 57   |     | 1.3  | 97  |      |     |     |     |     |
| ECZ         | ePg   | 22  | 18 | 39.7 |     | -0.6 | 100 | 1.44 | 86  |     | 3.8 |     |
| TRZ         | iPg   | 22  | 18 | 46.0 | U   | -0.6 | 100 | 1.75 | 178 |     | 4.3 |     |
| MNG         | eP*   | 22  | 19 | 04   |     | 0.0  | 100 | 2.98 | 199 |     | 3.7 |     |
| AMPLITUDES: |       | KRP |    | 4.2  | 3.2 | GNZ  | 7.5 | 2.3  | ECZ |     | 0.5 |     |
|             |       | TRZ |    | 1.6  |     | MNG  | 0.6 |      |     |     |     |     |

SEP 11 01<sup>h</sup>42<sup>m</sup>17<sup>s</sup>.9 36°.91s 176°.82E 321 km M = 4.1  
 ± 2.0 0.12 0.21 16 S.E. of RES. 1.7

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|------|-----|
| WTZ         | P     | 01  | 42 | 59.8  |     | -1.2 | 100 | 1.08 | 173 |     | 3.5  | 3.8 |
|             | eS    |     |    | 43 34 |     | -0.8 | 100 |      |     |     |      |     |
| KRP         | P     | 01  | 43 | 03.4  |     | 0.2  | 100 | 1.44 | 225 |     | 2.7* |     |
| ECZ         | eS    | 01  | 43 | 42    |     | 2.1  | 99  | 1.58 | 120 |     |      | 4.1 |
| GNZ         | P     | 01  | 43 | 06.2  |     | -0.4 | 100 | 1.97 | 152 |     | 4.0  | 4.2 |
|             | eS    |     |    | 42    |     | -2.7 | 99  |      |     |     |      |     |
| NGZ         | eP    | 01  | 43 | 12    |     | 1.4  | 100 | 2.47 | 202 |     |      |     |
| TRZ         | P     | 01  | 43 | 12.8  |     | 0.6  | 100 | 2.64 | 180 |     | 4.2  | 4.1 |
|             | eS    |     |    | 57    |     | 2.5  | 99  |      |     |     |      |     |
| MNG         | iP    | 01  | 43 | 23.2  | U   | -0.9 | 100 | 3.85 | 195 |     | 4.5  | 4.3 |
|             | eS    |     |    | 44 15 |     | -0.9 | 100 |      |     |     |      |     |
| WEL         | eS    | 01  | 44 | 32    |     | 0.2  | 100 | 4.65 | 199 | 4.2 |      |     |
| AMPLITUDES: |       | WTZ |    | 0.3   | 0.6 | KRP  | 0.3 |      | ECZ |     |      | 0.4 |
|             |       | GNZ |    | 0.8   | 2.0 | TRZ  | 0.3 | 0.6  | MNG |     | 3.0  | 2.3 |
|             |       | WEL |    | 0.2   |     |      |     |      |     |     |      |     |

SEP 11 05<sup>h</sup>47<sup>m</sup>47<sup>s</sup>.5 33°.15S 178°.92E 528 km 77/ 574  
 ± 2.8 0.26 0.63 35 S.E. of RES. 2.1 M = 4.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|-----|
| ECZ | eS    | 05 | 50 | 23   |     | 2.5  | 99  | 4.55 | 184 |     |      | 4.7 |
| WTZ | eP    | 05 | 49 | 16   |     | -1.4 | 100 | 5.08 | 197 |     | 4.9  | 4.4 |
|     | eS    |    | 50 | 27   |     | -1.8 | 100 |      |     |     |      |     |
| KRP | eP    | 05 | 49 | 23   |     | 1.7  | 100 | 5.51 | 209 |     | 3.1* |     |
| GNZ | P     | 05 | 49 | 22.1 |     | 0.5  | 100 | 5.53 | 187 |     | 4.9  | 4.6 |
|     | eS    |    | 50 | 34   |     | -2.1 | 99  |      |     |     |      |     |
| TRZ | eS    | 05 | 50 | 55   |     | 0.3  | 100 | 6.61 | 194 |     |      |     |
| MNG | iP    | 05 | 49 | 44.2 | U   | -0.8 | 100 | 7.96 | 199 |     | 4.5  | 4.4 |
|     | eS    |    | 51 | 20   |     | 1.3  | 100 |      |     |     |      |     |
| WEL | e     | 05 | 52 | 08   |     |      |     | 8.77 | 201 |     |      |     |

AMPLITUDES: ECZ 0.4 WTZ 1.3 0.5 KRP 0.3  
 GNZ 1.3 1.0 MNG 0.8 0.8

SEP 11 09<sup>h</sup>32<sup>m</sup>38<sup>s</sup>.0 44°.59S 167°.57E 12 km 77/ 575  
 ± 0.9 0.04 0.07 R S.E. of RES. 1.2 M = 3.7

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | iP*   | 09 | 32 | 41.9  |     | -1.7 | 99  | 0.26 | 109 |     |     |     |
| ROX | Sn-Pn |    |    | 20.0  |     | 0.3  | 100 | 1.53 | 126 |     | 4.0 |     |
| GSP | ePn   | 09 | 33 | 10    |     | 1.8  | 99  | 1.81 | 76  |     |     |     |
|     | eS*   |    |    | 33.5  |     | -0.5 | 100 |      |     |     |     |     |
| MJZ | Pn    | 09 | 33 | 13.6  |     | 0.6  | 100 | 2.17 | 75  |     | 3.6 | 3.4 |
|     | eS*   |    |    | 45    |     | 0.5  | 100 |      |     |     |     |     |
| OBZ | ePn   | 09 | 33 | 14    |     | -1.6 | 99  | 2.35 | 171 |     |     |     |
|     | eSn   |    |    | 45    |     | 1.1  | 100 |      |     |     |     |     |
| OMZ | Pn    | 09 | 33 | 16.4  |     | -0.2 | 100 | 2.43 | 103 |     | 3.8 | 3.4 |
|     | eSn   |    |    | 46    |     | 0.3  | 100 |      |     |     |     |     |
| COB | ePn   | 09 | 33 | 55    |     | 1.0  | 100 | 5.17 | 49  |     | 4.1 | 3.6 |
|     | eSn   |    |    | 34 50 |     | -1.4 | 100 |      |     |     |     |     |

AMPLITUDES: ROX 2.3 MJZ 1.5 1.7 OMZ 0.6 0.5  
 COB 0.3 0.3

SEP 12 01<sup>h</sup>53<sup>m</sup>37<sup>s</sup>.8 41°.22S 172°.79E 194 km 77/ 576  
 ± 1.3 0.05 0.09 10 S.E. of RES. 1.8 M = 4.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| COB | iP    | 01 | 54 | 04.6 | U   | 1.1  | 100 | 0.13 | 341 |     |      |      |
|     | S     |    |    | 23.0 |     | -0.2 | 100 |      |     |     |      |      |
| KKY | P     | 01 | 54 | 11.8 |     | 1.7  | 100 | 1.38 | 151 |     |      |      |
|     | e     |    |    | 30.4 |     |      |     |      |     |     |      |      |
|     | S     |    |    | 36.2 |     | 1.2  | 100 |      |     |     |      |      |
| WEL | eP    | 01 | 54 | 12   |     | 0.9  | 100 | 1.49 | 93  |     | 4.2  |      |
|     | eS    |    |    | 36.5 |     | -0.3 | 100 |      |     |     |      |      |
| KAI | eP    | 01 | 54 | 14   |     | 1.2  | 100 | 1.66 | 218 |     | 3.7* |      |
|     | e     |    |    | 37   |     |      |     |      |     |     |      |      |
|     | eS    |    |    | 38   |     | -1.8 | 100 |      |     |     |      |      |
| MNG | iP    | 01 | 54 | 18.9 | U   | 1.4  | 100 | 2.12 | 74  |     | 4.1  | 4.4  |
|     | eS    |    |    | 47.8 |     | -0.4 | 100 |      |     |     |      |      |
| TNZ | eP    | 01 | 54 | 20.5 |     | 0.3  | 100 | 2.37 | 31  |     | 3.2* | 3.4* |
|     | eS    |    |    | 52   |     | -0.9 | 100 |      |     |     |      |      |
| GPZ | eS    | 01 | 54 | 52.7 |     | -2.5 | 99  | 2.48 | 183 |     | 3.6* |      |

|             |     |          |      |     |      |     |             |
|-------------|-----|----------|------|-----|------|-----|-------------|
| NGZ         | eP? | 01 54 28 | 0.8  | 100 | 2.97 | 48  |             |
|             | e   | 55 01    |      |     |      |     |             |
|             | eS  | 08       | 2.6  | 99  |      |     |             |
| KRP         | e   | 01 54 49 |      |     | 3.91 | 34  | 2.9* 3.1*   |
|             | eS  | 55 24    | -2.3 | 99  |      |     |             |
| GNZ         | eS  | 01 55 43 | -2.7 | 99  | 4.77 | 59  | 4.3         |
| AMPLITUDES: |     | COB      | 2.5  | 3.7 | WEL  | 1.5 | KAI 1.1     |
|             |     | MNG      | 4.1  | 10  | TNZ  | 0.2 | 0.5 GPZ 1.1 |
|             |     | KRP      | 0.3  | 0.5 | GNZ  | 1.1 |             |

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SEP 12    10<sup>h</sup>49<sup>m</sup>29<sup>s</sup>.3    38°.41s    179°.31E    12 km    M = 4.9

± 0.6                    0.02                    0.05                    R    S.E. of RES. 1.2

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S     |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|---------|
| ECZ         | iP*   | 10  | 49  | 46.9  | D   | 0.4  | 100 | 0.94 | 320 |     | 4.9 | 5.2     |
|             | eS*   |     |     | 58    |     | -1.0 | 100 |      |     |     |     |         |
| GNZ         | iP*   | 10  | 49  | 49.0  | DNE | 0.8  | 100 | 1.03 | 257 |     |     |         |
| WTZ         | iPn   | 10  | 50  | 00.3  | D   | -0.1 | 100 | 1.88 | 282 |     | 4.9 | 5.0     |
|             | eSn   |     |     | 22.5  |     | -1.3 | 100 |      |     |     |     |         |
| WIZ         | iPn   | 10  | 49  | 59.9  | U   | -0.7 | 100 | 1.90 | 297 |     |     |         |
| TRZ         | Pn    | 10  | 50  | 05.8  |     | 0.3  | 100 | 2.25 | 239 |     | 4.5 | 4.8     |
|             | eS*   |     |     | 37    |     | -1.5 | 100 |      |     |     |     |         |
| NGZ         | iPn   | 10  | 50  | 16.9  | U   | 1.3  | 100 | 2.99 | 254 |     |     |         |
|             | eSn   |     |     | 53    |     | 2.4  | 98  |      |     |     |     |         |
| KRP         | iPn   | 10  | 50  | 15.8  | DE  | -0.1 | 100 | 3.01 | 278 |     | 4.4 | 4.9     |
|             | ePg   |     |     | 30    |     | -0.2 | 100 |      |     |     |     |         |
|             | e     |     |     | 40    |     |      |     |      |     |     |     |         |
| CAZ         | ePn   | 10  | 50  | 22    |     | 0.1  | 100 | 3.45 | 223 |     |     |         |
|             | eSn   |     |     | 51 04 |     | 2.5  | 98  |      |     |     |     |         |
| MNG         | iPn   | 10  | 50  | 24.6  | D   | -0.6 | 100 | 3.70 | 232 |     | 4.8 | 4.9     |
|             | e     |     |     | 57    |     |      |     |      |     |     |     |         |
|             | eSn   |     |     | 51 06 |     | -1.4 | 100 |      |     |     |     |         |
| AUC         | Pn    | 10  | 50  | 29.2  |     | 0.9  | 100 | 3.91 | 292 |     |     |         |
|             | eSn   |     |     | 51 14 |     | 1.2  | 100 |      |     |     |     |         |
| WEL         | ePn   | 10  | 50  | 35    |     | -1.6 | 99  | 4.53 | 229 | 5.0 |     |         |
|             | e     |     |     | 47    |     |      |     |      |     |     |     |         |
|             | eSn   |     |     | 51 27 |     | -0.4 | 100 |      |     |     |     |         |
| ONE         | e(Pn) | 10  | 50  | 46    |     | 6.3  |     | 4.75 | 302 | 5.2 |     |         |
| CIZ         | e     | 10  | 51  | 06    |     |      |     | 6.35 | 152 |     |     |         |
|             | eSn   |     |     | 52 11 |     | -0.4 | 100 |      |     |     |     |         |
| CRZ         | ePn   | 10  | 51  | 07    |     | 1.3  | 100 | 6.66 | 305 |     | 4.9 |         |
| AMPLITUDES: |       | ECZ |     | 17    | 51  | WTZ  |     | 22   | 25  | TRZ |     | 2.6 7.5 |
|             |       | KRP |     | 1.7   | 5.0 | MNG  |     | 7.9  | 12  | WEL | 1.8 |         |
|             |       | ONE | 1.1 |       |     | CIZ  |     | 1.0  |     | CRZ |     | 0.3     |

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SEP 12    10<sup>h</sup>59<sup>m</sup>40<sup>s</sup>.2    38°.26s    179°.27E    12 km    M = 3.8

± 2.2                    0.05                    0.15                    R    S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P*    | 10 | 59 | 56.3 |     | 1.1  | 100 | 0.81 | 315 |     | 3.8 | 4.0 |
|     | eSg   | 11 | 00 | 07   |     | -0.6 | 100 |      |     |     |     |     |
|     | e     |    |    | 11.8 |     |      |     |      |     |     |     |     |
| GNZ | eP*   | 11 | 00 | 01   |     | 1.6  | 100 | 1.05 | 248 |     | 3.7 | 3.7 |
|     | eS*   |    |    | 13.5 |     | 0.1  | 100 |      |     |     |     |     |
| WIZ | Pg    | 11 | 00 | 16.7 |     | -0.0 | 100 | 1.80 | 293 |     |     |     |
|     | e     |    |    | 23   |     |      |     |      |     |     |     |     |
| WTZ | Pn    | 11 | 00 | 10.5 |     | -0.1 | 100 | 1.83 | 278 |     | 3.7 | 3.9 |

|             |     |       |         |     |          |      |     |         |         |
|-------------|-----|-------|---------|-----|----------|------|-----|---------|---------|
|             | e   |       | 13      |     |          |      |     |         |         |
|             | e   |       | 23.7    |     |          |      |     |         |         |
| TRZ         | ?   | 11 00 | 00.2    |     |          | 2.30 | 235 |         | 3.8 3.8 |
|             | e   |       | 07      |     |          |      |     |         |         |
|             | eSn |       | 47      |     | 2.0 100  |      |     |         |         |
| KRP         | eP* | 11 00 | 30      |     | -2.0 100 | 2.97 | 275 |         | 3.8     |
| NGZ         | eP* | 11 00 | 36      |     | 3.3 99   | 3.01 | 251 |         |         |
|             | eSn |       | 01 01   |     | -0.8 100 |      |     |         |         |
| MNG         | Pn  | 11 00 | 34.7    |     | -2.4 99  | 3.76 | 230 |         | 3.7 3.8 |
|             | eSn |       | 01 18   |     | -2.0 100 |      |     |         |         |
| AMPLITUDES: | ECZ |       | 1.8 3.7 | GNZ | 3.5 6.5  | WTZ  |     | 1.7 2.3 |         |
|             | TRZ |       | 0.5 0.7 | KRP | 0.4      | MNG  |     | 0.7 1.0 |         |

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SEP 12 14<sup>h</sup>24<sup>m</sup>09<sup>s</sup>.4 41°.68S 171°.98E 12 km M = 3.6  
 ± 0.4 0.03 0.03 R S.E. of RES. 1.1

| STN         | PHASE | H     | M       | S    | DIR | RES      | WT  | DIST | AZ  | W-A     | W P | W S |
|-------------|-------|-------|---------|------|-----|----------|-----|------|-----|---------|-----|-----|
| COB         | iP*   | 14 24 | 24.9    |      | U   | 0.2      | 100 | 0.82 | 44  |         | 3.7 | 3.3 |
|             | S*    |       |         | 36   |     | 0.2      | 100 |      |     |         |     |     |
| KAI         | P*    | 14 24 | 26.1    |      |     | -0.6     | 100 | 0.94 | 207 | 3.9     |     |     |
|             | Pg    |       |         | 26.8 |     | -1.8 99  |     |      |     |         |     |     |
|             | eS*   |       |         | 38.5 |     | -0.9 100 |     |      |     |         |     |     |
| KKY         | P*    | 14 24 | 35.2    |      |     | -0.5 100 |     | 1.48 | 121 |         |     |     |
|             | eSn   |       |         | 55   |     | 0.8 100  |     |      |     |         |     |     |
| GPZ         | eP*   | 14 24 | 47      |      |     | 1.1 100  |     | 2.07 | 167 | 3.6     |     |     |
|             | Pg    |       |         | 51   |     | -0.3 100 |     |      |     |         |     |     |
|             | eSn   |       | 25 09   |      |     | 0.4 100  |     |      |     |         |     |     |
| WEL         | ePg   | 14 24 | 52      |      |     | -0.6 100 |     | 2.13 | 80  | 3.5     |     |     |
|             | eS*   |       | 25 15   |      |     | -0.0 100 |     |      |     |         |     |     |
| MJZ         | ePn   | 14 24 | 50      |      |     | 0.1 100  |     | 2.56 | 205 |         | 3.6 | 3.4 |
|             | eS*   |       | 25 26.5 |      |     | -1.3 100 |     |      |     |         |     |     |
| GSP         | Pn    | 14 24 | 54.7    |      |     | 1.0 100  |     | 2.84 | 210 |         |     |     |
|             | S*    |       | 25 37   |      |     | 0.7 100  |     |      |     |         |     |     |
| MNG         | eP*   | 14 24 | 57      |      |     | -2.3 98  |     | 2.85 | 69  |         | 3.6 | 3.7 |
|             | e     |       | 25 00   |      |     |          |     |      |     |         |     |     |
|             | eS*   |       | 38      |      |     | 1.4 99   |     |      |     |         |     |     |
| MSZ         | Sn    | 14 26 | 00.7    |      |     | 0.6 100  |     | 4.21 | 224 |         | 3.8 | 3.7 |
|             | eSg   |       | 33      |      |     | 1.6 99   |     |      |     |         |     |     |
| AMPLITUDES: | COB   |       | 4.5 5.5 | KAI  | 3.5 | GPZ      | 0.6 |      |     |         |     |     |
|             | WEL   | 0.3   |         | MJZ  |     | 1.0 1.2  | MNG |      |     | 1.0 1.3 |     |     |
|             | MSZ   |       | 0.5 0.7 |      |     |          |     |      |     |         |     |     |

FELT: Murchison (80) MM IV

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SEP 12 17<sup>h</sup>49<sup>m</sup>48<sup>s</sup>.6 41°.24S 175°.52E 12 km M = 3.9  
 ± 0.9 0.04 0.03 7 S.E. of RES. 1.0

| STN | PHASE | H     | M       | S | DIR | RES      | WT | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|---------|---|-----|----------|----|------|-----|-----|-----|-----|
| CPW | iP*   | 17 49 | 55.8    |   |     | -0.2 100 |    | 0.37 | 291 |     |     |     |
| WDW | iP*   | 17 49 | 56.3    |   |     | -0.3 100 |    | 0.40 | 266 |     |     |     |
| BHW | iP*   | 17 49 | 58.6    |   |     | 0.0 100  |    | 0.51 | 251 |     |     |     |
| WEL | P*    | 17 49 | 59.4    |   |     | -0.1 100 |    | 0.57 | 265 | 4.2 |     |     |
|     | iS*   |       | 50 07.0 |   |     | -0.3 100 |    |      |     |     |     |     |
| WHW | iP*   | 17 50 | 00.0    |   |     | 0.1 100  |    | 0.59 | 264 |     |     |     |
| MRW | iP*   | 17 50 | 00.2    |   |     | -0.1 100 |    | 0.61 | 271 |     |     |     |
| MNG | iP*!  | 17 50 | 00.9    |   |     | 0.4 100  |    | 0.62 | 357 |     |     |     |
| CAZ | iP*   | 17 50 | 02.4    |   | D   | 1.8 98   |    | 0.63 | 58  |     |     |     |



|             |      |            |     |      |     |      |     |     |     |     |  |  |
|-------------|------|------------|-----|------|-----|------|-----|-----|-----|-----|--|--|
|             | e    | 19         |     |      |     |      |     |     |     |     |  |  |
| TCW         | iP*  | 17 50 05.5 |     | -0.3 | 100 | 0.94 | 271 |     |     |     |  |  |
| KKY         | Pn   | 17 50 16.7 |     | -2.0 | 97  | 1.80 | 229 |     |     |     |  |  |
|             | e    | 27.4       |     |      |     |      |     |     |     |     |  |  |
| TRZ         | ePn  | 17 50 19.5 |     | -1.4 | 99  | 1.96 | 31  |     | 3.6 | 3.5 |  |  |
|             | ePg  | 27         |     | -1.3 | 99  |      |     |     |     |     |  |  |
|             | eSg  | 55         |     | 0.3  | 100 |      |     |     |     |     |  |  |
|             | e    | 51 25      |     |      |     |      |     |     |     |     |  |  |
| NGZ         | ePn  | 17 50 20.7 |     | -1.5 | 99  | 2.06 | 2   |     |     |     |  |  |
|             | eSg  | 58         |     | -0.1 | 100 |      |     |     |     |     |  |  |
| COB         | Pn   | 17 50 22.1 |     | -0.8 | 100 | 2.11 | 273 |     | 4.3 | 4.0 |  |  |
|             | eS*  | 53         |     | -0.5 | 100 |      |     |     |     |     |  |  |
| GNZ         | ePn  | 17 50 36   |     | -2.2 |     | 3.23 | 37  |     | 3.6 | 3.5 |  |  |
|             | eSn  | 51 16      |     | 0.3  |     |      |     |     |     |     |  |  |
| GPZ         | eSn  | 17 51 10   |     | -6.0 |     | 3.25 | 220 | 3.7 |     |     |  |  |
| KRP         | ePn  | 17 50 44   |     | 4.6  |     | 3.31 | 0   |     | 4.3 | 4.5 |  |  |
|             | P*   | 50.2       |     | 3.8  |     |      |     |     |     |     |  |  |
|             | e    | 51 30      |     |      |     |      |     |     |     |     |  |  |
| KAI         | ePg? | 17 50 53   |     | -2.9 |     | 3.33 | 246 | 3.9 |     |     |  |  |
|             | eSn  | 51 18      |     | 0.0  |     |      |     |     |     |     |  |  |
| WTZ         | eP*? | 17 50 50   |     | 1.4  |     | 3.45 | 20  |     | 3.5 |     |  |  |
|             | ePg  | 59         |     | 0.7  |     |      |     |     |     |     |  |  |
| AMPLITUDES: | WEL  | 18         |     | TRZ  |     | 0.4  | 0.5 | COB | 2.5 | 4.5 |  |  |
|             | GNZ  | 0.3        | 0.4 | GPZ  | 0.3 |      |     | KRP | 0.9 | 1.0 |  |  |
|             | KAI  | 0.3        |     | WTZ  | 0.3 |      |     |     |     |     |  |  |

FELT: In Wairarapa and the Wellington area.

SEP 12 18<sup>h</sup>11<sup>m</sup>01<sup>s</sup>.9 41°.20S 175°.43E 12 km 77/ 581  
 ± 0.3 0.01 0.01 2 S.E. of RES. 0.4 M = 3.7

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| CPW         | iP*   | 18  | 11 | 08.0  |     | -0.0 | 100 | 0.29 | 289 |     |     |     |
| WDW         | iP*   | 18  | 11 | 08.7  |     | -0.1 | 100 | 0.33 | 259 |     |     |     |
| BHW         | iP*   | 18  | 11 | 11.0  |     | -0.1 | 100 | 0.47 | 244 |     |     |     |
| WEL         | iP*   | 18  | 11 | 11.8  |     | 0.1  | 100 | 0.50 | 260 | 3.6 |     |     |
|             | S*    |     |    | 19.2  |     | 0.4  | 100 |      |     |     |     |     |
| WHW         | iP*   | 18  | 11 | 12.2  |     | 0.1  | 100 | 0.53 | 260 |     |     |     |
| MRW         | iP*   | 18  | 11 | 12.5  |     | 0.1  | 100 | 0.55 | 267 |     |     |     |
| MNG         | iP*   | 18  | 11 | 13.1  | D   | 0.0  | 100 | 0.58 | 4   | 3.3 | 3.5 |     |
|             | S*    |     |    | 21    |     | -0.1 | 100 |      |     |     |     |     |
| CAZ         | P*    | 18  | 11 | 14.0  |     | -0.6 | 99  | 0.67 | 64  |     |     |     |
|             | eSg   |     |    | 30    |     | 5.2  |     |      |     |     |     |     |
| TCW         | iP*   | 18  | 11 | 17.8  |     | -0.2 | 100 | 0.87 | 269 |     |     |     |
| KKY         | Pn    | 18  | 11 | 28.6  |     | -3.1 | 0   | 1.78 | 226 |     |     |     |
|             | e     |     |    | 41.0  |     |      |     |      |     |     |     |     |
|             | e     |     |    | 12 12 |     |      |     |      |     |     |     |     |
| TRZ         | eP*   | 18  | 11 | 37    |     | 0.4  | 100 | 1.96 | 33  |     | 3.3 |     |
|             | eSg   |     |    | 12 08 |     | -0.1 | 100 |      |     |     |     |     |
| NGZ         | eP*   | 18  | 11 | 38    |     | 0.4  | 100 | 2.02 | 4   |     |     |     |
|             | eSg   |     |    | 12 10 |     | -0.1 | 100 |      |     |     |     |     |
| COB         | Pn    | 18  | 11 | 34.3  |     | -1.0 | 93  | 2.04 | 272 | 3.9 | 3.5 |     |
|             | eP*   |     |    | 38    |     | 0.1  | 100 |      |     |     |     |     |
|             | eS*   |     |    | 12 04 |     | -0.8 | 98  |      |     |     |     |     |
| KRP         | eP*   | 18  | 11 | 59    |     | 0.0  |     | 3.28 | 1   | 4.0 | 4.2 |     |
|             | eS*   |     |    | 12 41 |     | -0.8 |     |      |     |     |     |     |
|             | eSg   |     |    | 49    |     | -3.3 |     |      |     |     |     |     |
| AMPLITUDES: | WEL   | 5.8 |    |       | MNG | 10   | 19  | TRZ  |     | 0.3 |     |     |

COB 1.1 1.7 KRP 0.4 0.6

FELT: Martinborough (70)

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SEP 12 18<sup>h</sup>48<sup>m</sup>13<sup>s</sup>.1 41°.21S 175°.47E 12 km M = 4.2  
 ± 1.0 0.04 0.04 7 S.E. of RES. 1.2

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| CPW         | P*    | 18 | 48 | 20.2  |     | 0.4  | 100 | 0.32 | 288 |     |     |     |   |   |
| WDW         | P*    | 18 | 48 | 20.9  |     | 0.4  | 100 | 0.37 | 261 |     |     |     |   |   |
| BHW         | P*    | 18 | 48 | 23.2  |     | 0.5  | 100 | 0.49 | 246 |     |     |     |   |   |
| WEL         | iP*   | 18 | 48 | 23.9  | SE  | 0.4  | 100 | 0.54 | 262 | 4.3 |     |     |   |   |
|             | S*    |    |    | 31.2  |     | 0.3  | 100 |      |     |     |     |     |   |   |
| WHW         | P*    | 18 | 48 | 24.4  |     | 0.5  | 100 | 0.56 | 261 |     |     |     |   |   |
| MRW         | P*    | 18 | 48 | 24.7  |     | 0.5  | 100 | 0.58 | 268 |     |     |     |   |   |
| MNG         | iP*   | 18 | 48 | 24.9  |     | 0.5  | 100 | 0.59 | 1   |     |     |     |   |   |
| CAZ         | iP*   | 18 | 48 | 27.0  | D   | 1.7  | 99  | 0.65 | 62  |     |     |     |   |   |
| TCW         | iP*   | 18 | 48 | 30.0  |     | 0.3  | 100 | 0.91 | 269 |     |     |     |   |   |
| KKY         | Pn    | 18 | 48 | 41.0  |     | -2.2 | 98  | 1.80 | 227 |     |     |     |   |   |
|             | P*    |    |    | 45.2  |     | 0.2  | 100 |      |     |     |     |     |   |   |
|             | e     |    |    | 51.2  |     |      |     |      |     |     |     |     |   |   |
| TRZ         | ePn   | 18 | 48 | 44    |     | -1.2 | 100 | 1.95 | 32  |     | 3.9 | 3.9 |   |   |
|             | eP*   |    |    | 45    |     | -2.5 | 96  |      |     |     |     |     |   |   |
|             | eSn   |    | 49 | 10    |     | 0.6  | 100 |      |     |     |     |     |   |   |
|             | e     |    |    | 49    |     |      |     |      |     |     |     |     |   |   |
| NGZ         | Pn    | 18 | 48 | 47.7  |     | 1.4  | 100 | 2.02 | 3   |     |     |     |   |   |
|             | Sg    |    |    | 49 21 |     | -0.4 | 100 |      |     |     |     |     |   |   |
| COB         | iPn   | 18 | 48 | 46.2  | U   | -0.7 | 100 | 2.08 | 272 |     | 4.7 | 4.3 |   |   |
|             | eS*   |    | 49 | 16    |     | -1.0 | 100 |      |     |     |     |     |   |   |
| GNZ         | eP*   | 18 | 49 | 11    |     | 1.6  |     | 3.23 | 38  |     | 4.0 | 3.9 |   |   |
|             | e     |    |    | 24.8  |     |      |     |      |     |     |     |     |   |   |
|             | e     |    | 50 | 22    |     |      |     |      |     |     |     |     |   |   |
| GPZ         | e     | 18 | 49 | 23    |     |      |     | 3.25 | 219 | 4.1 |     |     |   |   |
|             | (Sn)  |    |    | 34.9  |     | -5.7 |     |      |     |     |     |     |   |   |
|             | e     |    | 50 | 14    |     |      |     |      |     |     |     |     |   |   |
| KRP         | eP*   | 18 | 49 | 13    |     | 2.7  |     | 3.28 | 1   |     | 4.8 | 5.0 |   |   |
|             | eS*   |    |    | 53    |     | -0.2 |     |      |     |     |     |     |   |   |
|             | e     |    |    | 59    |     |      |     |      |     |     |     |     |   |   |
| KAI         | ePg   | 18 | 49 | 16    |     | -4.0 |     | 3.31 | 245 | 4.4 |     |     |   |   |
|             | e     |    | 50 | 16    |     |      |     |      |     |     |     |     |   |   |
| WTZ         | Pg    | 18 | 49 | 22.0  |     | -0.4 |     | 3.43 | 20  |     | 4.0 |     |   |   |
| MJZ         | Pn    | 18 | 49 | 21.0  |     | -0.7 |     | 4.63 | 231 |     | 4.1 | 4.0 |   |   |
|             | e     |    |    | 22.1  |     |      |     |      |     |     |     |     |   |   |
|             | eSn   |    | 50 | 11    |     | -2.6 |     |      |     |     |     |     |   |   |
| GSP         | Pn    | 18 | 49 | 26.1  |     | -0.4 |     | 4.98 | 232 |     |     |     |   |   |
|             | e     |    |    | 43    |     |      |     |      |     |     |     |     |   |   |
|             | eSn   |    | 50 | 19.5  |     | -2.5 |     |      |     |     |     |     |   |   |
|             | e     |    |    | 51    |     |      |     |      |     |     |     |     |   |   |
| OMZ         | ePn   | 18 | 49 | 27    |     | -1.3 |     | 5.10 | 219 |     |     | 4.1 |   |   |
|             | eSn   |    | 50 | 21    |     | -4.1 |     |      |     |     |     |     |   |   |
| ONE         | e     | 18 | 49 | 58    |     |      |     | 5.50 | 351 | 4.3 |     |     |   |   |
|             | eS*   |    | 50 | 57    |     | -2.6 |     |      |     |     |     |     |   |   |
| CIZ         | e     | 18 | 49 | 49    |     |      |     | 6.49 | 118 |     |     |     |   |   |
|             | eSn   |    | 50 | 54    |     | -4.4 |     |      |     |     |     |     |   |   |
| MSZ         | e     | 18 | 49 | 55    |     |      |     | 6.54 | 236 |     | 4.3 | 4.3 |   |   |
|             | eSn   |    | 50 | 56.5  |     | -3.2 |     |      |     |     |     |     |   |   |
|             | e     |    | 51 | 15    |     |      |     |      |     |     |     |     |   |   |
| AMPLITUDES: | WEL   | 30 |    |       | TRZ | 0.8  | 1.3 | COB  |     | 6.3 | 10  |     |   |   |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| GNZ | 0.7 | 0.9 | GPZ | 0.8 | KRP | 3.0 | 3.2 |
| KAI | 0.9 |     | WTZ | 0.8 | MJZ | 1.2 | 1.5 |
| OMZ |     | 0.5 | ONE | 0.3 | MSZ | 0.7 | 1.3 |

FELT: Widely in Wairarapa and the Wellington area Maximum Intensity MM IV at Martinborough(70).

SEP 14 17<sup>h</sup>15<sup>m</sup>07<sup>s</sup>.9 39°.34s 175°.12E 12 km M = 3.4  
 ± 0.4 0.02 0.03 R S.E. of RES. 1.3

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| GSZ         | iP*   | 17  | 15 | 16.8  | D   | 1.4  | 100 | 0.37 | 80  |     |     |     |
|             | eS*   |     |    | 22    |     | 1.3  | 100 |      |     |     |     |     |
| TNZ         | iP*   | 17  | 15 | 20.2  | U   | 0.9  | 100 | 0.59 | 285 |     | 3.3 | 3.3 |
|             | Sg    |     |    | 29.0  |     | 0.7  | 100 |      |     |     |     |     |
| MNG         | Pn    | 17  | 15 | 32.0  |     | 0.7  | 100 | 1.30 | 168 |     | 3.4 | 3.4 |
|             | Pg    |     |    | 34.3  |     | -0.1 | 100 |      |     |     |     |     |
|             | Sn    |     |    | 47.0  |     | -1.7 | 99  |      |     |     |     |     |
|             | eSg   |     |    | 51    |     | -1.0 | 100 |      |     |     |     |     |
| TRZ         | ePg?  | 17  | 15 | 35    |     | -0.0 | 100 | 1.33 | 100 |     | 3.1 | 3.2 |
|             | e     |     |    | 40    |     |      |     |      |     |     |     |     |
|             | eSg   |     |    | 58    |     | 4.9  |     |      |     |     |     |     |
| KRP         | ePn   | 17  | 15 | 32    |     | -1.3 | 100 | 1.46 | 13  |     | 3.7 | 4.2 |
|             | eSn   |     |    | 50    |     | -2.3 | 99  |      |     |     |     |     |
| WEL         | eSn   | 17  | 16 | 06    |     | 1.6  | 99  | 1.96 | 188 | 3.4 |     |     |
| COB         | P*    | 17  | 15 | 52.0  |     | -0.2 | 100 | 2.53 | 226 |     | 3.5 | 3.1 |
|             | eS*   |     |    | 16 25 |     | -0.3 | 100 |      |     |     |     |     |
| AMPLITUDES: |       | TNZ |    | 2.0   | 2.5 | MNG  |     | 2.5  | 3.7 | TRZ | 0.3 | 0.5 |
|             |       | KRP |    | 1.0   | 3.0 | WEL  | 0.3 |      |     | COB | 0.3 | 0.4 |

FELT: Ohakune(49) MM IV.

SEP 14 19<sup>h</sup>29<sup>m</sup>55<sup>s</sup>.1 38°.89s 175°.73E 140 km M = 3.9  
 ± 1.1 0.04 0.06 9 S.E. of RES. 1.6

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|------|------|
| GSZ         | iP    | 19  | 30 | 16.2    | D   | 1.2  | 100 | 0.40 | 196 |     |      |      |
|             | eS    |     |    | 30      |     | -0.2 | 100 |      |     |     |      |      |
| KRP         | P     | 19  | 30 | 19.0    |     | 0.2  | 100 | 0.98 | 351 |     | 2.7* | 2.6* |
|             | S     |     |    | 35.9    |     | -1.1 | 100 |      |     |     |      |      |
| TRZ         | P     | 19  | 30 | 20.9    |     | 1.1  | 100 | 1.08 | 128 |     | 4.0  | 3.8  |
|             | eS    |     |    | 41      |     | 2.3  | 99  |      |     |     |      |      |
| TNZ         | iP    | 19  | 30 | 21.7    | U   | 1.8  | 100 | 1.09 | 254 |     | 3.6* |      |
| WTZ         | iP    | 19  | 30 | 21.8    | U   | -0.7 | 100 | 1.34 | 48  |     | 3.9  | 3.9  |
|             | eS    |     |    | 39      |     | -4.5 |     |      |     |     |      |      |
| MNG         | iP!   | 19  | 30 | 27.8    |     | 0.9  | 100 | 1.74 | 186 |     |      |      |
| GNZ         | P     | 19  | 30 | 28.3    |     | 0.6  | 100 | 1.81 | 83  |     | 3.8  | 4.1  |
|             | e     |     |    | 43.0    |     |      |     |      |     |     |      |      |
|             | S     |     |    | 50.0    |     | -2.7 | 99  |      |     |     |      |      |
| CAZ         | eS    | 19  | 30 | 57      |     | -0.4 | 100 | 2.04 | 169 |     |      |      |
| WEL         | eS    | 19  | 31 | 05      |     | -2.8 | 99  | 2.50 | 197 | 4.0 |      |      |
| COB         | P     | 19  | 30 | 44.8    |     | -0.4 | 100 | 3.18 | 225 |     | 3.9* | 3.1* |
|             | S     |     |    | 31 22.9 |     | -0.4 | 100 |      |     |     |      |      |
| AMPLITUDES: |       | KRP |    | 0.6     | 0.5 | TRZ  |     | 1.3  | 1.8 | TNZ | 0.9  |      |
|             |       | WTZ |    | 2.1     | 2.3 | GNZ  |     | 1.3  | 4.3 | WEL | 0.5  |      |
|             |       | COB |    | 1.5     | 0.8 |      |     |      |     |     |      |      |

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|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|------|
| SEP 15      | 03 <sup>h</sup> 52 <sup>m</sup> 20 <sup>s</sup> .7 | 37°.87s | 177°.19E | 65 km | M = 3.6          |      |     |      |     |     |         |      |
|             | ± 1.1                                              | 0.08    | 0.05     | 9     | S.E. of RES. 1.5 |      |     |      |     |     |         |      |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |      |
| WTZ         | iP                                                 | 03      | 52       | 31.0  | U                | -0.2 | 100 | 0.20 | 235 |     |         |      |
|             | S                                                  |         |          | 39.5  |                  | 0.4  | 100 |      |     |     |         |      |
| GNZ         | P?                                                 | 03      | 52       | 38.7  |                  | -0.8 | 100 | 1.01 | 140 |     | 3.4     | 3.5  |
|             | e                                                  |         |          | 43.0  |                  |      |     |      |     |     |         |      |
| ECZ         | eS                                                 |         |          | 53    |                  | -0.6 | 100 |      |     |     |         |      |
|             | iP                                                 | 03      | 52       | 40.8  | D                | 0.3  | 100 | 1.09 | 81  |     | 3.5     | 3.4  |
|             | e(S)                                               |         | 53       | 04.5  |                  | 9.1  |     |      |     |     |         |      |
|             | e                                                  |         |          | 09    |                  |      |     |      |     |     |         |      |
| KRP         | iP                                                 | 03      | 52       | 42.7  | DE               | -0.7 | 100 | 1.31 | 267 |     | 3.1*    | 2.6* |
|             | S                                                  |         | 53       | 00.5  |                  | -0.1 | 100 |      |     |     |         |      |
| MNG         | eP                                                 | 03      | 53       | 11    |                  | 3.3  | 86  | 3.05 | 205 |     | 3.4     | 3.8  |
|             | e(S)                                               |         |          | 51    |                  | 7.8  |     |      |     |     |         |      |
| WEL         | e(S)                                               | 03      | 54       | 15    |                  | 10.6 |     | 3.90 | 208 | 4.0 |         |      |
| COB         | eS                                                 | 03      | 54       | 24    |                  | -0.9 | 100 | 4.72 | 226 |     |         | 2.9* |
|             | e                                                  |         |          | 58    |                  |      |     |      |     |     |         |      |
| AMPLITUDES: |                                                    | WTZ     | 7.0      | 4.5   | GNZ              | 1.7  | 3.6 | ECZ  | 0.8 | 0.6 |         |      |
|             |                                                    | KRP     | 1.6      | 0.5   | MNG              | 0.6  | 1.6 | WEL  | 0.3 |     |         |      |
|             |                                                    | COB     |          | 0.4   |                  |      |     |      |     |     |         |      |

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|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|-----|---------|------|
| SEP 15      | 04 <sup>h</sup> 22 <sup>m</sup> 43 <sup>s</sup> .0 | 37°.36s | 176°.80E | 238 km | M = 4.1          |      |     |      |     |     |         |      |
|             | ± 1.4                                              | 0.07    | 0.07     | 8      | S.E. of RES. 1.4 |      |     |      |     |     |         |      |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |      |
| WTZ         | P                                                  | 04      | 23       | 14.0   |                  | -1.0 | 100 | 0.64 | 167 |     | 3.8     | 3.8  |
|             | eS                                                 |         |          | 38     |                  | -1.9 | 99  |      |     |     |         |      |
| KRP         | P                                                  | 04      | 23       | 17.7   |                  | -0.1 | 100 | 1.15 | 240 |     | 3.1*    |      |
|             | eS                                                 |         |          | 46     |                  | 1.1  | 100 |      |     |     |         |      |
| ECZ         | P                                                  | 04      | 23       | 20.5   |                  | 0.7  | 100 | 1.43 | 104 |     | 3.8     | 4.0  |
|             | S                                                  |         |          | 49.3   |                  | 1.0  | 100 |      |     |     |         |      |
| GNZ         | P                                                  | 04      | 23       | 21.0   |                  | -0.2 | 100 | 1.60 | 143 |     | 4.2     | 4.1  |
|             | e                                                  |         |          | 22.3   |                  |      |     |      |     |     |         |      |
|             | S                                                  |         |          | 50.0   |                  | -0.7 | 100 |      |     |     |         |      |
| TRZ         | iP                                                 | 04      | 23       | 27.8   | U                | 1.2  | 100 | 2.19 | 180 |     | 4.5     | 4.2  |
|             | eS                                                 |         | 24       | 02     |                  | 1.8  | 99  |      |     |     |         |      |
| MNG         | P                                                  | 04      | 23       | 38.2   |                  | -1.6 | 100 | 3.41 | 197 |     | 4.3     | 4.1  |
|             | eS                                                 |         | 24       | 22     |                  | -1.8 | 99  |      |     |     |         |      |
| WEL         | eS                                                 | 04      | 24       | 42     |                  | 0.9  | 100 | 4.22 | 201 | 4.3 |         |      |
| COB         | eS                                                 | 04      | 24       | 56     |                  | 0.5  | 100 | 4.88 | 219 |     |         | 3.1* |
| AMPLITUDES: |                                                    | WTZ     | 1.1      | 1.3    | KRP              | 0.9  |     | ECZ  | 0.4 | 0.6 |         |      |
|             |                                                    | GNZ     | 2.2      | 2.6    | TRZ              | 1.2  | 1.2 | MNG  | 2.8 | 2.0 |         |      |
|             |                                                    | WEL     | 0.3      |        | COB              |      | 0.6 |      |     |     |         |      |

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|---------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|-----|
| SEP 15  | 09 <sup>h</sup> 43 <sup>m</sup> 29 <sup>s</sup> .7 | 39°.31s | 173°.97E | 12 km | M = 3.5          |      |     |      |     |     |         |     |
|         | ± 0.6                                              | 0.03    | 0.04     | R     | S.E. of RES. 1.3 |      |     |      |     |     |         |     |
| STN     | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |     |
| TNZ     | P*                                                 | 09      | 43       | 36.5  |                  | -0.2 | 100 | 0.34 | 70  |     | 2.7     |     |
| GSZ     | P                                                  | 09      | 43       | 52.2  |                  | -0.1 | 100 | 1.26 | 89  |     |         |     |
|         | eS                                                 |         |          | 44 09 |                  | -0.1 | 100 |      |     |     |         |     |
| MNG     | Pn                                                 | 09      | 44       | 01.0  |                  | 1.9  | 99  | 1.75 | 139 |     | 3.5     | 3.8 |
|         | eS*                                                |         |          | 24    |                  | 0.1  | 100 |      |     |     |         |     |



|             |     |             |             |             |         |
|-------------|-----|-------------|-------------|-------------|---------|
| KRP         | ePn | 09 44 01    | 0.6 100     | 1.85 42     | 3.1 3.4 |
|             | eSn | 24          | 0.5 100     |             |         |
| COB         | ePn | 09 44 01    | -1.6 99     | 2.02 208    | 3.7 3.6 |
|             | eP* | 05          | -0.2 100    |             |         |
|             | eSn | 26          | -1.4 100    |             |         |
| WEL         | eP* | 09 44 07    | 0.8 100     | 2.07 163    | 3.6     |
|             | eS* | 33          | -0.4 100    |             |         |
| TRZ         | ePg | 09 44 13    | -1.7 99     | 2.22 97     | 3.4     |
|             | eSg | 45          | 0.2 100     |             |         |
| KAI         | eSn | 09 45 08    | -1.3 100    | 3.75 210    | 4.0     |
|             | eS* | 27          | 3.1 95      |             |         |
| AMPLITUDES: |     | TNZ 1.5     | MNG 2.0 4.5 | KRP 0.6 1.1 |         |
|             |     | COB 0.8 2.2 | WEL 0.4     | TRZ 0.2     |         |
|             |     | KAI 0.3     |             |             |         |

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 SEP 15 14<sup>h</sup>39<sup>m</sup>50<sup>s</sup>.9 40°.32S 176°.53E 12 km M = 3.4  
 ± 0.8 0.04 0.08 R S.E. of RES. 2.0

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---------|
| CAZ | ePg   | 14 | 40 | 04    |     | 0.2  | 100 | 0.63 | 201 |     |         |
|     | eSg   |    |    | 16    |     | 3.6  | 98  |      |     |     |         |
|     | e     |    |    | 21    |     |      |     |      |     |     |         |
| TRZ | P*    | 14 | 40 | 03.1  |     | -2.6 | 99  | 0.80 | 17  |     | 3.3 3.9 |
|     | S*    |    |    | 16.3  |     | -0.2 | 100 |      |     |     |         |
| MNG | iP*   | 14 | 40 | 05.1  | D   | -1.5 | 100 | 0.85 | 249 |     | 3.1 3.2 |
|     | ePg   |    |    | 07.8  |     | -0.5 | 100 |      |     |     |         |
|     | S*    |    |    | 18.0  |     | -0.1 | 100 |      |     |     |         |
| GSZ | ePn   | 14 | 40 | 12    |     | -1.7 | 100 | 1.27 | 325 |     |         |
|     | eSn   |    |    | 32    |     | 1.2  | 100 |      |     |     |         |
| WEL | eSn   | 14 | 40 | 37    |     | -2.9 | 99  | 1.65 | 234 | 3.2 |         |
|     | e     |    |    | 45    |     |      |     |      |     |     |         |
| GNZ | ePn   | 14 | 40 | 24    |     | -0.2 | 100 | 2.03 | 35  |     | 3.4 3.2 |
|     | e     |    |    | 41 09 |     |      |     |      |     |     |         |
| WTZ | eP*   | 14 | 40 | 33    |     | 0.6  | 100 | 2.36 | 9   |     | 3.2     |
| KRP | ePn   | 14 | 40 | 33    |     | 2.3  | 100 | 2.51 | 342 |     | 3.6     |
|     | eS*   |    |    | 41 10 |     | 2.1  | 100 |      |     |     |         |

AMPLITUDES: TRZ 1.4 8.0 MNG 3.5 5.6 WEL 0.2  
 GNZ 0.5 0.5 WTZ 0.3 KRP 0.3

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 SEP 15 19<sup>h</sup>58<sup>m</sup>59<sup>s</sup>.3 46°.45S 166°.66E 12 km M = 3.5  
 ± 1.1 0.03 0.08 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| MNW | P*    | 19 | 59 | 16.0 |     | -0.6 | 100 | 0.94 | 45  |     |         |
|     | eS*   |    |    | 28   |     | -1.3 | 99  |      |     |     |         |
| OBZ | P*    | 19 | 59 | 19.3 |     | -0.0 | 100 | 1.11 | 115 |     |         |
|     | eS*   |    |    | 34   |     | -0.1 | 100 |      |     |     |         |
| MSZ | ePn   | 19 | 59 | 31   |     | -0.9 | 100 | 1.99 | 27  |     | 3.6 3.7 |
|     | eP*   |    |    | 33.6 |     | -0.8 | 100 |      |     |     |         |
|     | eSn   |    |    | 58   |     | 1.5  | 99  |      |     |     |         |
| OMZ | Sn    | 20 | 00 | 27.8 |     | 0.2  | 100 | 3.28 | 67  |     | 3.4     |
| GSP | ePg   | 20 | 00 | 06   |     | -0.3 | 100 | 3.31 | 47  |     |         |
|     | eS*   |    |    | 40   |     | -0.4 | 100 |      |     |     |         |
| MJZ | eP*   | 20 | 00 | 05   |     | 2.2  | 97  | 3.64 | 49  |     | 3.3 3.2 |
|     | eS*   |    |    | 51   |     | 0.6  | 100 |      |     |     |         |

AMPLITUDES: MSZ 1.4 3.6 OMZ 0.3 MJZ 0.3 0.4

SEP 16 19<sup>h</sup>26<sup>m</sup>51<sup>s</sup>.8 37°.40S 176°.51E 221 km 77/ 590  
 $\pm 0.9$  0.05 0.05 7 S.E. of RES. 1.1 M = 4.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|---|---|
| WIZ | P     | 19 | 27 | 21.8    | D   | 0.1  | 100 | 0.55 | 103 |      |      |      |   |   |
| WIZ | iP    | 19 | 27 | 21.5    | U   | -0.7 | 100 | 0.69 | 147 |      | 4.5  | 4.3  |   |   |
|     | S     |    |    | 45      |     | -0.7 | 100 |      |     |      |      |      |   |   |
| KRP | iP    | 19 | 27 | 23.6    | DE  | 0.1  | 100 | 0.94 | 236 |      |      |      |   |   |
|     | S     |    |    | 48      |     | -0.0 | 100 |      |     |      |      |      |   |   |
| WNZ | P     | 19 | 27 | 25      |     | -0.8 | 100 | 1.27 | 195 |      | 4.5  |      |   |   |
| ECZ | P     | 19 | 27 | 29.7    | U   | 0.8  | 100 | 1.64 | 101 |      | 4.3  | 4.5  |   |   |
|     | S     |    |    | 59      |     | 1.5  | 99  |      |     |      |      |      |   |   |
| GNZ | iP    | 19 | 27 | 29.4    | U   | -0.2 | 100 | 1.72 | 137 |      |      |      |   |   |
|     | S     |    |    | 57      |     | -1.7 | 99  |      |     |      |      |      |   |   |
| CNZ | iP    | 19 | 27 | 31.5    |     | -0.2 | 100 | 1.95 | 203 |      |      |      |   |   |
|     | S     |    |    | 28 03.5 |     | 0.8  | 100 |      |     |      |      |      |   |   |
|     | e     |    |    | 08      |     |      |     |      |     |      |      |      |   |   |
| TRZ | iP    | 19 | 27 | 33.0    | U   | -0.8 | 100 | 2.16 | 174 |      | 5.0  | 4.8  |   |   |
|     | e     |    |    | 28 00   |     |      |     |      |     |      |      |      |   |   |
|     | e(S)  |    |    | 08      |     | 1.6  | 99  |      |     |      |      |      |   |   |
| ONE | P     | 19 | 27 | 36.5    |     | 0.4  | 100 | 2.38 | 312 |      |      |      |   |   |
| MNG | iP    | 19 | 27 | 43.7    | U   | -2.9 |     | 3.31 | 194 |      |      |      |   |   |
|     | S     |    |    | 28 25   |     | -4.1 |     |      |     |      |      |      |   |   |
| WEL | P     | 19 | 27 | 53      |     | -3.3 |     | 4.11 | 199 | 4.7  |      |      |   |   |
|     | S     |    |    | 28 42   |     | -4.3 |     |      |     |      |      |      |   |   |
| COB |       |    |    |         |     |      |     | 4.71 | 217 |      | 4.0* | 3.7* |   |   |
| KAI |       |    |    |         |     |      |     | 6.45 | 216 | 3.9* |      |      |   |   |
| GPZ |       |    |    |         |     |      |     | 6.95 | 204 | 4.2* |      |      |   |   |

AMPLITUDES: WIZ 7.0 4.5 WNZ 0.3 ECZ 1.3 1.9  
 TRZ 4.0 6.0 WEL 1.0 COB 1.4 2.3  
 KAI 0.5 GPZ 1.7

SEP 17 06<sup>h</sup>49<sup>m</sup>10<sup>s</sup>.9 45°.09S 167°.58E 114 km 77/ 591  
 $\pm 0.6$  0.02 0.04 4 S.E. of RES. 0.7 M = 3.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|---|---|
| MSZ | iP    | 06 | 49 | 28.5    | U   | 0.2  | 100 | 0.49 | 30  |      | 3.8* | 3.3* |   |   |
|     | S     |    |    | 41.5    |     | -0.1 | 100 |      |     |      |      |      |   |   |
| MNW | P     | 06 | 49 | 29.6    | U   | -0.1 | 100 | 0.69 | 178 | 3.8* | 3.4* | 3.5* |   |   |
|     | S     |    |    | 43.5    |     | -0.6 | 100 |      |     |      |      |      |   |   |
| ROX | iP    | 06 | 49 | 36.9    | D   | 1.1  | 99  | 1.29 | 108 |      | 3.5  | 3.8  |   |   |
|     | S     |    |    | 55.5    |     | 0.7  | 100 |      |     |      |      |      |   |   |
| OBZ | P     | 06 | 49 | 43      |     | 0.3  | 100 | 1.85 | 169 |      |      |      |   |   |
|     | S     |    |    | 50 06   |     | -0.4 | 100 |      |     |      |      |      |   |   |
| GSP | P     | 06 | 49 | 44.3    | D   | -0.1 | 100 | 1.99 | 62  |      |      |      |   |   |
|     | S     |    |    | 50 10   |     | 0.6  | 100 |      |     |      |      |      |   |   |
| MJZ | P     | 06 | 49 | 48      |     | -0.9 | 99  | 2.34 | 63  |      | 3.5  | 3.9  |   |   |
|     | S     |    |    | 50 17   |     | -0.6 | 100 |      |     |      |      |      |   |   |
| OMZ | P     | 06 | 49 | 49.5    |     | 0.2  | 100 | 2.37 | 91  |      | 3.1  | 3.8  |   |   |
|     | S     |    |    | 50 17.5 |     | -0.6 | 100 |      |     |      |      |      |   |   |

AMPLITUDES: MSZ 12 7.5 MNW 3.0 2.2 7.0 ROX 0.7 3.0  
 MJZ 0.8 2.8 OMZ 0.1 0.8

SEP 17 14<sup>h</sup>08<sup>m</sup>57<sup>s</sup>.7 38°.99S 175°.61E 12 km 77/ 592  
 $\pm 0.3$  0.01 0.03 R S.E. of RES. 0.9 M = 3.2

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| CNZ         | iPg   | 14 | 09 | 02.2 |     | -0.4 | 100 | 0.22 | 193 |     |     |     |
|             | Sg    |    |    | 06   |     | 0.2  | 100 |      |     |     |     |     |
| GSZ         | Pg    | 14 | 09 | 03.5 |     | -0.4 | 100 | 0.29 | 184 |     |     |     |
|             | Sg    |    |    | 07.5 |     | -0.5 | 100 |      |     |     |     |     |
| WNZ         | Pg    | 14 | 09 | 09.5 |     | 0.9  | 100 | 0.52 | 47  |     | 3.0 |     |
| TNZ         | Pg    | 14 | 09 | 19   |     | 1.4  | 99  | 0.98 | 258 |     | 2.9 | 2.8 |
| KRP         | P*    | 14 | 09 | 16.8 |     | -0.2 | 100 | 1.06 | 357 |     |     |     |
|             | Sg    |    |    | 32.5 |     | -1.3 | 99  |      |     |     |     |     |
| TRZ         | (Sg)  | 14 | 09 | 35   |     | 0.2  | 100 | 1.10 | 121 |     | 3.1 | 3.3 |
| WTZ         |       |    |    |      |     |      |     | 1.48 | 48  |     | 3.0 |     |
| MNG         |       |    |    |      |     |      |     | 1.63 | 183 |     | 3.8 | 3.3 |
| GNZ         |       |    |    |      |     |      |     | 1.92 | 80  |     | 3.2 |     |
| COB         |       |    |    |      |     |      |     | 3.04 | 226 |     | 3.4 | 2.9 |
| AMPLITUDES: | WNZ   |    |    | 0.2  |     | TNZ  | 0.2 | 0.2  | TRZ |     | 0.3 | 0.6 |
|             | WTZ   |    |    | 0.2  |     | MNG  | 3.2 | 1.2  | GNZ |     | 0.2 |     |
|             | COB   |    |    | 0.1  | 0.1 |      |     |      |     |     |     |     |

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SEP 17    17<sup>h</sup>17<sup>m</sup>26<sup>s</sup>.3    42°.96S    171°.03E    12 km    M = 3.9  
                 ± 0.3            0.02            0.03            R    S.E. of RES. 0.9

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|
| KAI         | Pg    | 17  | 17  | 36.7    |     | -0.3 | 100 | 0.52 | 33  | 3.7 |     |     |
|             | S*    |     |     | 43      |     | -0.5 | 100 |      |     |     |     |     |
| MJZ         | iPg   | 17  | 17  | 49.9    | USW | 1.3  | 99  | 1.10 | 202 |     | 3.9 | 3.6 |
|             | Sg    |     |     | 18 08   |     | 4.5  |     |      |     |     |     |     |
| GSP         | iPg   | 17  | 17  | 55.3    | U   | 1.0  | 100 | 1.38 | 212 |     |     |     |
|             | Sg    |     |     | 18 21   |     | 8.1  |     |      |     |     |     |     |
| GPZ         | P*    | 17  | 17  | 51      |     | -0.1 | 100 | 1.39 | 122 | 3.8 |     |     |
|             | Sn    |     |     | 18 08.5 |     | -0.5 | 100 |      |     |     |     |     |
|             | S*    |     |     | 10      |     | 0.4  | 100 |      |     |     |     |     |
| OMZ         | P*    | 17  | 18  | 03.5    |     | 0.1  | 100 | 2.11 | 182 |     | 4.2 | 3.7 |
|             | Pg    |     |     | 09      |     | 0.1  | 100 |      |     |     |     |     |
|             | Sg    |     |     | 36      |     | -1.4 |     |      |     |     |     |     |
| COB         | Pn    | 17  | 18  | 03.5    |     | 0.8  | 100 | 2.27 | 35  |     | 4.2 | 3.8 |
|             | P*    |     |     | 07      |     | 0.9  | 100 |      |     |     |     |     |
|             | S*    |     |     | 35.5    |     | -0.3 | 100 |      |     |     |     |     |
| ROX         | P*    | 17  | 18  | 14      |     | -1.1 | 99  | 2.80 | 205 |     | 4.4 | 3.8 |
|             | Pg    |     |     | 21      |     | -1.8 | 98  |      |     |     |     |     |
|             | S*    |     |     | 50.5    |     | -1.2 |     |      |     |     |     |     |
|             | eSg   |     | 19  | 03      |     | 2.5  |     |      |     |     |     |     |
| MSZ         |       |     |     |         |     |      |     | 2.83 | 232 |     | 3.9 | 3.9 |
| MNW         |       |     |     |         |     |      |     | 3.73 | 220 | 3.4 | 4.1 | 3.8 |
| AMPLITUDES: | KAI   | 8.0 |     |         | MJZ | 13   | 10  | GPZ  | 2.3 |     |     |     |
|             | OMZ   |     | 2.3 | 1.2     | COB | 1.6  | 2.5 | ROX  |     |     | 1.7 | 1.3 |
|             | MSZ   |     | 1.3 | 2.5     | MNW | 0.1  | 0.8 | 1.0  |     |     |     |     |

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SEP 17    19<sup>h</sup>15<sup>m</sup>09<sup>s</sup>.7    38°.74S    176°.14E    103 km    M = 4.1  
                 ± 0.5            0.02            0.03            5    S.E. of RES. 0.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WNZ | P     | 19 | 15 | 23.6 | U   | -0.7 | 100 | 0.12 | 347 |     |     |     |
| GSZ | P     | 19 | 15 | 27.8 |     | 0.3  | 100 | 0.68 | 219 |     |     |     |
|     | S     |    |    | 41   |     | -0.1 | 100 |      |     |     |     |     |
| KRP | iP    | 19 | 15 | 30.0 | UNW | 0.0  | 100 | 0.94 | 330 |     |     |     |
| TRZ | P     | 19 | 15 | 31.3 |     | 1.0  | 99  | 0.97 | 147 |     | 3.7 | 4.1 |





|             |     |            |     |     |       |     |     |     |     |
|-------------|-----|------------|-----|-----|-------|-----|-----|-----|-----|
|             | P*  | 18         | 4.7 |     |       |     |     |     |     |
|             | S   | 46         | 0.7 | 100 |       |     |     |     |     |
| ONE         | P   | 21 00 11   | 0.3 | 100 | 4.50  | 259 |     |     |     |
| KRP         | P   | 21 00 14.5 | 3.9 |     | 4.50  | 228 |     |     |     |
| WEL         |     |            |     |     | 7.42  | 211 | 4.1 |     |     |
| COB         |     |            |     |     | 8.23  | 220 |     |     | 3.8 |
| CIZ         |     |            |     |     | 9.38  | 164 |     |     |     |
| GPZ         |     |            |     |     | 10.30 | 210 | 4.2 |     |     |
| AMPLITUDES: | WTZ | 0.8        | 1.9 | GNZ | 0.6   | 2.2 | WEL | 0.1 |     |
|             | COB |            | 0.2 | CIZ |       | 0.5 | GPZ | 0.1 |     |

SEP 19 21<sup>h</sup>07<sup>m</sup>29<sup>s</sup>.7 38°.78s 175°.90E 138 km 77/ 597 M = 4.4  
 ± 0.7 0.03 0.03 4 S.E. of RES. 0.9

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W    | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|------|------|------|------|---|
| WNZ         | P     | 21  | 07  | 47.7 |     | -1.0 | 99  | 0.22 | 48  |      |      |      |      |   |
|             | S     |     | 08  | 04   |     | 0.8  | 100 |      |     |      |      |      |      |   |
| GSZ         | iP    | 21  | 07  | 49.7 |     | -0.4 | 100 | 0.56 | 206 |      |      |      |      |   |
|             | S     |     | 08  | 05   |     | -0.8 | 100 |      |     |      |      |      |      |   |
| KRP         | iP    | 21  | 07  | 52.7 | DS  | 0.2  | 100 | 0.90 | 341 |      |      |      |      |   |
|             | iS    |     | 08  | 10   |     | 0.0  | 100 |      |     |      |      |      |      |   |
| TRZ         | (P)   | 21  | 07  | 54.5 |     | 0.6  |     | 1.05 | 138 |      | 4.4  | 4.5  |      |   |
|             | S     |     | 08  | 14   |     | 1.5  | 98  |      |     |      |      |      |      |   |
| WTZ         | iP    | 21  | 07  | 54.7 | D   | -0.4 | 100 | 1.17 | 48  |      | 4.2  | 4.2  |      |   |
|             | S     |     | 08  | 14   |     | -0.5 | 100 |      |     |      |      |      |      |   |
| TNZ         | iP    | 21  | 07  | 56.0 | U   | 0.0  | 100 | 1.25 | 250 |      |      |      |      |   |
| WIZ         | S     | 21  | 08  | 23.5 |     | 0.6  | 100 | 1.61 | 40  |      |      |      |      |   |
| GNZ         | iP    | 21  | 08  | 00.9 | D   | 0.4  | 100 | 1.66 | 86  |      | 4.1  | 4.2  |      |   |
|             | S     |     |     | 23   |     | -1.1 | 99  |      |     |      |      |      |      |   |
| AUC         | iP    | 21  | 08  | 06.5 | U   | 0.7  | 100 | 2.12 | 335 |      |      |      |      |   |
| WEL         | P     | 21  | 08  | 10.3 |     | -2.5 |     | 2.65 | 199 | 4.9  |      |      |      |   |
|             | S     |     |     | 41.5 |     | -4.1 |     |      |     |      |      |      |      |   |
| ONE         | eP    | 21  | 08  | 21   |     | 0.4  |     | 3.24 | 337 |      |      |      |      |   |
| COB         |       |     |     |      |     |      |     | 3.36 | 226 |      | 4.2* | 4.0* |      |   |
| KAI         |       |     |     |      |     |      |     | 5.08 | 221 |      | 4.0* |      |      |   |
| GPZ         |       |     |     |      |     |      |     | 5.50 | 205 |      | 4.3* |      |      |   |
| MJZ         |       |     |     |      |     |      |     | 6.62 | 216 |      |      | 3.7* | 3.8* |   |
| CIZ         |       |     |     |      |     |      |     | 7.68 | 135 |      |      |      |      |   |
| ROX         |       |     |     |      |     |      |     | 8.29 | 214 |      |      |      | 3.5* |   |
| MSZ         |       |     |     |      |     |      |     | 8.39 | 223 |      |      | 3.4* | 3.7* |   |
| MNW         |       |     |     |      |     |      |     | 9.31 | 219 | 3.2* |      |      |      |   |
| AMPLITUDES: | WNZ   | 1.6 | 1.2 | TRZ  | 3.7 | 10   | WTZ | 5.4  | 6.1 |      |      |      |      |   |
|             | GNZ   | 2.8 | 6.0 | WEL  | 3.8 |      | COB | 3.0  | 7.0 |      |      |      |      |   |
|             | KAI   | 0.8 |     | GPZ  | 2.8 |      | MJZ | 1.5  | 3.4 |      |      |      |      |   |
|             | CIZ   | 0.4 | 0.9 | ROX  |     | 0.6  | MSZ | 0.5  | 1.6 |      |      |      |      |   |
|             | MNW   | 0.1 |     |      |     |      |     |      |     |      |      |      |      |   |

SEP 20 04<sup>h</sup>12<sup>m</sup>35<sup>s</sup>.4 32°.96s 178°.87W 33 km 77/ 598 M = 4.6  
 ± 0.8 0.04 0.09 R S.E. of RES. 0.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WIZ | Pn    | 04 | 13 | 54.5 |     | -0.6 | 99  | 5.58 | 214 |     |     |     |   |   |
|     | Sn    |    | 14 | 56   |     | 0.5  | 100 |      |     |     |     |     |   |   |
| WTZ | Pn    | 04 | 14 | 01.5 |     | 0.1  | 100 | 6.05 | 213 |     | 5.0 | 4.6 |   |   |
|     | Sn    |    | 15 | 06.5 |     | -0.1 | 100 |      |     |     |     |     |   |   |
|     | e(S*) |    |    | 36   |     | -2.0 |     |      |     |     |     |     |   |   |
| GNZ | Pn    | 04 | 14 | 04   |     | 0.3  | 100 | 6.21 | 203 |     | 4.9 | 4.6 |   |   |

|             |       |            |      |     |       |     |     |     |  |
|-------------|-------|------------|------|-----|-------|-----|-----|-----|--|
|             | (P*)  | 22         | -0.3 |     |       |     |     |     |  |
|             | Sn    | 15 10      | -0.5 | 100 |       |     |     |     |  |
|             | e(S*) | 46         | 3.1  |     |       |     |     |     |  |
| ONE         | ePn   | 04 14 04   | -0.4 | 100 | 6.26  | 242 |     |     |  |
| KRP         | Pn    | 04 14 11.5 | 0.6  | 99  | 6.73  | 221 |     |     |  |
| WEL         | Sn    | 04 16 28.5 | -6.8 |     | 9.74  | 210 | 4.4 |     |  |
| COB         |       |            |      |     | 10.53 | 217 |     | 4.2 |  |
| CIZ         | Sn    | 04 17 02   | -6.8 |     | 11.13 | 171 |     |     |  |
| KAI         |       |            |      |     | 12.26 | 216 | 4.9 |     |  |
| GPZ         |       |            |      |     | 12.62 | 209 | 4.4 |     |  |
| AMPLITUDES: | WTZ   | 2.9        | 1.1  | GNZ | 1.7   | 1.5 | WEL | 0.1 |  |
|             | COB   |            | 0.3  | KAI | 0.2   |     | GPZ | 0.1 |  |

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SEP 20 10<sup>h</sup>35<sup>m</sup>36<sup>s</sup>.5 39°.25s 176°.37E 61 km M = 3.7  
 ± 0.4 0.02 0.02 4 S.E. of RES. 0.5

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S       |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|------|-----------|
| TRZ         | P     | 10  | 35  | 48.4  | U   | -0.3 | 100 | 0.46 | 131 |     | 3.5  | 3.8       |
|             | S     |     |     | 57.5  |     | -0.3 | 100 |      |     |     |      |           |
| GSZ         | P     | 10  | 35  | 50.4  |     | 0.2  | 100 | 0.61 | 267 |     |      |           |
|             | eS    |     |     | 36 01 |     | 0.6  | 99  |      |     |     |      |           |
| WNZ         | (S)   | 10  | 36  | 01.5  |     | 0.2  |     | 0.65 | 341 |     |      | 3.7       |
|             | e     |     |     | 05    |     |      |     |      |     |     |      |           |
|             | e     |     |     | 09    |     |      |     |      |     |     |      |           |
| WTZ         | P     | 10  | 35  | 59.5  |     | -0.2 | 100 | 1.35 | 21  |     | 3.5  | 3.9       |
|             | S     |     |     | 36 17 |     | -0.3 | 100 |      |     |     |      |           |
| GNZ         | P     | 10  | 36  | 00.6  |     | -0.1 | 100 | 1.42 | 65  |     | 3.9  | 3.5       |
|             | S     |     |     | 20    |     | 1.0  | 95  |      |     |     |      |           |
| KRP         | P     | 10  | 36  | 01.3  |     | -0.1 | 100 | 1.48 | 333 |     |      |           |
|             | S     |     |     | 20    |     | -0.3 | 100 |      |     |     |      |           |
| TNZ         | P     | 10  | 36  | 02.4  |     | 0.0  | 100 | 1.55 | 272 |     |      | 3.3*      |
| WEL         | S     | 10  | 36  | 37.5  |     | -4.4 |     | 2.38 | 211 | 3.9 |      |           |
| COB         | P     | 10  | 36  | 23    |     | -4.6 |     | 3.34 | 235 |     |      | 3.4* 2.8* |
|             | S     |     |     | 37 04 |     | -2.2 |     |      |     |     |      |           |
|             | e     |     |     | 20    |     |      |     |      |     |     |      |           |
| KAI         |       |     |     |       |     |      |     | 4.99 | 227 |     | 3.0* |           |
| GPZ         |       |     |     |       |     |      |     | 5.26 | 211 |     | 3.2* |           |
| AMPLITUDES: | TRZ   | 3.1 | 15  | WNZ   |     |      |     | 0.4  | WTZ |     | 1.3  | 3.6       |
|             | GNZ   | 3.0 | 1.9 | TNZ   |     | 0.5  |     |      | WEL | 0.5 |      |           |
|             | COB   | 0.5 | 0.4 | KAI   | 0.1 |      |     |      | GPZ | 0.2 |      |           |

FELT: Patoka (52) MM III

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SEP 20 13<sup>h</sup>37<sup>m</sup>04<sup>s</sup>.4 32°.76s 178°.43W 33 km M = 4.7  
 ± 2.9 0.15 0.34 R S.E. of RES. 2.1

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| WIZ | Pn    | 13 | 38 | 29.0  | D   | -0.3 | 100 | 5.97 | 216 |     |     |     |
|     | Sn    |    |    | 39 32 |     | -1.6 | 100 |      |     |     |     |     |
| WTZ | Pn    | 13 | 38 | 34.5  |     | -1.1 | 100 | 6.42 | 214 |     | 5.1 | 4.7 |
|     | eSn   |    |    | 39 43 |     | -1.6 | 100 |      |     |     |     |     |
| GNZ | ePn   | 13 | 38 | 36    |     | -1.3 | 100 | 6.54 | 205 |     | 5.2 | 4.7 |
|     | P*    |    |    | 56    |     | -1.1 |     |      |     |     |     |     |
|     | Sn    |    |    | 39 51 |     | 3.3  | 99  |      |     |     |     |     |
|     | S*    |    |    | 40 24 |     | 1.9  |     |      |     |     |     |     |
| ONE | Pn    | 13 | 38 | 39.5  |     | 0.3  | 100 | 6.69 | 241 |     |     |     |
| AUC | Pn    | 13 | 38 | 45    |     | 2.5  | 99  | 6.93 | 232 |     |     |     |

|             |     |            |      |     |       |     |     |     |
|-------------|-----|------------|------|-----|-------|-----|-----|-----|
| KRP         | Pn  | 13 38 45   | -0.3 | 100 | 7.14  | 222 |     |     |
|             | eSn | 40 04      | 2.2  |     |       |     |     |     |
| TRZ         | Pn  | 13 38 53   | -1.3 |     | 7.79  | 208 | 4.6 | 4.5 |
|             | eSn | 40 22      | 4.3  |     |       |     |     |     |
| CNZ         | Pn  | 13 38 57.5 | -0.6 |     | 8.07  | 216 |     |     |
| WEL         |     |            |      |     | 10.10 | 211 | 4.4 |     |
| GPZ         |     |            |      |     | 12.98 | 210 | 4.4 |     |
| AMPLITUDES: | WTZ | 3.2        | 1.1  | GNZ | 2.9   | 1.6 | TRZ | 0.3 |
|             | WEL | 0.1        |      | GPZ | 0.1   |     |     |     |

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SEP 20 14<sup>h</sup>10<sup>m</sup>26<sup>s</sup>.5 32°.33s 178°.34w 33 km M = 4.5  
 ± 5.8 0.29 1.05 R S.E. of RES. 2.3

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| WIZ         | P     | 14  | 11 | 54    |     | -2.9 | 99  | 6.36 | 214 |     |     |     |
| WTZ         | P     | 14  | 12 | 02    |     | -1.2 | 100 | 6.82 | 213 |     | 4.6 |     |
| GNZ         | P     | 14  | 12 | 06    |     | 0.8  | 100 | 6.97 | 204 |     | 4.6 | 4.3 |
|             | P*    |     |    | 23    |     | -3.5 |     |      |     |     |     |     |
|             | S     |     |    | 13 20 |     | 0.0  | 100 |      |     |     |     |     |
| KRP         | P     | 14  | 12 | 13.5  |     | 0.9  | 100 | 7.51 | 220 |     |     |     |
| CNZ         | P     | 14  | 12 | 28    |     | 2.3  | 99  | 8.47 | 214 |     |     |     |
| AMPLITUDES: | WTZ   | 0.9 |    |       |     | GNZ  | 0.6 | 0.5  |     |     |     |     |

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SEP 21 06<sup>h</sup>37<sup>m</sup>56<sup>s</sup>.8 38°.08s 176°.36E 158 km M = 3.9  
 ± 0.3 0.01 0.01 1 S.E. of RES. 0.3

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|------|------|------|
| WTZ         | iP    | 06  | 38  | 19.1  | D   | -0.1 | 100 | 0.50 | 80  |      | 3.2  | 3.8  |
|             | S     |     |     | 36.5  |     | 0.0  | 100 |      |     |      |      |      |
| KRP         | iP    | 06  | 38  | 20.1  | D   | 0.0  | 100 | 0.67 | 283 |      |      |      |
|             | S     |     |     | 38    |     | 0.0  | 100 |      |     |      |      |      |
| CNZ         | P     | 06  | 38  | 24.8  |     | -0.3 | 99  | 1.29 | 209 |      |      |      |
|             | S     |     |     | 47    |     | 0.2  | 100 |      |     |      |      |      |
| GNZ         | P     | 06  | 38  | 27    | U   | 0.5  | 96  | 1.43 | 114 |      | 3.5  | 4.1  |
|             | S     |     |     | 49    |     | -0.3 | 99  |      |     |      |      |      |
| TRZ         | P     | 06  | 38  | 27.5  |     | 0.0  | 100 | 1.52 | 166 |      | 4.1  | 4.2  |
|             | S     |     |     | 51    |     | 0.0  | 100 |      |     |      |      |      |
| TNZ         | P     | 06  | 38  | 31.5  |     | -0.1 | 100 | 1.91 | 234 |      | 2.8* | 2.6* |
| MNG         | iP    | 06  | 38  | 37.4  | U   | -3.0 |     | 2.63 | 195 |      | 4.4  | 4.0  |
|             | S     |     |     | 39 09 |     | -4.9 |     |      |     |      |      |      |
| WEL         | P     | 06  | 38  | 47    |     | -3.7 |     | 3.44 | 200 | 4.2  |      |      |
|             | S     |     |     | 39 27 |     | -5.1 |     |      |     |      |      |      |
| GPZ         |       |     |     |       |     |      |     | 6.28 | 205 | 3.4* |      |      |
| AMPLITUDES: | WTZ   | 0.8 | 3.2 |       |     | GNZ  | 0.7 | 4.8  | TRZ | 1.0  | 2.8  |      |
|             | TNZ   | 0.1 | 0.1 |       |     | MNG  | 6.0 | 3.1  | WEL | 0.4  |      |      |
|             | GPZ   | 0.3 |     |       |     |      |     |      |     |      |      |      |

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SEP 22 03<sup>h</sup>40<sup>m</sup>48<sup>s</sup>.6 33°.52s 177°.23w 12 km M = 4.9  
 ± 3.4 0.24 0.38 R S.E. of RES. 2.6

| STN | PHASE | H  | M  | S       | DIR | RES   | WT | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|-------|----|------|-----|-----|-----|-----|
| ECZ | Pn    | 03 | 42 | 13.5    |     | 5.7   |    | 5.40 | 218 |     | 5.1 | 5.1 |
|     | Pg    |    |    | 36      |     | -1.7  |    |      |     |     |     |     |
|     | S*    |    |    | 43 21.5 |     | -10.6 |    |      |     |     |     |     |
| WIZ | Pn    | 03 | 42 | 14      |     | -2.8  | 99 | 6.06 | 227 |     |     |     |
|     | P*    |    |    | 32      |     | -1.1  |    |      |     |     |     |     |

|             |      |     |         |      |     |       |     |     |     |     |
|-------------|------|-----|---------|------|-----|-------|-----|-----|-----|-----|
|             | (Sn) | 43  | 20.5    | -3.0 |     |       |     |     |     |     |
| GNZ         | Pn   | 03  | 42 23   | 1.6  | 100 | 6.40  | 216 | 4.9 | 4.8 |     |
|             | Sn   |     | 43 33.5 | 1.8  | 100 |       |     |     |     |     |
| WTZ         | Pn   | 03  | 42 21.5 | -1.0 | 100 | 6.47  | 225 | 4.7 | 4.9 |     |
|             | P*   |     | 42.5    | 2.2  |     |       |     |     |     |     |
|             | Sn   |     | 43 34   | 0.4  | 100 |       |     |     |     |     |
| ONE         | Pn   | 03  | 42 37   | 3.4  | 99  | 7.29  | 250 |     |     |     |
| KRP         | Pn   | 03  | 42 32.5 | -1.8 | 100 | 7.34  | 231 |     |     |     |
|             | Sn   |     | 43 52.5 | -1.9 | 100 |       |     |     |     |     |
| TRZ         | Sn   | 03  | 44 11   | 8.2  |     | 7.69  | 217 | 4.9 |     |     |
|             | eSg  |     | 45 01   | -6.6 |     |       |     |     |     |     |
| CNZ         | ePn  | 03  | 42 44   | -1.0 |     | 8.13  | 224 |     |     |     |
|             | Sn   |     | 44 15   | 1.7  |     |       |     |     |     |     |
| TNZ         |      |     |         |      |     | 8.82  | 228 | 5.3 |     |     |
| MNG         |      |     |         |      |     | 9.17  | 217 | 4.4 | 4.9 |     |
| WEL         |      |     |         |      |     | 10.03 | 217 | 4.9 |     |     |
| CIZ         |      |     |         |      |     | 10.44 | 177 |     |     |     |
| COB         |      |     |         |      |     | 11.00 | 224 | 4.5 |     |     |
| GPZ         |      |     |         |      |     | 12.88 | 215 | 5.0 |     |     |
| AMPLITUDES: | ECZ  |     | 0.8     | 1.2  | GNZ | 1.7   | 2.2 | WTZ | 1.2 | 1.6 |
|             | TRZ  |     |         | 0.7  | TNZ | 0.2   |     | MNG | 0.5 | 2.0 |
|             | WEL  | 0.3 |         |      | CIZ |       | 0.4 | COB |     | 0.5 |
|             | GPZ  | 0.4 |         |      |     |       |     |     |     |     |

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SEP 22 07<sup>h</sup>49<sup>m</sup>33<sup>s</sup>.4 36°.86s 179°.23w 12 km M = 5.0  
 ± 1.0 0.06 0.09 R S.E. of RES. 1.0

| STN         | PHASE | H  | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | iPn   | 07 | 50  | 06.5  | U   | 0.8  | 100 | 1.96 | 244 |     | 5.2 | 5.4 |
|             | P*    |    |     | 09.5  |     | 1.5  |     |      |     |     |     |     |
|             | S*    |    |     | 34    |     | 0.2  | 100 |      |     |     |     |     |
| GNZ         | Pn    | 07 | 50  | 17    |     | -0.3 | 100 | 2.82 | 230 |     | 5.0 | 5.1 |
|             | Sn    |    |     | 50    |     | -0.4 | 100 |      |     |     |     |     |
| WIZ         | Pn    | 07 | 50  | 18    |     | -1.0 | 100 | 2.93 | 256 |     |     |     |
| WTZ         | iPn   | 07 | 50  | 21.9  | U   | -0.9 | 100 | 3.21 | 248 |     | 5.0 | 5.2 |
|             | Sn    |    |     | 59    |     | -1.0 | 100 |      |     |     |     |     |
| TRZ         | Pn    | 07 | 50  | 35    |     | -0.0 | 100 | 4.11 | 228 |     | 4.8 | 5.2 |
|             | eP*   |    |     | 47    |     | 2.2  |     |      |     |     |     |     |
|             | Sn    |    |     | 51 23 |     | 1.4  | 99  |      |     |     |     |     |
| KRP         | Pn    | 07 | 50  | 36.5  |     | -1.1 | 100 | 4.30 | 254 |     |     |     |
|             | P*    |    |     | 48    |     | 0.0  |     |      |     |     |     |     |
|             | Pg    |    |     | 59    |     | -1.4 |     |      |     |     |     |     |
|             | (Sn)  |    |     | 51 23 |     | -3.2 |     |      |     |     |     |     |
| CNZ         | ePn   | 07 | 50  | 45    |     | 1.4  |     | 4.74 | 239 |     |     |     |
| GSZ         | Sn    | 07 | 51  | 34    |     | -2.9 |     | 4.75 | 238 |     |     |     |
| AUC         | iPn   | 07 | 50  | 45.1  | U   | 0.6  | 100 | 4.81 | 268 |     |     |     |
| ONE         | Pn    | 07 | 50  | 52.5  |     | 1.4  | 99  | 5.29 | 280 |     |     |     |
| TNZ         | ePn   | 07 | 50  | 57    |     | 2.3  |     | 5.56 | 243 |     | 5.3 |     |
|             | P*    |    |     | 51 08 |     | -1.4 |     |      |     |     |     |     |
| MNG         | Pn    | 07 | 50  | 52    |     | -3.1 |     | 5.59 | 226 |     | 4.9 | 4.9 |
|             | P*    |    |     | 51 13 |     | 3.1  |     |      |     |     |     |     |
|             | Sn    |    |     | 51    |     | -6.0 |     |      |     |     |     |     |
| WEL         |       |    |     |       |     |      |     | 6.43 | 225 | 4.7 |     |     |
| COB         |       |    |     |       |     |      |     | 7.55 | 234 |     |     | 4.6 |
| KAI         |       |    |     |       |     |      |     | 9.17 | 229 | 4.8 |     |     |
| GPZ         |       |    |     |       |     |      |     | 9.23 | 220 | 5.0 |     |     |
| AMPLITUDES: | ECZ   |    | 8.0 | 16    | GNZ | 11   | 19  | WTZ  |     | 11  | 14  |     |



|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| TRZ | 1.4 | 5.1 | TNZ | 0.7 | MNG | 4.4 | 6.2 |
| WEL | 0.5 |     | COB | 1.5 | KAI | 0.3 |     |
| GPZ | 0.8 |     |     |     |     |     |     |

SEP 22 07<sup>h</sup>57<sup>m</sup>54<sup>s</sup>.7 36°.58s 179°.56w 12 km M = 4.2  
 ± 1.3 0.08 0.10 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S        | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|----------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | (P*)  | 07 | 58 | 29       |     | 1.1  | 100 | 1.88 | 233 |     | 4.3 | 4.4 |
|     | S*    |    |    | 56.5     |     | 3.8  |     |      |     |     |     |     |
| WIZ | S*    | 07 | 59 | 24       |     | 4.6  |     | 2.77 | 249 |     |     |     |
| GNZ | Pn    | 07 | 58 | 37.5     |     | -1.1 | 99  | 2.82 | 222 |     | 4.3 | 4.4 |
|     | Sn    |    |    | 59 11    |     | -0.8 | 100 |      |     |     |     |     |
| WTZ | Pn    | 07 | 58 | 42.5     |     | 0.1  | 100 | 3.10 | 242 |     | 4.2 | 4.3 |
|     | P*    |    |    | 48       |     | -0.6 |     |      |     |     |     |     |
|     | Sn    |    |    | 59 19    |     | 0.6  | 100 |      |     |     |     |     |
| TRZ | ePn   | 07 | 58 | 56       |     | -0.4 | 100 | 4.12 | 223 |     | 4.1 | 4.2 |
|     | Sn    |    |    | 59 43.5  |     | 0.4  | 100 |      |     |     |     |     |
| KRP | ePn   | 07 | 58 | 57       |     | 0.3  | 100 | 4.14 | 250 |     |     |     |
|     | Sn    |    |    | 59 42    |     | -1.5 | 99  |      |     |     |     |     |
| MNG | Pn    | 07 | 59 | 12       |     | -4.6 |     | 5.60 | 222 |     | 3.9 | 4.0 |
|     | Sn    |    |    | 08 00 14 |     | -4.7 |     |      |     |     |     |     |
| WEL |       |    |    |          |     |      |     | 6.45 | 222 | 4.0 |     |     |
| GPZ |       |    |    |          |     |      |     | 9.29 | 218 | 4.1 |     |     |

AMPLITUDES: ECZ 1.3 1.7 GNZ 2.1 4.0 WTZ 1.9 1.9  
 TRZ 0.3 0.6 MNG 0.5 0.8 WEL 0.1  
 GPZ 0.1

SEP 22 15<sup>h</sup>05<sup>m</sup>28<sup>s</sup>.3 36°.59s 179°.61w 12 km M = 4.0  
 ± 1.6 0.09 0.13 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P*    | 15 | 06 | 03      |     | 2.1  | 97  | 1.84 | 233 |     | 4.1 | 4.2 |
|     | S*    |    |    | 26.5    |     | 1.4  |     |      |     |     |     |     |
| WIZ | Sn    | 15 | 06 | 42      |     | -1.2 |     | 2.73 | 249 |     |     |     |
| GNZ | Pn    | 15 | 06 | 11      |     | -0.8 | 100 | 2.78 | 222 |     | 4.0 | 4.2 |
|     | Sn    |    |    | 44      |     | -0.6 | 100 |      |     |     |     |     |
| WTZ | Pn    | 15 | 06 | 16      |     | 0.6  | 100 | 3.05 | 242 |     | 4.1 |     |
| TRZ | ePn   | 15 | 06 | 29      |     | -0.6 | 100 | 4.09 | 223 |     | 3.6 | 4.1 |
|     | P*    |    |    | 38      |     | -1.2 |     |      |     |     |     |     |
|     | Sn    |    |    | 07 16   |     | 0.1  | 100 |      |     |     |     |     |
| KRP | Pn    | 15 | 06 | 29      |     | -0.7 | 100 | 4.09 | 250 |     |     |     |
|     | P*    |    |    | 41      |     | 1.6  |     |      |     |     |     |     |
|     | Sn    |    |    | 07 15.5 |     | -0.6 | 100 |      |     |     |     |     |
| MNG | Pn    | 15 | 06 | 47      |     | -2.8 |     | 5.57 | 222 |     | 3.7 | 4.0 |
|     | Sn    |    |    | 07 47.5 |     | -3.9 |     |      |     |     |     |     |
| WEL |       |    |    |         |     |      |     | 6.43 | 221 | 4.0 |     |     |
| COB |       |    |    |         |     |      |     | 7.48 | 231 |     |     | 3.9 |
| GPZ |       |    |    |         |     |      |     | 9.25 | 217 | 4.1 |     |     |

AMPLITUDES: ECZ 0.8 1.2 GNZ 1.0 2.4 WTZ 1.5  
 TRZ 0.1 0.4 MNG 0.3 0.8 WEL 0.1  
 COB 0.3 GPZ 0.1

SEP 22 18<sup>h</sup>25<sup>m</sup>32<sup>s</sup>.6 36°.84s 179°.38w 12 km M = 4.8  
 ± 1.1 0.08 0.09 R S.E. of RES. 1.4

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| ECZ         | Pn    | 18  | 26  | 04.0 | U   | 0.5  | 100 | 1.85 | 242 |     | 5.0 | 5.1 |     |   |
|             | S*    |     |     | 31   |     | 1.0  | 100 |      |     |     |     |     |     |   |
|             | Sg    |     |     | 35   |     | -0.3 | 100 |      |     |     |     |     |     |   |
| GNZ         | iPn   | 18  | 26  | 14.8 | U   | -0.6 | 100 | 2.74 | 228 |     | 4.8 | 4.9 |     |   |
|             | Sn    |     |     | 47   |     | -0.6 | 100 |      |     |     |     |     |     |   |
| WIZ         | Pn    | 18  | 26  | 15.5 |     | -1.1 | 100 | 2.83 | 255 |     |     |     |     |   |
|             | Sn    |     |     | 49.5 |     | -0.3 | 100 |      |     |     |     |     |     |   |
| WTZ         | Pn    | 18  | 26  | 19.5 | U   | -1.0 | 100 | 3.10 | 247 |     | 4.7 | 4.8 |     |   |
|             | eSn   |     |     | 56.5 |     | -0.1 | 100 |      |     |     |     |     |     |   |
| TRZ         | ePn   | 18  | 26  | 32.5 |     | -0.7 | 100 | 4.03 | 227 |     | 4.6 | 4.9 |     |   |
|             | Pg    |     |     | 54   |     | -0.1 |     |      |     |     |     |     |     |   |
|             | Sn    |     | 27  | 20   |     | 1.1  | 100 |      |     |     |     |     |     |   |
| KRP         | Pn    | 18  | 26  | 34.5 |     | -0.8 | 100 | 4.19 | 254 |     |     |     |     |   |
|             | P*    |     |     | 45.5 |     | 0.2  |     |      |     |     |     |     |     |   |
|             | Pg    |     |     | 55   |     | -2.3 |     |      |     |     |     |     |     |   |
|             | Sn    |     | 27  | 19.5 |     | -3.1 | 96  |      |     |     |     |     |     |   |
| GSZ         | Sn    | 18  | 27  | 36   |     | 2.1  | 99  | 4.66 | 237 |     |     |     |     |   |
| AUC         | Pn    | 18  | 26  | 43.5 |     | 1.5  | 100 | 4.69 | 268 |     |     |     |     |   |
| ONE         | Pn    | 18  | 26  | 50.5 |     | 1.9  | 99  | 5.17 | 280 |     |     |     |     |   |
| TNZ         | ePn   | 18  | 26  | 54.5 |     | 1.9  |     | 5.45 | 243 |     | 5.1 | 4.9 |     |   |
|             | eP*   |     | 27  | 02.5 |     | -4.3 |     |      |     |     |     |     |     |   |
| MNG         | Pn    | 18  | 26  | 50   |     | -3.3 |     | 5.51 | 225 |     | 4.4 | 4.9 |     |   |
|             | Sn    |     | 27  | 54   |     | -0.4 |     |      |     |     |     |     |     |   |
| WEL         |       |     |     |      |     |      |     | 6.36 | 224 | 4.7 |     |     |     |   |
| COB         |       |     |     |      |     |      |     | 7.47 | 233 |     |     | 4.4 |     |   |
| KAI         |       |     |     |      |     |      |     | 9.09 | 229 | 4.8 |     |     |     |   |
| GPZ         |       |     |     |      |     |      |     | 9.17 | 219 | 4.8 |     |     |     |   |
| AMPLITUDES: |       | ECZ |     | 5.8  | 9.3 | GNZ  |     | 6.5  | 13  | WTZ |     | 5.5 | 6.5 |   |
|             |       | TRZ |     | 0.9  | 2.8 | TNZ  |     | 0.4  | 0.3 | MNG |     | 1.6 | 5.9 |   |
|             |       | WEL | 0.5 |      |     | COB  |     |      | 0.9 | KAI | 0.3 |     |     |   |
|             |       | GPZ | 0.5 |      |     |      |     |      |     |     |     |     |     |   |

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SEP 22    19<sup>h</sup>52<sup>m</sup>52<sup>s</sup>.2    36°.89S    179°.32W    12 km    M = 4.5  
                  ± 1.4                   0.09                   0.11                   R    S.E. of RES. 1.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| ECZ | Pn    | 19 | 53 | 24.5    |     | 1.1  | 100 | 1.88 | 244 |     | 4.7 | 4.8 |   |   |
|     | Sn    |    |    | 46      |     | -0.8 | 100 |      |     |     |     |     |   |   |
|     | Sg    |    |    | 57.5    |     | 1.9  | 100 |      |     |     |     |     |   |   |
| GNZ | Pn    | 19 | 53 | 34.5    |     | -0.6 | 100 | 2.74 | 229 |     | 4.4 | 4.6 |   |   |
|     | Sn    |    |    | 54 07   |     | -0.4 | 100 |      |     |     |     |     |   |   |
| WIZ | ePn   | 19 | 53 | 35      |     | -1.7 |     | 2.86 | 256 |     |     |     |   |   |
|     | Sn    |    |    | 54 11   |     | 0.7  | 100 |      |     |     |     |     |   |   |
|     | Sg    |    |    | 32      |     | 3.4  |     |      |     |     |     |     |   |   |
| WTZ | Pn    | 19 | 53 | 39      |     | -1.5 | 100 | 3.13 | 249 |     | 4.3 | 4.5 |   |   |
|     | eSn   |    |    | 54 15   |     | -1.9 | 100 |      |     |     |     |     |   |   |
| TRZ | ePn   | 19 | 53 | 53      |     | 0.2  | 100 | 4.04 | 228 |     | 4.4 | 4.4 |   |   |
|     | Sn    |    |    | 54 40.5 |     | 1.9  | 100 |      |     |     |     |     |   |   |
| KRP | Pn    | 19 | 53 | 54      |     | -1.4 | 100 | 4.22 | 254 |     |     |     |   |   |
|     | Sn    |    |    | 54 40.5 |     | -2.6 | 99  |      |     |     |     |     |   |   |
| AUC | Pn    | 19 | 54 | 03      |     | 0.7  | 100 | 4.73 | 269 |     |     |     |   |   |
| ONE | ePn   | 19 | 54 | 11.5    |     | 2.5  | 99  | 5.22 | 280 |     |     |     |   |   |
| TNZ |       |    |    |         |     |      |     | 5.48 | 243 |     | 4.8 |     |   |   |
| MNG | Pn    | 19 | 54 | 10      |     | -2.9 |     | 5.51 | 226 |     | 4.3 | 4.4 |   |   |
|     | Sn    |    |    | 55 12   |     | -2.0 |     |      |     |     |     |     |   |   |
| WEL |       |    |    |         |     |      |     | 6.35 | 225 | 4.3 |     |     |   |   |

|             |     |     |     |     |      |     |     |     |     |
|-------------|-----|-----|-----|-----|------|-----|-----|-----|-----|
| COB         |     |     |     |     | 7.48 | 233 |     |     | 4.0 |
| KAI         |     |     |     |     | 9.10 | 229 |     | 4.3 |     |
| GPZ         |     |     |     |     | 9.16 | 220 |     | 4.6 |     |
| AMPLITUDES: | ECZ | 2.9 | 4.5 | GNZ | 2.7  | 7.0 | WTZ | 2.3 | 2.9 |
|             | TRZ | 0.6 | 0.9 | TNZ | 0.2  |     | MNG | 1.1 | 2.0 |
|             | WEL | 0.2 |     | COB |      | 0.4 | KAI | 0.1 |     |
|             | GPZ | 0.3 |     |     |      |     |     |     |     |

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SEP 22    23<sup>h</sup>08<sup>m</sup>18<sup>s</sup>.2    39°.46S    174°.30E    219 km    M = 4.5  
                 ± 0.9            0.04            0.05            6    S.E. of RES. 1.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|-----|-----|
| TNZ | P     | 23 | 08 | 48      |     | 0.9  | 100 | 0.28 | 13  |      |     |     |
|     | S     |    | 09 | 10.5    |     | 1.2  | 100 |      |     |      |     |     |
| CNZ | iP    | 23 | 08 | 50.8    |     | 0.7  | 100 | 1.00 | 75  |      |     |     |
| GSZ | P     | 23 | 08 | 51.0    |     | 0.8  |     | 1.02 | 80  |      |     |     |
|     | S     |    | 09 | 14.5    |     | -0.5 | 100 |      |     |      |     |     |
| MNG | iP    | 23 | 08 | 53.9    | U   | 0.3  | 100 | 1.48 | 142 |      |     |     |
|     | (S)   |    | 09 | 18.5    |     | -2.5 |     |      |     |      |     |     |
| KRP | iP    | 23 | 08 | 56.7    | D   | 0.1  | 100 | 1.82 | 33  |      |     |     |
| WEL | P     | 23 | 08 | 58      |     | 0.9  | 100 | 1.86 | 169 | 4.5  |     |     |
|     | S     |    | 09 | 26      |     | -1.1 | 100 |      |     |      |     |     |
| TRZ | P     | 23 | 08 | 58.6    | D   | 0.5  | 100 | 1.95 | 94  |      | 4.1 | 4.9 |
|     | S     |    | 09 | 30      |     | 1.3  | 100 |      |     |      |     |     |
| COB | iP    | 23 | 08 | 59.0    |     | 0.3  | 100 | 2.02 | 216 |      |     |     |
|     | S     |    | 09 | 28      |     | -1.9 | 99  |      |     |      |     |     |
| CAZ | iP    | 23 | 09 | 00.0    | U   | 0.9  | 100 | 2.06 | 135 |      |     |     |
|     | S     |    |    | 30.5    |     | -0.1 | 100 |      |     |      |     |     |
| TUA | P     | 23 | 09 | 01.5    |     | -0.1 | 100 | 2.31 | 75  |      | 4.3 | 4.7 |
|     | S     |    |    | 35      |     | -0.2 | 100 |      |     |      |     |     |
| WTZ | iP    | 23 | 09 | 03.1    | D   | -1.3 | 100 | 2.56 | 56  |      | 4.4 | 4.3 |
|     | S     |    |    | 38      |     | -2.2 | 98  |      |     |      |     |     |
| GNZ | iP    | 23 | 09 | 09.0    | D   | -0.5 |     | 3.01 | 75  |      | 4.9 | 4.7 |
|     | S     |    |    | 48      |     | -1.2 |     |      |     |      |     |     |
| ECZ | P     | 23 | 09 | 18      |     | -0.4 |     | 3.77 | 63  |      | 4.6 | 4.4 |
|     | S     |    |    | 10 05   |     | -0.1 |     |      |     |      |     |     |
| KAI | S     | 23 | 10 | 02      |     | -3.0 |     | 3.77 | 215 | 3.7* |     |     |
| GPZ | P     | 23 | 09 | 25.5    |     | -0.9 |     | 4.41 | 196 | 4.3* |     |     |
|     | S     |    |    | 10 14.5 |     | -4.7 |     |      |     |      |     |     |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TNZ | 1.0 | 0.8 | WEL | 1.9 | TRZ | 0.6 | 7.0 |
|             | TUA | 0.8 | 1.9 | WTZ | 2.1 | 1.8 | GNZ | 5.0 |
|             | ECZ | 0.7 | 0.5 | KAI | 0.5 | GPZ | 2.8 |     |

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SEP 23    15<sup>h</sup>42<sup>m</sup>03<sup>s</sup>.8    36°.56s    179°.47w    12 km    M = 4.1  
                 ± 1.3            0.07            0.08    R    S.E. of RES. 0.8

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P*    | 15 | 42 | 38.5  |     | 0.3  | 100 | 1.95 | 234 |     | 4.3 | 4.4 |
|     | Sn    |    |    | 59.5  |     | -0.5 | 100 |      |     |     |     |     |
| WIZ | eSn   | 15 | 43 | 22.5  |     | 1.0  | 99  | 2.84 | 249 |     |     |     |
| GNZ | Pn    | 15 | 42 | 48    |     | -0.6 | 100 | 2.88 | 223 |     | 4.1 | 4.3 |
|     | Sn    |    |    | 43 22 |     | -0.4 | 100 |      |     |     |     |     |
| WTZ | Pn    | 15 | 42 | 53    |     | 0.5  | 100 | 3.17 | 242 |     | 4.1 | 4.2 |
|     | P*    |    |    | 43 02 |     | 3.0  |     |      |     |     |     |     |
|     | Sn    |    |    | 29.5  |     | 0.3  | 100 |      |     |     |     |     |
| TUA | Sn    | 15 | 43 | 38    |     | 0.7  | 100 | 3.50 | 229 |     |     | 4.2 |
| TRZ | e(P*) | 15 | 43 | 14.5  |     | -1.9 |     | 4.18 | 223 |     | 3.9 | 4.0 |





|             |     |          |      |         |      |     |         |     |     |
|-------------|-----|----------|------|---------|------|-----|---------|-----|-----|
|             | Pg  | 24       | -0.8 | 100     |      |     |         |     |     |
|             | Sn  | 49       | -1.2 | 99      |      |     |         |     |     |
| MNG         | Pn  | 05 24 21 | -1.6 |         | 5.64 | 223 |         | 4.1 | 4.2 |
|             | Sn  | 25 20    | -5.0 |         |      |     |         |     |     |
| WEL         |     |          |      |         | 6.49 | 222 | 4.0     |     |     |
| CIZ         |     |          |      |         | 7.70 | 164 |         |     |     |
| GPZ         |     |          |      |         | 9.31 | 218 | 4.4     |     |     |
| AMPLITUDES: | ECZ | 2.4 3.4  | GNZ  | 1.9 5.2 | WTZ  |     | 2.1 2.8 |     |     |
|             | TUA | 0.3 0.5  | TRZ  | 0.3 0.5 | MNG  |     | 0.7 1.1 |     |     |
|             | WEL | 0.1      | CIZ  | 0.4 0.8 | GPZ  | 0.2 |         |     |     |

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SEP 24 05<sup>h</sup>29<sup>m</sup>41<sup>s</sup>.2 36°.65s 179°.71w 12 km M = 3.8  
 ± 1.8 0.10 0.12 R S.E. of RES. 1.2

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| ECZ         | P*    | 05  | 30  | 13    |     | 0.9  | 100 | 1.74 | 233 |     | 3.8 | 3.8 |     |   |
|             | Sn    |     |     | 33    |     | 0.6  | 100 |      |     |     |     |     |     |   |
| GNZ         | Pn    | 05  | 30  | 22    |     | -1.3 | 100 | 2.68 | 222 |     | 3.9 | 3.9 |     |   |
|             | Sn    |     |     | 56    |     | 0.9  | 100 |      |     |     |     |     |     |   |
| WTZ         | Pn    | 05  | 30  | 26    |     | -1.0 | 100 | 2.95 | 242 |     | 3.8 | 4.0 |     |   |
|             | Pg    |     |     | 37.5  |     | -3.4 |     |      |     |     |     |     |     |   |
|             | Sn    |     |     | 31 01 |     | -0.5 | 100 |      |     |     |     |     |     |   |
| TUA         |       |     |     |       |     |      |     | 3.29 | 228 |     |     |     | 3.8 |   |
| TRZ         | Sn    | 05  | 31  | 25.5  |     | -0.9 | 100 | 3.99 | 222 |     |     |     | 3.7 |   |
| KRP         | ePn   | 05  | 30  | 43    |     | 1.7  | 99  | 4.00 | 250 |     |     |     |     |   |
|             | Sn    |     |     | 31 26 |     | -0.7 | 100 |      |     |     |     |     |     |   |
| MNG         | ePn   | 05  | 31  | 00    |     | -1.3 |     | 5.47 | 222 |     | 3.5 | 3.8 |     |   |
|             | Sn    |     |     | 32 00 |     | -1.9 |     |      |     |     |     |     |     |   |
| AMPLITUDES: | ECZ   | 0.4 | 0.6 | GNZ   | 0.9 | 1.4  | WTZ | 0.8  | 1.0 |     |     |     |     |   |
|             | TUA   | 0.2 | TRZ | 0.2   | MNG | 0.2  | 0.5 |      |     |     |     |     |     |   |

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SEP 24 05<sup>h</sup>30<sup>m</sup>29<sup>s</sup>.2 36°.55s 179°.70w 12 km M = 3.8  
 ± R R R R S.E. of RES. 0.9

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| ECZ         | Sn    | 05  | 31  | 21    |     | -1.0 | 100 | 1.81 | 230 |     |     |     | 3.9 |   |
| GNZ         | Sn    | 05  | 31  | 46    |     | 1.0  | 100 | 2.76 | 220 |     |     |     | 3.7 |   |
| WTZ         | Sn    | 05  | 31  | 51    |     | 0.2  | 100 | 3.01 | 241 |     | 3.8 | 3.9 |     |   |
| TUA         |       |     |     |       |     |      |     | 3.37 | 227 |     |     |     | 3.8 |   |
| KRP         | Sn    | 05  | 32  | 15    |     | -0.7 | 100 | 4.04 | 249 |     |     |     |     |   |
| TRZ         | Sn    | 05  | 32  | 17    |     | 0.7  | 100 | 4.07 | 221 |     |     |     | 3.8 |   |
| MNG         | Pn    | 05  | 31  | 47    |     | -3.4 |     | 5.55 | 221 |     | 3.7 | 3.8 |     |   |
|             | Sn    |     |     | 32 48 |     | -3.9 |     |      |     |     |     |     |     |   |
| WEL         | Sn    | 05  | 33  | 06    |     | -6.4 |     | 6.41 | 221 | 4.0 |     |     |     |   |
| AMPLITUDES: | ECZ   | 0.6 | GNZ | 0.9   | WTZ | 0.7  | 0.8 |      |     |     |     |     |     |   |
|             | TUA   | 0.2 | TRZ | 0.2   | MNG | 0.2  | 0.5 |      |     |     |     |     |     |   |
|             | WEL   | 0.1 |     |       |     |      |     |      |     |     |     |     |     |   |

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SEP 25 04<sup>h</sup>13<sup>m</sup>22<sup>s</sup>.8 36°.66s 179°.59w 12 km M = 3.9  
 ± 1.2 0.07 0.11 R S.E. of RES. 0.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| ECZ | P*    | 04 | 13 | 54.5 |     | -0.4 | 100 | 1.82 | 235 |     | 4.2 |     |   |   |
|     | Pg    |    |    | 56.5 |     | -3.0 |     |      |     |     |     |     |   |   |
| GNZ | Pn    | 04 | 14 | 05   |     | -0.8 | 100 | 2.74 | 223 |     | 4.0 | 4.1 |   |   |
|     | Pg    |    |    | 15   |     | -3.3 |     |      |     |     |     |     |   |   |

|             |      |    |    |         |      |     |      |     |  |     |     |  |
|-------------|------|----|----|---------|------|-----|------|-----|--|-----|-----|--|
|             | Sn   |    | 38 |         | -0.1 | 100 |      |     |  |     |     |  |
| WTZ         | Pn   | 04 | 14 | 09.5    | -0.2 | 100 | 3.04 | 243 |  | 4.0 | 3.8 |  |
|             | Pg   |    |    | 26      | 1.8  |     |      |     |  |     |     |  |
|             | eSn  |    |    | 44.5    | -0.6 | 100 |      |     |  |     |     |  |
| TRZ         | Sn   | 04 | 15 | 10      | 0.5  | 100 | 4.05 | 223 |  |     | 3.9 |  |
| KRP         | Pn   | 04 | 14 | 25      | 0.9  | 99  | 4.09 | 250 |  |     |     |  |
|             | e(S) |    |    | 15 09.5 | -0.9 |     |      |     |  |     |     |  |
| MNG         | ePn  | 04 | 14 | 41      | -2.7 |     | 5.53 | 223 |  | 3.7 | 3.7 |  |
|             | Sn   |    |    | 15 43   | -2.0 |     |      |     |  |     |     |  |
| CIZ         | Sn   | 04 | 16 | 35      | -1.0 |     | 7.65 | 163 |  |     |     |  |
| AMPLITUDES: | ECZ  |    |    | 1.0     | GNZ  | 1.1 | 2.1  | WTZ |  | 1.1 | 0.7 |  |
|             | TRZ  |    |    | 0.3     | MNG  | 0.3 | 0.4  |     |  |     |     |  |

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SEP 25 04<sup>h</sup>53<sup>m</sup>15<sup>s</sup>.5 36°.65s 179°.56W 12 km M = 3.9  
 $\pm 1.3$  0.08 0.09 R S.E. of RES. 1.0

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | P*    | 04 | 53 | 49      |     | 0.9  | 100 | 1.84 | 235 |     | 4.0 | 4.1 |
|             | S*    |    |    | 54 13   |     | 0.7  | 100 |      |     |     |     |     |
| GNZ         | Pn    | 04 | 53 | 58      |     | -0.8 | 100 | 2.77 | 223 |     | 3.9 | 4.1 |
|             | P*    |    |    | 54 04   |     | 0.1  |     |      |     |     |     |     |
|             | Sn    |    |    | 31      |     | -0.4 | 100 |      |     |     |     |     |
| WTZ         | Pn    | 04 | 54 | 02.5    |     | -0.3 | 100 | 3.06 | 243 |     | 3.9 | 4.0 |
|             | P*    |    |    | 07      |     | -1.9 |     |      |     |     |     |     |
|             | eSn   |    |    | 37.5    |     | -0.9 | 100 |      |     |     |     |     |
| TUA         | Sn    | 04 | 54 | 49      |     | 2.8  |     | 3.38 | 229 |     |     | 3.8 |
| TRZ         | Sn    | 04 | 55 | 02.5    |     | -0.2 | 100 | 4.07 | 223 |     |     | 3.9 |
| KRP         | P*    | 04 | 54 | 28      |     | 1.1  | 99  | 4.11 | 250 |     |     |     |
|             | Sn    |    |    | 55 02.5 |     | -1.2 | 99  |      |     |     |     |     |
| MNG         | ePn   | 04 | 54 | 35.5    |     | -1.3 |     | 5.55 | 223 |     | 3.5 | 4.0 |
|             | Sn    |    |    | 55 37   |     | -1.3 |     |      |     |     |     |     |
| WEL         | Sn    | 04 | 55 | 53.5    |     | -5.3 |     | 6.41 | 222 | 4.0 |     |     |
| CIZ         | Sn    | 04 | 56 | 28      |     | -0.8 |     | 7.66 | 164 |     |     |     |
| AMPLITUDES: | ECZ   |    |    | 0.6     | 1.0 | GNZ  | 0.9 | 2.0  | WTZ |     | 0.9 | 1.0 |
|             | TUA   |    |    |         | 0.2 | TRZ  |     | 0.3  | MNG |     | 0.2 | 0.7 |
|             | WEL   |    |    | 0.1     |     |      |     |      |     |     |     |     |

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SEP 26 23<sup>h</sup>16<sup>m</sup>17<sup>s</sup>.9 45°.16s 167°.44E 33 km M = 3.8  
 $\pm 1.0$  0.04 0.09 R S.E. of RES. 1.3

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ         | Pn    | 23 | 16 | 31.1    |     | 1.6  | 99  | 0.59 | 35  |     |     |     |
|             | e(Sn) |    |    | 40.5    |     | 2.4  |     |      |     |     |     |     |
| ROX         | Pn    | 23 | 16 | 40.1    |     | 0.1  | 100 | 1.37 | 104 |     | 4.1 | 3.7 |
|             | eSn   |    |    | 58      |     | 1.4  | 100 |      |     |     |     |     |
| OBZ         | Pn    | 23 | 16 | 45.5    |     | -0.6 | 100 | 1.81 | 165 |     |     |     |
|             | Sn    |    |    | 17 08   |     | 0.7  | 100 |      |     |     |     |     |
| GSP         | Pn    | 23 | 16 | 49.7    | U   | -0.5 | 100 | 2.11 | 62  |     |     |     |
|             | Sn    |    |    | 17 16   |     | 1.5  | 99  |      |     |     |     |     |
| MJZ         | Pn    | 23 | 16 | 53.5    |     | -1.5 | 100 | 2.46 | 63  |     | 3.6 | 3.6 |
|             | Sn    |    |    | 17 22.5 |     | -0.4 | 100 |      |     |     |     |     |
| OMZ         | Pn    | 23 | 16 | 54.1    | D   | -0.9 | 100 | 2.47 | 89  |     | 3.8 | 4.0 |
|             | Sn    |    |    | 17 21.5 |     | -1.5 | 100 |      |     |     |     |     |
| GPZ         | Sn    | 23 | 18 | 01      |     | 0.9  |     | 4.00 | 70  | 3.7 |     |     |
| COB         | Sn    | 23 | 18 | 38      |     | -0.9 |     | 5.62 | 45  |     |     | 3.7 |
| AMPLITUDES: | ROX   |    |    | 4.0     | 3.5 | MJZ  | 1.2 | 2.2  | OMZ |     | 0.6 | 1.9 |

|             |       | GPZ 0.2                                            |     |      | COB     |       |     | 0.3      |     |     | 77/ 618            |      |     |
|-------------|-------|----------------------------------------------------|-----|------|---------|-------|-----|----------|-----|-----|--------------------|------|-----|
| SEP 27      |       | 05 <sup>h</sup> 40 <sup>m</sup> 53 <sup>s</sup> .6 |     |      | 34°.56s |       |     | 179°.23w |     |     | 33 km M = 4.3      |      |     |
|             |       | ± 0.9                                              |     |      | 0.05    |       |     | 0.08     |     |     | R S.E. of RES. 0.7 |      |     |
| STN         | PHASE | H                                                  | M   | S    | DIR     | RES   | WT  | DIST     | AZ  | W-A | W                  | P    | W S |
| ECZ         | P*    | 05                                                 | 41  | 56.5 |         | 0.1   | 100 | 3.61     | 209 |     | 4.4                | 4.5  |     |
| WIZ         | (Pn)  | 05                                                 | 41  | 54   |         | 0.2   | 100 | 4.15     | 223 |     |                    |      |     |
|             | (Sn)  |                                                    | 42  | 33   |         | -6.2  |     |          |     |     |                    |      |     |
| WTZ         | Pn    | 05                                                 | 41  | 58.7 |         | -1.0  | 99  | 4.58     | 221 |     | 4.2                | 4.1  |     |
|             | P*    |                                                    | 42  | 08   |         | -4.9  |     |          |     |     |                    |      |     |
| GNZ         | Pn    | 05                                                 | 42  | 00.5 |         | 0.0   | 100 | 4.63     | 208 |     | 4.3                | 4.2  |     |
|             | Sn    |                                                    |     | 51.5 |         | 0.5   | 100 |          |     |     |                    |      |     |
|             | S*    |                                                    | 43  | 07   |         | -7.1  |     |          |     |     |                    |      |     |
| TUA         | (Sn)  | 05                                                 | 42  | 57   |         | -6.1  |     | 5.14     | 213 |     | 4.2                | 4.3  |     |
|             | eS*   |                                                    | 43  | 24   |         | -5.3  |     |          |     |     |                    |      |     |
| ONE         | ePn   | 05                                                 | 42  | 11.5 |         | 0.8   | 99  | 5.39     | 255 |     |                    |      |     |
| KRP         | Pn    | 05                                                 | 42  | 10.5 |         | -0.4  | 100 | 5.40     | 230 |     |                    |      |     |
|             | (Sn)  |                                                    | 43  | 09   |         | -0.3  | 100 |          |     |     |                    |      |     |
| TRZ         | S*    | 05                                                 | 43  | 47.5 |         | -4.5  |     | 5.90     | 211 |     |                    | 3.8  |     |
| TNZ         |       |                                                    |     |      |         |       |     | 6.89     | 226 |     | 4.8                |      |     |
| MNG         | P*    | 05                                                 | 42  | 51   |         | -9.2  |     | 7.36     | 213 |     | 4.2                | 4.3  |     |
|             | eSn   |                                                    | 43  | 50   |         | -6.5  |     |          |     |     |                    |      |     |
|             | S*    |                                                    | 44  | 19   |         | -16.7 |     |          |     |     |                    |      |     |
| COB         |       |                                                    |     |      |         |       |     | 9.11     | 222 |     | 4.5                | 4.1  |     |
| CIZ         |       |                                                    |     |      |         |       |     | 9.61     | 168 |     |                    |      |     |
| GPZ         |       |                                                    |     |      |         |       |     | 11.09    | 212 |     |                    | 3.9* |     |
| AMPLITUDES: |       | ECZ                                                | 0.4 | 0.6  | WTZ     | 0.8   | 0.6 | GNZ      | 0.7 | 1.0 |                    |      |     |
|             |       | TUA                                                | 0.2 | 0.3  | TRZ     | 0.1   |     | TNZ      | 0.1 |     |                    |      |     |
|             |       | MNG                                                | 0.6 | 0.9  | COB     | 0.2   | 0.3 | CIZ      | 0.3 |     |                    |      |     |
|             |       | GPZ                                                | 0.1 |      |         |       |     |          |     |     |                    |      |     |

|             |       | 14 <sup>h</sup> 39 <sup>m</sup> 16 <sup>s</sup> .7 |     |      | 37°.51s |      |     | 178°.11E |     |      | 83 km M = 3.6      |     |     |
|-------------|-------|----------------------------------------------------|-----|------|---------|------|-----|----------|-----|------|--------------------|-----|-----|
|             |       | ± 0.9                                              |     |      | 0.04    |      |     | 0.04     |     |      | 7 S.E. of RES. 0.9 |     |     |
| STN         | PHASE | H                                                  | M   | S    | DIR     | RES  | WT  | DIST     | AZ  | W-A  | W                  | P   | W S |
| ECZ         | iP    | 14                                                 | 39  | 30.2 | U       | -0.1 | 100 | 0.39     | 118 |      | 3.3                | 3.3 |     |
|             | S     |                                                    |     | 41.5 |         | 0.7  | 100 |          |     |      |                    |     |     |
| WIZ         | P     | 14                                                 | 39  | 33.3 | U       | -0.0 | 100 | 0.73     | 268 |      |                    |     |     |
| WTZ         | iP    | 14                                                 | 39  | 36.5 | D       | 0.1  | 100 | 1.01     | 242 |      | 4.2                | 3.7 |     |
|             | S     |                                                    |     | 50.5 |         | -0.8 | 100 |          |     |      |                    |     |     |
| GNZ         | iP    | 14                                                 | 39  | 37.3 | U       | -0.7 | 100 | 1.13     | 183 |      | 3.5                | 3.5 |     |
|             | S     |                                                    |     | 53.5 |         | -0.5 | 100 |          |     |      |                    |     |     |
| TUA         | iP    | 14                                                 | 39  | 43.3 | D       | 0.6  | 100 | 1.50     | 210 |      | 3.9                | 3.9 |     |
|             | S     |                                                    | 40  | 02   |         | -0.3 | 100 |          |     |      |                    |     |     |
| KRP         | iP    | 14                                                 | 39  | 51.0 | D       | 0.6  | 100 | 2.08     | 258 |      |                    |     |     |
|             | S     |                                                    | 40  | 15.5 |         | 0.1  | 100 |          |     |      |                    |     |     |
| TRZ         | P     | 14                                                 | 39  | 52   |         | -1.1 | 99  | 2.28     | 206 |      | 3.3                | 3.4 |     |
|             | S     |                                                    | 40  | 22   |         | 1.8  | 96  |          |     |      |                    |     |     |
| MNG         |       |                                                    |     |      |         |      |     | 3.72     | 213 |      | 3.1                | 3.6 |     |
| WEL         |       |                                                    |     |      |         |      |     | 4.58     | 213 | 3.7  |                    |     |     |
| GPZ         |       |                                                    |     |      |         |      |     | 7.45     | 212 | 3.0* |                    |     |     |
| AMPLITUDES: |       | ECZ                                                | 1.8 | 1.8  | WTZ     | 10   | 3.5 | GNZ      | 1.8 | 2.6  |                    |     |     |
|             |       | TUA                                                | 1.0 | 1.1  | TRZ     | 0.1  | 0.3 | MNG      | 0.2 | 0.7  |                    |     |     |
|             |       | WEL                                                | 0.1 |      | GPZ     | 0.1  |     |          |     |      |                    |     |     |

SEP 27 20<sup>h</sup>27<sup>m</sup>14<sup>s</sup>.2 36°.84s 179°.26w 12 km 77/ 620  
 $\pm 1.7$  0.07 0.15 R S.E. of RES. 1.1 M = 4.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P*    | 20 | 27 | 47.5    |     | -1.1 | 100 | 1.94 | 243 |     | 4.7 | 4.6 |
| GNZ | Pn    | 20 | 27 | 58      |     | -0.0 | 100 | 2.81 | 229 |     | 4.6 | 4.6 |
|     | (P*)  |    |    | 28 08   |     | 4.7  |     |      |     |     |     |     |
|     | Sn    |    |    | 31.5    |     | 0.4  | 100 |      |     |     |     |     |
| WIZ | Pn    | 20 | 27 | 58.5    |     | -1.0 | 100 | 2.92 | 255 |     |     |     |
|     | (P*)  |    |    | 28 09   |     | 3.8  |     |      |     |     |     |     |
| WTZ | iPn   | 20 | 28 | 02.7    | D   | -0.7 | 100 | 3.20 | 248 |     | 4.5 | 4.6 |
|     | Sn    |    |    | 40      |     | -0.5 | 100 |      |     |     |     |     |
| TUA | (P*)  | 20 | 28 | 18      |     | 3.6  |     | 3.46 | 234 |     | 4.3 | 4.4 |
|     | Sn    |    |    | 46      |     | -0.6 | 100 |      |     |     |     |     |
| TRZ | Sn    | 20 | 29 | 04      |     | 1.7  | 99  | 4.11 | 228 |     |     | 4.6 |
| CNZ | P*    | 20 | 28 | 40      |     | 3.9  |     | 4.73 | 239 |     |     |     |
| AUC | Pn    | 20 | 28 | 25.5    |     | 0.5  | 100 | 4.79 | 268 |     |     |     |
| ONE | Pn    | 20 | 28 | 33      |     | 1.5  | 99  | 5.26 | 280 |     |     |     |
| TNZ | (P*)  | 20 | 28 | 45      |     | -5.0 |     | 5.54 | 243 |     | 4.8 |     |
|     | (Pg)  |    |    | 57      |     | -9.3 |     |      |     |     |     |     |
| MNG | Pn    | 20 | 28 | 33.5    |     | -2.4 |     | 5.58 | 226 |     | 4.2 | 4.4 |
|     | P*    |    |    | 45      |     | -5.6 |     |      |     |     |     |     |
|     | Sn    |    |    | 29 35.5 |     | -2.2 |     |      |     |     |     |     |
| WEL |       |    |    |         |     |      |     | 6.43 | 224 | 4.4 |     |     |
| COB |       |    |    |         |     |      |     | 7.55 | 233 |     |     | 4.0 |
| GPZ |       |    |    |         |     |      |     | 9.23 | 220 | 4.4 |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 2.9 | 2.9 | GNZ | 3.8 | 6.0 | WTZ | 3.5 | 3.7 |
|             | TUA | 0.5 | 0.8 | TRZ |     | 1.3 | TNZ | 0.2 |     |
|             | MNG | 0.9 | 1.7 | WEL | 0.2 |     | COB |     | 0.4 |
|             | GPZ | 0.2 |     |     |     |     |     |     |     |

SEP 28 03<sup>h</sup>20<sup>m</sup>14<sup>s</sup>.7 37°.89s 176°.81E 126 km 77/ 621  
 $\pm 0.7$  0.03 0.03 5 S.E. of RES. 1.0 M = 4.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP    | 03 | 20 | 31.3    | U   | -0.8 | 100 | 0.17 | 123 |     |     |     |
|     | S     |    |    | 45.5    |     | 0.2  | 100 |      |     |     |     |     |
| WIZ | P     | 03 | 20 | 32.6    | D   | -0.6 | 100 | 0.48 | 40  |     |     |     |
|     | S     |    |    | 46      |     | -1.5 | 99  |      |     |     |     |     |
| TUA | P     | 03 | 20 | 36.6    | U   | -0.3 | 100 | 0.95 | 164 |     | 3.8 | 3.8 |
|     | S     |    |    | 53.5    |     | -0.3 | 100 |      |     |     |     |     |
|     | e     |    |    | 21 02   |     |      |     |      |     |     |     |     |
| KRP | iP    | 03 | 20 | 37.7    | DE  | 0.2  | 100 | 1.01 | 268 |     |     |     |
|     | S     |    |    | 56      |     | 1.3  | 99  |      |     |     |     |     |
| GNZ | iP    | 03 | 20 | 39.1    | U   | -0.5 | 100 | 1.21 | 128 |     | 4.3 | 4.0 |
|     | S     |    |    | 59      |     | 0.4  | 100 |      |     |     |     |     |
| ECZ | P     | 03 | 20 | 41.5    |     | -0.1 | 100 | 1.39 | 82  |     | 4.0 | 4.0 |
|     | S     |    |    | 21 04.5 |     | 2.4  | 90  |      |     |     |     |     |
| CNZ | P     | 03 | 20 | 44.7    |     | 0.3  | 100 | 1.64 | 217 |     |     |     |
|     | S     |    |    | 21 13.5 |     | 6.4  |     |      |     |     |     |     |
| TRZ | P     | 03 | 20 | 43.8    |     | -0.9 | 100 | 1.66 | 180 |     | 4.1 | 3.9 |
|     | S     |    |    | 21 08   |     | 0.5  | 100 |      |     |     |     |     |
|     | e     |    |    | 17      |     |      |     |      |     |     |     |     |
| AUC | iP    | 03 | 20 | 48.0    | U   | 0.2  | 100 | 1.92 | 302 |     |     |     |
| ONE | eP    | 03 | 21 | 01      |     | 0.5  |     | 2.89 | 316 |     |     |     |
| MNG | P     | 03 | 20 | 57.2    | U   | -3.7 |     | 2.92 | 200 |     | 3.9 | 4.4 |



|             |     |          |      |         |     |         |           |
|-------------|-----|----------|------|---------|-----|---------|-----------|
|             | S   | 21 32    | -3.8 |         |     |         |           |
| WEL         | S   | 03 21 50 | -5.6 | 3.74    | 204 | 4.4     |           |
| COB         | P   | 03 21 17 | -4.8 | 4.49    | 223 |         | 3.2* 3.2* |
|             | S   | 22 08.5  | -5.0 |         |     |         |           |
| KAI         |     |          |      | 6.21    | 220 | 3.4*    |           |
| GPZ         |     |          |      | 6.61    | 207 | 3.4*    |           |
| AMPLITUDES: | WTZ | 7.5 4.0  | TUA  | 1.3 1.2 | GNZ | 8.0 6.5 |           |
|             | ECZ | 1.1 1.2  | TRZ  | 1.1 1.6 | MNG | 1.9 6.5 |           |
|             | WEL | 0.7      | COB  | 0.2 0.8 | KAI | 0.2     |           |
|             | GPZ | 0.3      |      |         |     |         |           |

SEP 28 04<sup>h</sup>02<sup>m</sup>01<sup>s</sup>.9 36°.94s 179°.26w 12 km M = 4.4  
 ± 2.1 0.10 0.17 R S.E. of RES. 1.7

| STN         | PHASE | H       | M   | S       | DIR | RES     | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|---------|-----|---------|-----|---------|-----|------|-----|-----|-----|-----|
| ECZ         | P*    | 04      | 02  | 34      |     | -1.6    | 100 | 1.91 | 246 |     | 4.7 | 4.6 |
|             | eSn   |         |     | 54.5    |     | -2.5    |     |      |     |     |     |     |
| GNZ         | Pn    | 04      | 02  | 44      |     | -0.9    | 100 | 2.74 | 231 |     | 4.3 | 4.4 |
|             | Sn    |         | 03  | 17      |     | -0.2    | 100 |      |     |     |     |     |
| WIZ         | Pn    | 04      | 02  | 47      |     | 0.1     | 100 | 2.90 | 257 |     |     |     |
|             | (P*)  |         |     | 57      |     | 4.5     |     |      |     |     |     |     |
|             | Sn    |         | 03  | 22      |     | 1.1     | 100 |      |     |     |     |     |
| WTZ         | Pn    | 04      | 02  | 49      |     | -1.6    | 100 | 3.17 | 250 |     | 4.4 | 4.5 |
|             | (Pg)  |         | 03  | 10      |     | 4.1     |     |      |     |     |     |     |
|             | Sn    |         |     | 24      |     | -3.3    |     |      |     |     |     |     |
| TUA         | Pn    | 04      | 02  | 56      |     | 2.2     |     | 3.40 | 236 |     | 4.2 | 4.4 |
|             | ePg   |         | 03  | 10      |     | -0.6    |     |      |     |     |     |     |
|             | Sn    |         |     | 33      |     | 0.0     | 100 |      |     |     |     |     |
| TRZ         | (Pn)  | 04      | 03  | 07      |     | 4.4     |     | 4.04 | 229 |     | 4.2 | 4.5 |
|             | eSn   |         |     | 51      |     | 2.6     | 99  |      |     |     |     |     |
| KRP         | Pn    | 04      | 03  | 04.5    |     | -1.0    | 100 | 4.26 | 255 |     |     |     |
|             | P*    |         |     | 15      |     | -0.7    |     |      |     |     |     |     |
|             | Pg    |         |     | 27      |     | -1.0    |     |      |     |     |     |     |
|             | Sn    |         |     | 51      |     | -2.6    | 99  |      |     |     |     |     |
| AUC         | Pn    | 04      | 03  | 14      |     | 1.3     | 100 | 4.78 | 269 |     |     |     |
| ONE         | ePn   | 04      | 03  | 21.5    |     | 2.0     | 100 | 5.28 | 281 |     |     |     |
| MNG         | Pn    | 04      | 03  | 21      |     | -1.6    |     | 5.52 | 227 |     | 4.2 | 4.4 |
|             | Sn    |         | 04  | 20.5    |     | -3.3    |     |      |     |     |     |     |
| WEL         |       |         |     |         |     |         |     | 6.36 | 225 | 4.4 |     |     |
| COB         |       |         |     |         |     |         |     | 7.49 | 234 |     | 4.3 | 3.9 |
| KAI         |       |         |     |         |     |         |     | 9.10 | 229 | 4.3 |     |     |
| GPZ         |       |         |     |         |     |         |     | 9.15 | 220 | 4.6 |     |     |
| AMPLITUDES: | ECZ   | 2.9 3.1 | GNZ | 2.3 4.8 | WTZ | 2.4 2.7 |     |      |     |     |     |     |
|             | TUA   | 0.4 0.8 | TRZ | 0.4 1.0 | MNG | 0.9 1.8 |     |      |     |     |     |     |
|             | WEL   | 0.2     | COB | 0.2 0.3 | KAI | 0.1     |     |      |     |     |     |     |
|             | GPZ   | 0.3     |     |         |     |         |     |      |     |     |     |     |

SEP 28 04<sup>h</sup>38<sup>m</sup>51<sup>s</sup>.0 36°.93s 179°.26w 12 km M = 4.9  
 ± 0.8 0.04 0.07 R S.E. of RES. 0.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | Pn    | 04 | 39 | 23.0 | U   | 0.4  | 100 | 1.91 | 246 |     | 5.3 | 5.1 |
|     | Pg    |    |    | 34   |     | 4.4  |     |      |     |     |     |     |
|     | eSg   |    |    | 56.5 |     | 1.1  |     |      |     |     |     |     |
| GNZ | Pn    | 04 | 39 | 34.1 | U   | 0.0  | 100 | 2.75 | 231 |     | 4.8 | 4.9 |
|     | Sn    |    | 40 | 07   |     | 0.5  | 100 |      |     |     |     |     |
| WIZ | Pn    | 04 | 39 | 35   |     | -1.0 | 99  | 2.90 | 257 |     |     |     |

|             |      |            |     |         |     |         |     |     |     |
|-------------|------|------------|-----|---------|-----|---------|-----|-----|-----|
|             | (Pg) | 55         |     | 5.4     |     |         |     |     |     |
|             | Sn   | 40 10      |     | 0.0     | 100 |         |     |     |     |
|             | (Sg) | 31         |     | 2.3     |     |         |     |     |     |
| WTZ         | Pn   | 04 39 39.0 | U   | -0.7    | 100 | 3.17    | 249 | 4.9 | 5.0 |
|             | P*   | 47         |     | 0.8     |     |         |     |     |     |
|             | (Sn) | 40 15      |     | -1.5    |     |         |     |     |     |
| TUA         | ePn  | 04 39 43.5 |     | 0.5     | 100 | 3.40    | 235 | 4.6 | 5.0 |
|             | P*   | 53         |     | 2.7     |     |         |     |     |     |
|             | Sn   | 40 22.5    |     | 0.3     | 100 |         |     |     |     |
| TRZ         | Pn   | 04 39 52   |     | 0.2     | 100 | 4.05    | 228 | 4.6 | 5.1 |
|             | Sn   | 40 37      |     | -0.7    | 100 |         |     |     |     |
| KRP         | Pn   | 04 39 54   |     | -0.6    | 100 | 4.27    | 255 |     |     |
|             | (Pg) | 40 19.5    |     | 2.4     |     |         |     |     |     |
|             | (Sn) | 36         |     | -6.8    |     |         |     |     |     |
| ONE         | Pn   | 04 40 09.5 |     | 1.0     | 99  | 5.28    | 281 | 5.0 |     |
|             | Pg   | 38         |     | 0.3     |     |         |     |     |     |
| TNZ         | Pn   | 04 40 13.5 |     | 1.9     |     | 5.51    | 244 | 4.9 |     |
|             | P*   | 21         |     | -5.1    |     |         |     |     |     |
|             | Pg   | 37         |     | -5.2    |     |         |     |     |     |
| MNG         | Pn   | 04 40 09   |     | -2.8    |     | 5.52    | 227 | 4.8 | 4.8 |
|             | P*   | 22         |     | -4.4    |     |         |     |     |     |
|             | Sn   | 41 10      |     | -3.0    |     |         |     |     |     |
| WEL         |      |            |     |         |     | 6.36    | 225 | 4.8 |     |
| COB         |      |            |     |         |     | 7.50    | 234 | 4.6 | 4.4 |
| KAI         |      |            |     |         |     | 9.11    | 229 | 4.8 |     |
| GPZ         |      |            |     |         |     | 9.16    | 220 | 4.8 |     |
| AMPLITUDES: | ECZ  | 11 10      | GNZ | 7.5 15  | WTZ | 8.0 8.5 |     |     |     |
|             | TUA  | 1.0 3.0    | TRZ | 1.1 4.5 | ONE | 0.5     |     |     |     |
|             | TNZ  | 0.3        | MNG | 3.4 5.3 | WEL | 0.6     |     |     |     |
|             | COB  | 0.4 0.9    | KAI | 0.3     | GPZ | 0.5     |     |     |     |

SEP 28 06<sup>h</sup>57<sup>m</sup>45<sup>s</sup>.6 37°.37s 176°.54E 216 km M = 4.0  
 ± 0.7 0.05 0.05 5 S.E. of RES. 0.6

| STN         | PHASE | H       | M       | S   | DIR | RES     | WT  | DIST    | AZ  | W-A  | W P | W S  |
|-------------|-------|---------|---------|-----|-----|---------|-----|---------|-----|------|-----|------|
| WTZ         | P     | 06 58   | 15.4    |     | D   | -0.1    | 100 | 0.71    | 150 |      |     |      |
| KRP         | P     | 06 58   | 17      |     |     | 0.0     | 100 | 0.97    | 235 |      |     |      |
|             | S     |         | 41.5    |     |     | 0.1     | 100 |         |     |      |     |      |
| TUA         | S     | 06 58   | 48      |     |     | -0.6    | 99  | 1.51    | 162 |      |     | 3.7  |
| GNZ         | P     | 06 58   | 23.5    |     | U   | 0.5     | 100 | 1.73    | 138 |      | 4.1 | 4.1  |
|             | S     |         | 52      |     |     | 0.0     | 100 |         |     |      |     |      |
| TRZ         | P     | 06 58   | 27      |     |     | -0.6    | 99  | 2.19    | 174 |      | 3.7 | 3.8  |
|             | S     |         | 59 00.5 |     |     | 0.5     | 100 |         |     |      |     |      |
| MNG         | P     | 06 58   | 38.0    |     | U   | -2.6    |     | 3.35    | 194 |      | 4.2 | 4.1  |
|             | S     |         | 59 19   |     |     | -4.2    |     |         |     |      |     |      |
| WEL         | eS    | 06 59   | 34.5    |     |     | -6.1    |     | 4.15    | 199 |      |     |      |
| COB         | eS    | 06 59   | 50      |     |     | -3.9    |     | 4.75    | 217 |      |     | 2.3* |
| GPZ         | S     | 07 00   | 38      |     |     | -7.3    |     | 6.98    | 204 | 3.0* |     |      |
| AMPLITUDES: | TUA   |         |         | 0.3 | GNZ | 2.0 2.7 | TRZ | 0.2 0.6 |     |      |     |      |
|             | MNG   | 2.1 2.1 | COB     |     |     | 0.1     | GPZ | 0.1     |     |      |     |      |

SEP 28 07<sup>h</sup>53<sup>m</sup>28<sup>s</sup>.3 36°.93s 179°.33W 12 km M = 4.1  
 ± 1.0 0.07 0.06 R S.E. of RES. 1.0

| STN | PHASE | H     | M  | S | DIR | RES | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|----|---|-----|-----|-----|------|-----|-----|-----|-----|
| ECZ | Pn    | 07 54 | 00 |   |     | 0.8 | 100 | 1.85 | 245 |     | 4.4 | 4.2 |
|     | P*    |       | 02 |   |     | 0.8 | 100 |      |     |     |     |     |

|             |      |       |         |      |         |      |         |     |     |
|-------------|------|-------|---------|------|---------|------|---------|-----|-----|
| GNZ         | Sg   |       | 30      | -1.0 | 100     |      |         |     |     |
|             | Pn   | 07 54 | 10.5    | -0.3 | 100     | 2.71 | 230     | 4.1 | 4.2 |
| WIZ         | Sn   |       | 42      | -0.7 | 100     |      |         |     |     |
|             | Sn   | 07 54 | 46      | 0.0  | 100     | 2.84 | 257     |     |     |
| WTZ         | Pn   | 07 54 | 16      | -0.3 | 100     | 3.11 | 249     | 4.3 | 4.2 |
|             | (P*) |       | 26      | 3.4  |         |      |         |     |     |
| TUA         | Sn   |       | 52.5    | -0.0 | 100     |      |         |     |     |
|             | ePn  | 07 54 | 20      | 0.3  |         | 3.36 | 235     | 3.8 | 4.3 |
| TRZ         | Sn   |       | 58      | -0.4 | 100     |      |         |     |     |
|             | ePn  | 07 54 | 27.5    | -1.0 | 100     | 4.00 | 228     | 4.1 | 4.3 |
| KRP         | Sn   |       | 55 16   | 2.0  | 97      |      |         |     |     |
|             | Pn   | 07 54 | 30.5    | -0.7 | 100     | 4.20 | 255     |     |     |
| MNG         | P*   |       | 40      | -1.2 |         |      |         |     |     |
|             | Sn   |       | 55 20   | 1.2  | 99      |      |         |     |     |
| WEL         | Pn   | 07 54 | 46.5    | -2.1 |         | 5.48 | 226     | 3.9 | 4.2 |
|             | Sn   |       | 55 46   | -3.3 |         |      |         |     |     |
| COB         |      |       |         |      |         | 6.33 | 225     | 4.0 |     |
| GPZ         |      |       |         |      |         | 7.45 | 234     |     | 3.7 |
|             |      |       |         |      |         | 9.13 | 220     | 4.4 |     |
| AMPLITUDES: |      | ECZ   | 1.5 1.1 | GNZ  | 1.3 2.7 | WTZ  | 1.9 1.5 |     |     |
|             |      | TUA   | 0.2 0.7 | TRZ  | 0.3 0.8 | MNG  | 0.5 1.3 |     |     |
|             |      | WEL   | 0.1     | COB  | 0.2     | GPZ  | 0.2     |     |     |

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SEP 29 15<sup>h</sup>08<sup>m</sup>32<sup>s</sup>.4 50°.09s 163°.93E 33 km M = 4.4  
 ± 1.1 0.09 0.20 R S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|-------|----|-----|---------|
| OBZ | Pn    | 15 | 09 | 34   |     | 0.3  | 100 | 4.23  | 43 |     |         |
|     | Sn    |    | 10 | 19   |     | -1.0 | 99  |       |    |     |         |
| MNW | Pn    | 15 | 09 | 44   |     | 0.2  | 100 | 4.98  | 31 | 4.2 | 5.1 4.5 |
|     | Sn    |    | 10 | 37.5 |     | -0.4 | 100 |       |    |     |         |
| ROX | Pn    | 15 | 09 | 55.8 |     | -0.3 | 100 | 5.88  | 40 |     | 4.7 4.3 |
|     | Sn    |    | 11 | 00   |     | 0.5  | 100 |       |    |     |         |
| MSZ | Pn    | 15 | 09 | 57.5 |     | -1.1 | 99  | 6.07  | 28 |     | 4.8 4.3 |
|     | eSn   |    | 11 | 05   |     | 1.0  | 100 |       |    |     |         |
| OMZ | Pn    | 15 | 10 | 11   |     | 1.0  | 100 | 6.89  | 46 |     | 3.9 3.6 |
| GSP | Pn    | 15 | 10 | 14   |     | -1.1 |     | 7.26  | 37 |     |         |
|     | Sn    |    | 11 | 34   |     | 1.1  |     |       |    |     |         |
| MJZ | Sn    | 15 | 11 | 39   |     | -1.1 |     | 7.57  | 39 |     |         |
| COB | ePn   | 15 | 11 | 06   |     | 1.2  |     | 10.91 | 38 |     | 4.3     |

AMPLITUDES: MNW 0.3 5.0 2.5 ROX 0.9 0.8 MSZ 2.4 1.4  
 OMZ 0.1 0.1 COB 0.1

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SEP 29 19<sup>h</sup>05<sup>m</sup>57<sup>s</sup>.3 38°.49s 176°.35E 12 km M = 3.7  
 ± 0.5 0.03 0.04 R S.E. of RES. 1.5

| STN | PHASE | H  | M    | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|------|------|-----|------|-----|------|-----|-----|---------|
| WNZ | P*    | 19 | 06   | 02.0 | D   | -0.6 | 100 | 0.24 | 233 |     |         |
| TUA | iP*   | 19 | 06   | 08.8 | U   | -1.7 | 100 | 0.70 | 117 |     | 3.9 3.9 |
|     | S*    |    | 18   |      |     | -2.1 | 99  |      |     |     |         |
| WTZ | iP*   | 19 | 06   | 09.5 |     | -1.1 | 100 | 0.71 | 45  |     | 3.7     |
|     | e(S*) |    | 22   |      |     | 1.7  |     |      |     |     |         |
| KRP | P*    | 19 | 06   | 13   |     | 0.0  | 100 | 0.85 | 311 |     |         |
|     | Sg    |    | 27   |      |     | 0.8  | 100 |      |     |     |         |
| CNZ | P*    | 19 | 06   | 14.1 |     | -0.5 | 100 | 0.94 | 221 |     |         |
| GSZ | P*    | 19 | 06   | 14.5 |     | -0.8 |     | 0.99 | 217 |     |         |
|     | Pg    |    | 15.5 |      |     | -1.9 |     |      |     |     |         |

|             |       |       |         |     |      |     |      |     |     |     |     |  |  |
|-------------|-------|-------|---------|-----|------|-----|------|-----|-----|-----|-----|--|--|
|             | S*    |       | 29.5    |     | 0.9  |     |      |     |     |     |     |  |  |
| TRZ         | P*    | 19 06 | 17.6    | U   | -0.1 | 100 | 1.13 | 161 |     | 3.9 | 3.6 |  |  |
|             | eSg   |       | 37      |     | 1.6  | 100 |      |     |     |     |     |  |  |
| GNZ         | P*    | 19 06 | 23      |     | 2.0  | 99  | 1.32 | 97  |     | 3.5 | 3.7 |  |  |
|             | Sg    |       | 43.5    |     | 1.5  | 100 |      |     |     |     |     |  |  |
| MNG         | P*    | 19 06 | 39      |     | 2.4  |     | 2.23 | 197 |     | 3.8 | 3.5 |  |  |
|             | e(Sg) | 07    | 17.5    |     | 4.9  |     |      |     |     |     |     |  |  |
| COB         |       |       |         |     |      |     | 3.81 | 226 |     | 3.6 | 3.4 |  |  |
| AMPLITUDES: | WNZ   |       | 2.4     | TUA | 4.2  | 4.5 | WTZ  |     | 7.0 |     |     |  |  |
|             | TRZ   |       | 1.8 1.3 | GNZ | 1.1  | 2.8 | MNG  |     | 1.8 | 0.9 |     |  |  |
|             | COB   |       | 0.1 0.2 |     |      |     |      |     |     |     |     |  |  |

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SEP 30 08<sup>h</sup>28<sup>m</sup>18<sup>s</sup>.6 38°.37s 176°.00E 186 km M = 4.3  
 ± 0.8 0.04 0.05 6 S.E. of RES. 1.3

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|------|------|
| KRP         | P     | 08  | 28  | 46.1 |     | 1.6  | 100 | 0.58 | 321 |     | 3.8* | 3.0* |
|             | S     |     | 29  | 04.5 |     | 0.1  | 100 |      |     |     |      |      |
| WTZ         | P     | 08  | 28  | 44.9 |     | -1.2 | 100 | 0.87 | 64  |     | 4.3  | 3.9  |
|             | i     |     |     | 53.2 |     |      |     |      |     |     |      |      |
|             | iS    |     | 29  | 05.4 |     | -1.9 | 99  |      |     |     |      |      |
| GSZ         | P     | 08  | 28  | 48.0 |     | 1.3  | 100 | 0.96 | 199 |     |      |      |
|             | S     |     | 29  | 09.0 |     | 0.5  | 100 |      |     |     |      |      |
| TUA         | P     | 08  | 28  | 47.8 |     | 0.8  | 100 | 1.01 | 116 |     | 4.2  | 4.5  |
|             | S     |     | 29  | 09.0 |     | -0.0 | 100 |      |     |     |      |      |
| WIZ         | P     | 08  | 28  | 48.8 |     | -0.3 | 100 | 1.26 | 49  |     |      |      |
| TRZ         | P     | 08  | 28  | 51.8 |     | 2.0  | 99  | 1.35 | 152 |     | 4.0  | 4.7  |
|             | i     |     | 29  | 12.8 |     |      |     |      |     |     |      |      |
|             | S     |     |     | 15.1 |     | 1.2  | 100 |      |     |     |      |      |
| GNZ         | P     | 08  | 28  | 53.0 |     | 0.6  | 100 | 1.61 | 100 |     | 4.4  | 4.2  |
|             | S     |     | 29  | 17.0 |     | -1.4 | 100 |      |     |     |      |      |
| ECZ         | P     | 08  | 28  | 57.8 |     | 0.1  | 100 | 2.12 | 72  |     | 4.7  | 4.4  |
|             | eS    |     | 29  | 28   |     | 0.1  | 100 |      |     |     |      |      |
| MNG         | P     | 08  | 29  | 01.2 |     | 1.7  | 99  | 2.29 | 190 |     |      |      |
|             | S     |     |     | 31.8 |     | 0.7  | 100 |      |     |     |      |      |
| WEL         | P     | 08  | 29  | 08.3 |     | -0.6 | 100 | 3.07 | 198 | 4.0 |      |      |
|             | S     |     |     | 45   |     | -2.6 | 98  |      |     |     |      |      |
| COB         | eP    | 08  | 29  | 15.7 |     | -1.1 | 100 | 3.71 | 222 |     | 3.9* | 3.1* |
|             | i     |     |     | 17.2 |     |      |     |      |     |     |      |      |
|             | S     |     | 30  | 01.0 |     | -0.8 | 100 |      |     |     |      |      |
| KAI         | eS    | 08  | 30  | 37   |     | -4.5 |     | 5.44 | 219 |     |      | 3.0* |
| AMPLITUDES: | KRP   |     | 7.5 | 1.3  | WTZ | 5.2  | 2.3 | TUA  |     | 1.7 | 3.6  |      |
|             | TRZ   |     | 0.8 | 8.0  | GNZ | 4.6  | 4.6 | ECZ  |     | 2.5 | 1.4  |      |
|             | WEL   | 0.3 |     |      | COB | 1.3  | 0.8 | KAI  |     |     | 0.3  |      |

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SEP 30 19<sup>h</sup>21<sup>m</sup>36<sup>s</sup>.4 38°.56s 175°.67E 192 km M = 3.8  
 ± 1.2 0.05 0.07 9 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|-----|
| KRP | P     | 19 | 22 | 04.0 |     | 0.7  | 100 | 0.64 | 351 |     | 3.5* |     |
|     | S     |    |    | 24.0 |     | -0.1 | 100 |      |     |     |      |     |
| GSZ | P     | 19 | 22 | 05.8 |     | 2.1  | 99  | 0.72 | 185 |     |      |     |
| WTZ | P     | 19 | 22 | 05.3 |     | -1.6 | 100 | 1.19 | 61  |     | 3.5  | 3.3 |
|     | S     |    |    | 27.7 |     | -2.6 | 99  |      |     |     |      |     |
| TUA | eP    | 19 | 22 | 07.0 |     | 0.1  | 100 | 1.19 | 103 |     | 3.7  | 4.1 |
|     | S     |    |    | 30.7 |     | 0.3  | 100 |      |     |     |      |     |
| TRZ | P     | 19 | 22 | 10.0 |     | 1.9  | 99  | 1.34 | 138 |     | 4.3  | 4.0 |



|             |     |       |         |      |     |      |     |      |      |
|-------------|-----|-------|---------|------|-----|------|-----|------|------|
|             | S   |       | 33.5    | 0.8  | 100 |      |     |      |      |
| GNZ         | eP  | 19 22 | 13.0    | 0.0  | 100 | 1.84 | 93  | 3.4  | 3.9  |
|             | S   |       | 40.7    | -0.6 | 100 |      |     |      |      |
| MNG         | iP  | 19 22 | 16.9    | 1.7  | 100 | 2.06 | 184 | 4.2  | 3.9  |
|             | S   |       | 45.5    | 0.2  | 100 |      |     |      |      |
| WEL         | eP  | 19 22 | 25.0    | 1.1  | 100 | 2.81 | 194 | 3.7  |      |
|             | eS  |       | 59      | -1.4 | 100 |      |     |      |      |
| COB         | eP  | 19 22 | 30.5    | -0.3 | 100 | 3.39 | 221 | 3.4* | 2.9* |
|             | eS  |       | 23 13.0 | 0.0  | 100 |      |     |      |      |
| GPZ         | eS  | 19 24 | 01      | -2.8 | 98  | 5.62 | 203 | 3.2* |      |
| AMPLITUDES: |     |       |         |      |     |      |     |      |      |
|             | KRP |       | 3.5     | WTZ  | 0.7 | 0.5  | TUA | 0.5  | 1.2  |
|             | TRZ |       | 1.6     | 1.8  | GNZ | 0.4  | 1.7 | MNG  | 5.0  |
|             | WEL | 0.2   |         |      | COB | 0.4  | 0.5 | GPZ  | 0.2  |

OCT 01 06<sup>h</sup>34<sup>m</sup>29<sup>s</sup>.5 33°.04s 179°.36w 433 km M = 4.7  
 ± 1.7 0.18 0.43 13 S.E. of RES. 1.5

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A  | W    | P   | W    | S |
|-------------|-------|----|----|---------|-----|------|-----|-------|-----|------|------|-----|------|---|
| WTZ         | P     | 06 | 36 | 01.3    |     | -0.2 | 100 |       |     |      |      |     |      |   |
|             | e     |    |    | 37 08   |     |      |     |       |     |      |      |     |      |   |
|             | S     |    |    | 13.0    |     | -1.0 | 100 |       |     |      |      |     |      |   |
| GNZ         | eP    | 06 | 36 | 02.8    |     | -1.0 | 100 | 5.99  | 200 |      | 4.7  | 4.5 |      |   |
|             | e     |    |    | 06.8    |     |      |     |       |     |      |      |     |      |   |
|             | S     |    |    | 37 18.2 |     | 0.0  | 100 |       |     |      |      |     |      |   |
| KRP         | eP    | 06 | 36 | 09.7    |     | 1.2  | 100 | 6.42  | 219 |      | 3.4* |     |      |   |
| TRZ         | eP    | 06 | 36 | 17      |     | -0.1 | 100 | 7.20  | 204 |      | 4.8  | 4.7 |      |   |
|             | eS    |    |    | 37 45.0 |     | 2.9  | 95  |       |     |      |      |     |      |   |
| MNG         | P     | 06 | 36 | 33.0    |     | 0.0  | 100 | 8.63  | 207 |      | 4.5  | 4.4 |      |   |
|             | S     |    |    | 38 09.2 |     | -1.4 | 100 |       |     |      |      |     |      |   |
| WEL         | eS    | 06 | 38 | 27      |     | -0.9 | 100 | 9.48  | 208 | 4.7  |      |     |      |   |
| COB         | e(S)  | 06 | 38 | 51      |     | 7.8  |     | 10.22 | 216 |      |      |     | 3.3* |   |
| GPZ         | eS    | 06 | 39 | 27      |     | 0.2  | 100 | 12.36 | 208 | 3.6* |      |     |      |   |
| AMPLITUDES: |       |    |    |         |     |      |     |       |     |      |      |     |      |   |
|             | WTZ   |    |    | 2.5     |     | GNZ  | 0.8 | 0.8   | KRP |      | 0.5  |     |      |   |
|             | TRZ   |    |    | 0.3     | 0.5 | MNG  | 0.8 | 0.8   | WEL | 0.2  |      |     |      |   |
|             | COB   |    |    |         | 0.4 | GPZ  | 0.2 |       |     |      |      |     |      |   |

OCT 01 08<sup>h</sup>19<sup>m</sup>25<sup>s</sup>.1 36°.80s 179°.81w 169 km M = 4.1  
 ± 1.3 0.07 0.11 14 S.E. of RES. 1.2

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|---|---|
| ECZ         |       |    |    |       |     |      |     | 1.58 | 235 |     | 4.3  |     |   |   |
| GNZ         | P     | 08 | 20 | 07.0  |     | -0.9 | 100 | 2.52 | 222 |     | 3.8  | 4.0 |   |   |
|             | S     |    |    | 40.8  |     | -0.0 | 100 |      |     |     |      |     |   |   |
| WTZ         | P     | 08 | 20 | 11.5  |     | -0.0 | 100 | 2.81 | 244 |     | 4.3  | 4.2 |   |   |
|             | eS    |    |    | 46.5  |     | -0.7 | 100 |      |     |     |      |     |   |   |
| TUA         | e     | 08 | 20 | 26.8  |     |      |     | 3.13 | 229 |     | 4.3  |     |   |   |
| TRZ         | eP    | 08 | 20 | 24    |     | -0.3 | 100 | 3.82 | 223 |     | 4.2  | 4.0 |   |   |
|             | eS    |    |    | 21 12 |     | 2.0  | 98  |      |     |     |      |     |   |   |
| KRP         | eP    | 08 | 20 | 26.0  |     | 1.0  | 100 | 3.87 | 252 |     | 2.9* |     |   |   |
|             | eS    |    |    | 21 11 |     | -0.2 | 100 |      |     |     |      |     |   |   |
| MNG         | eP    | 08 | 20 | 44    |     | 0.4  | 100 | 5.30 | 223 |     | 3.6  | 3.7 |   |   |
|             | eS    |    |    | 21 45 |     | 0.6  | 100 |      |     |     |      |     |   |   |
| WEL         | eS    | 08 | 22 | 03    |     | -1.6 | 99  | 6.16 | 222 | 4.3 |      |     |   |   |
| AMPLITUDES: |       |    |    |       |     |      |     |      |     |     |      |     |   |   |
|             | ECZ   |    |    | 1.6   |     | GNZ  | 0.7 | 1.5  | WTZ |     | 1.5  | 1.4 |   |   |
|             | TUA   |    |    | 0.6   |     | TRZ  | 0.3 | 0.4  | KRP |     | 0.3  |     |   |   |
|             | MNG   |    |    | 0.3   | 0.4 | WEL  | 0.2 |      |     |     |      |     |   |   |

OCT 01 14<sup>h</sup>23<sup>m</sup>52<sup>s</sup>.6 38°.71s 175°.76E 166 km 77/ 632  
 ± 1.7 0.05 0.09 13 S.E. of RES. 1.8 M = 3.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|---------|
| GSZ | P     | 14 | 24 | 17.7 |     | 1.4  | 100 | 0.58 | 193 |      |         |
| KRP | P     | 14 | 24 | 17.2 |     | -0.4 | 100 | 0.80 | 347 |      | 3.3*    |
|     | S     |    |    | 37.0 |     | 0.1  | 100 |      |     |      |         |
| TUA | P     | 14 | 24 | 20.0 |     | 0.2  | 100 | 1.09 | 96  |      | 4.0 3.8 |
|     | S     |    |    | 40.5 |     | -0.3 | 100 |      |     |      |         |
| TRZ | P     | 14 | 24 | 21.7 |     | 1.1  | 100 | 1.18 | 136 |      | 4.1 3.5 |
|     | S     |    |    | 45.5 |     | 3.3  | 98  |      |     |      |         |
| WTZ | P     | 14 | 24 | 22.8 |     | 2.0  | 100 | 1.21 | 54  |      | 3.1 3.2 |
|     | eS    |    |    | 40.3 |     | -2.2 | 99  |      |     |      |         |
| GNZ | P     | 14 | 24 | 25.9 |     | -0.7 | 100 | 1.77 | 89  |      | 3.5 3.5 |
|     | S     |    |    | 51.1 |     | -1.5 | 100 |      |     |      |         |
| MNG | P     | 14 | 24 | 28.6 |     | 0.4  | 100 | 1.93 | 186 |      | 3.9 4.0 |
|     | S     |    |    | 54.3 |     | -1.4 | 100 |      |     |      |         |
| WEL | eS    | 14 | 25 | 10   |     | -1.8 | 100 | 2.69 | 196 | 3.9  |         |
| COB | e(S)  | 14 | 25 | 31   |     | 4.9  |     | 3.33 | 223 |      | 2.9*    |
| GPZ | eS    | 14 | 26 | 11   |     | -5.9 |     | 5.52 | 204 | 3.2* |         |

AMPLITUDES: KRP 2.1 TUA 1.3 0.7 TRZ 1.3 0.8  
 WTZ 0.3 0.4 GNZ 0.6 0.8 MNG 3.5 4.5  
 WEL 0.3 COB 0.5 GPZ 0.2

OCT 02 00<sup>h</sup>36<sup>m</sup>39<sup>s</sup>.4 35°.57s 178°.84E 259 km 77/ 633  
 ± 0.8 0.06 0.11 7 S.E. of RES. 0.8 M = 4.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| ECZ | S-P   |    |    | 34   |     | -0.7 | 100 | 2.13 | 186 |     | 4.3 4.3 |
| WIZ | P     | 00 | 37 | 26.0 |     | -0.3 | 100 | 2.37 | 214 |     |         |
| WTZ | P     | 00 | 37 | 30.8 |     | -0.2 | 100 | 2.83 | 211 |     | 4.5 4.6 |
|     | S     |    | 38 | 11.0 |     | -0.2 | 100 |      |     |     |         |
| GNZ | P     | 00 | 37 | 34.1 |     | -0.2 | 100 | 3.14 | 192 |     | 4.3     |
|     | S     |    | 38 | 18.5 |     | 1.4  | 98  |      |     |     |         |
| TUA | e     | 00 | 37 | 44   |     |      |     | 3.50 | 202 |     | 4.3 4.5 |
|     | eS    |    | 38 | 24   |     | -0.2 | 100 |      |     |     |         |
|     | e     |    | 38 | 34   |     |      |     |      |     |     |         |
| KRP | eP    | 00 | 37 | 39   |     | 0.2  | 100 | 3.55 | 227 |     | 2.9*    |
|     | e     |    | 38 | 35   |     |      |     |      |     |     |         |
| MNG | eP    | 00 | 38 | 04.0 |     | -0.6 | 100 | 5.70 | 207 |     | 3.9 4.2 |
|     | S     |    | 39 | 10.0 |     | -1.2 | 99  |      |     |     |         |
| WEL | eS    | 00 | 39 | 30   |     | -0.1 | 100 | 6.54 | 208 | 4.5 |         |
| COB | eS    | 00 | 39 | 48   |     | 0.7  | 100 | 7.31 | 219 |     | 3.0*    |

AMPLITUDES: ECZ 0.8 0.8 WTZ 1.8 2.5 GNZ 2.0  
 TUA 0.4 0.6 KRP 0.3 MNG 0.4 1.2  
 WEL 0.2 COB 0.3

OCT 02 03<sup>h</sup>39<sup>m</sup>22<sup>s</sup>.9 40°.31s 173°.57E 206 km 77/ 634  
 ± 0.7 0.07 0.10 8 S.E. of RES. 1.7 M = 5.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| COB | P     | 03 | 39 | 55.1 |     | 1.7  | 100 | 1.01 | 219 |     | 5.4*    |
|     | S     |    | 40 | 17.1 |     | 0.0  | 100 |      |     |     |         |
| WEL | P     | 03 | 39 | 58.4 |     | 2.5  | 99  | 1.33 | 137 | 5.6 |         |
|     | S     |    | 40 | 20.5 |     | -1.0 | 100 |      |     |     |         |

|             |      |            |      |         |      |         |      |      |
|-------------|------|------------|------|---------|------|---------|------|------|
| MNG         | P    | 03 39 58.5 | 1.3  | 100     | 1.49 | 103     |      |      |
| GSZ         | P    | 03 40 01.7 | 0.9  | 100     | 1.86 | 57      |      |      |
| KKY         | P    | 03 40 06.1 | 2.8  | 99      | 2.12 | 178     |      |      |
| WNZ         | P    | 03 40 08.7 | 0.3  | 100     | 2.58 | 50      | 5.8  |      |
| TRZ         | P    | 03 40 09.9 | 1.1  | 100     | 2.61 | 74      | 5.2  | 4.9  |
|             | e    | 50.2       |      |         |      |         |      |      |
| KAI         | P    | 03 40 12.2 | 1.9  | 100     | 2.74 | 216     | 4.9* |      |
|             | S    | 45.3       | -1.8 | 100     |      |         |      |      |
| KRP         | P    | 03 40 10.8 | -0.6 | 100     | 2.83 | 33      |      |      |
|             | e    | 14.0       |      |         |      |         |      |      |
| TUA         | P    | 03 40 15.0 | -0.1 | 100     | 3.15 | 63      | 5.7  | 5.6  |
|             | S    | 53.3       | -2.2 | 99      |      |         |      |      |
| GPZ         | P    | 03 40 20.0 | 1.3  | 100     | 3.46 | 191     |      |      |
|             | S    | 41 00.5    | -1.5 | 100     |      |         |      |      |
| WTZ         | P    | 03 40 18.7 | -1.0 | 100     | 3.53 | 50      | 5.0  | 5.3  |
|             | S    | 41 01.0    | -2.6 | 99      |      |         |      |      |
| GNZ         | P    | 03 40 23.2 | -0.2 | 100     | 3.82 | 66      |      |      |
|             | e(S) | 41 06      | -4.2 |         |      |         |      |      |
| ECZ         | S-P  | 54         | -1.2 | 100     | 4.68 | 58      | 5.8  | 5.6  |
| OMZ         | P    | 03 40 41.3 | 1.3  | 100     | 5.15 | 201     | 4.4* | 4.4* |
|             | eS   | 41 38      | -1.8 | 100     |      |         |      |      |
| ROX         | P    | 03 40 52.3 | 0.9  | 100     | 6.04 | 210     |      |      |
| MSZ         | P    | 03 40 51.8 | 0.3  | 100     | 6.04 | 222     | 4.8* | 4.8* |
|             | S    | 41 57.5    | -3.0 | 99      |      |         |      |      |
| MNW         | P    | 03 41 05.0 | 1.1  | 100     | 6.99 | 217     | 4.4* |      |
|             | S    | 42 20.0    | -2.7 | 99      |      |         |      |      |
| CIZ         | eP   | 03 41 24   | 4.6  |         | 8.19 | 120     |      |      |
|             | S    | 42 52      | 1.5  |         |      |         |      |      |
| AMPLITUDES: |      |            |      |         |      |         |      |      |
|             | COB  | 85         | WEL  | 34      | WNZ  | 2.6     |      |      |
|             | TRZ  | 4.8 6.0    | KAI  | 12      | TUA  | 12 9.7  |      |      |
|             | WTZ  | 5.0 10     | ECZ  | 8.7 5.8 | OMZ  | 3.0 6.0 |      |      |
|             | MSZ  | 14 29      | MNW  | 3.8     |      |         |      |      |

FELT: Wellington, Hutt Valley, and Northern suburbs (68) MM IV

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OCT 03 08<sup>h</sup>08<sup>m</sup>27<sup>s</sup>.4 38°.34s 176°.58E 261 km M = 3.9  
 $\pm 2.9$  0.28 0.34 24 S.E. of RES. 2.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|------|
| TUA | eP    | 08 | 09 | 02.5 |     | 0.4  | 100 | 0.65 | 136 |     | 3.9 | 3.9  |
|     | S     |    |    | 31   |     | 1.8  | 100 |      |     |     |     |      |
| GNZ | P     | 08 | 09 | 05.5 |     | 0.7  | 100 | 1.17 | 105 |     | 3.4 | 3.9  |
|     | S     |    |    | 29.9 |     | -3.9 | 97  |      |     |     |     |      |
| TRZ | e     | 08 | 09 | 33.2 |     |      |     | 1.22 | 171 |     |     | 3.7  |
|     | eS    |    |    | 36.0 |     | 1.6  | 100 |      |     |     |     |      |
| MNG | iP    | 08 | 09 | 15.9 |     | 0.8  | 100 | 2.43 | 200 |     | 4.3 | 3.9  |
|     | S     |    |    | 51.5 |     | -0.6 | 100 |      |     |     |     |      |
| WEL | eS    | 08 | 10 | 08   |     | 0.4  | 100 | 3.26 | 205 | 3.8 |     |      |
| COB | eS    | 08 | 10 | 22   |     | -1.5 | 100 | 4.04 | 226 |     |     | 2.9* |

AMPLITUDES: TUA 0.6 0.5 GNZ 0.4 1.7 TRZ 0.6  
MNG 4.0 2.2 WEL 0.1 COB 0.4

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OCT 04 02<sup>h</sup>53<sup>m</sup>21<sup>s</sup>.5 43°.26s 176°.45E 33 km M = 4.4  
 $\pm 0.9$  0.04 0.06 R S.E. of RES. 1.1

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|
| KKY         | eP    | 02  | 53  | 56.3 |     | 1.3  | 100 | 2.20 | 292 |     |     |     |
|             | e     |     |     | 58.0 |     |      |     |      |     |     |     |     |
|             | eS    |     | 54  | 21.7 |     | 1.4  | 99  |      |     |     |     |     |
|             | e     |     |     | 25.5 |     |      |     |      |     |     |     |     |
| WEL         | S     | 02  | 54  | 22.0 |     | -1.6 | 99  | 2.34 | 327 | 3.7 |     |     |
| CAZ         | P     | 02  | 53  | 57.8 |     | 0.5  | 100 | 2.36 | 356 |     |     |     |
|             | eS    |     | 54  | 23.8 |     | -0.4 | 100 |      |     |     |     |     |
|             | i     |     |     | 27.3 |     |      |     |      |     |     |     |     |
| MNG         | P     | 02  | 54  | 02.4 |     | -0.0 | 100 | 2.74 | 344 |     | 4.7 | 4.8 |
|             | S     |     |     | 33.4 |     | 0.1  | 100 |      |     |     |     |     |
| GPZ         | eP    | 02  | 54  | 02.5 |     | -0.8 | 100 | 2.81 | 260 | 4.2 |     |     |
|             | eS    |     |     | 33.0 |     | -1.9 | 99  |      |     |     |     |     |
| COB         | eP    | 02  | 54  | 13   |     | -0.0 | 100 | 3.52 | 307 |     |     | 4.1 |
|             | S     |     |     | 52.8 |     | 0.9  | 100 |      |     |     |     |     |
| TRZ         | eS    | 02  | 54  | 56.5 |     | -0.3 | 100 | 3.72 | 4   |     |     | 4.6 |
| KAI         | S     | 02  | 54  | 58.8 |     | 0.5  | 100 | 3.78 | 279 | 4.3 |     |     |
| GSZ         | P     | 02  | 54  | 21.9 |     | 1.8  | 99  | 4.03 | 350 |     |     |     |
|             | e(S)  |     | 55  | 08.7 |     | 4.3  |     |      |     |     |     |     |
| TNZ         | P     | 02  | 54  | 27.0 |     | 2.4  |     | 4.36 | 338 |     | 4.5 | 4.5 |
|             | e(S)  |     | 55  | 18.5 |     | 6.2  |     |      |     |     |     |     |
| TUA         | S     | 02  | 55  | 14.4 |     | -0.8 | 100 | 4.48 | 7   |     |     | 4.9 |
| GNZ         | S     | 02  | 55  | 22.2 |     | 0.2  | 100 | 4.77 | 15  |     |     | 4.3 |
| WTZ         | eS    | 02  | 55  | 31.0 |     | -3.5 |     | 5.29 | 5   |     |     | 4.4 |
| KRP         | e     | 02  | 54  | 47.8 |     |      |     | 5.38 | 352 |     | 4.4 |     |
| AMPLITUDES: |       | WEL | 0.4 |      | MNG |      | 11  | 17   | GPZ | 1.2 |     |     |
|             |       | COB |     | 2.0  | TRZ |      |     | 1.6  | KAI | 0.6 |     |     |
|             |       | TNZ | 0.5 | 0.8  | TUA |      |     | 1.3  | GNZ |     | 1.1 |     |
|             |       | WTZ |     | 0.8  | KRP | 0.4  |     |      |     |     |     |     |

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OCT 04 06<sup>h</sup>40<sup>m</sup>17<sup>s</sup>.0 31°.96S 179°.44W 367 km M = 5.3  
 ± 1.8 0.12 0.30 21 S.E. of RES. 2.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|-------|-----|-----|------|------|
| ECZ | eP    | 06 | 41 | 47.8 |     | -0.8 | 100 | 5.96  | 196 |     | 5.4  | 5.2  |
|     | i     |    |    | 52.8 |     |      |     |       |     |     |      |      |
|     | S     |    | 43 | 03   |     | 2.5  | 99  |       |     |     |      |      |
| ONE | eP    | 06 | 41 | 55   |     | 1.3  | 100 | 6.41  | 232 |     |      |      |
| WIZ | P     | 06 | 41 | 55.0 |     | -2.0 | 100 | 6.70  | 205 |     | 5.6  | 5.1  |
|     | i     |    |    | 59.3 |     |      |     |       |     |     |      |      |
|     | eS    |    | 43 | 13   |     | -2.6 | 99  |       |     |     |      |      |
| GNZ | eP    | 06 | 41 | 58.3 |     | -2.1 | 100 | 6.99  | 197 |     | 5.3  | 5.3  |
|     | i     |    | 42 | 03.0 |     |      |     |       |     |     |      |      |
|     | S     |    | 43 | 21.8 |     | 0.0  | 100 |       |     |     |      |      |
| KRP | eP    | 06 | 42 | 04.8 |     | 1.4  | 100 | 7.24  | 213 |     | 3.9* |      |
|     | i     |    |    | 08.2 |     |      |     |       |     |     |      |      |
| TUA | eP    | 06 | 42 | 07.0 |     | 2.0  | 100 | 7.39  | 201 |     | 5.1  | 5.3  |
|     | eS    |    | 43 | 32   |     | 1.9  | 100 |       |     |     |      |      |
| TRZ | eP    | 06 | 42 | 16   |     | 1.8  | 100 | 8.17  | 201 |     |      | 5.2  |
|     | eS    |    | 43 | 47.0 |     | 0.4  | 100 |       |     |     |      |      |
|     | e     |    |    | 51   |     |      |     |       |     |     |      |      |
| TNZ | e(P)  | 06 | 42 | 26.5 |     | 4.9  |     | 8.80  | 213 |     | 3.9* |      |
| MNG | eP    | 06 | 42 | 28.0 |     | -2.7 | 99  | 9.57  | 204 |     | 5.6  | 5.2  |
|     | i     |    |    | 31.8 |     |      |     |       |     |     |      |      |
|     | eS    |    | 44 | 15   |     | -1.5 | 100 |       |     |     |      |      |
| WEL | S     | 06 | 44 | 33   |     | -1.6 | 100 | 10.41 | 205 | 5.1 |      |      |
| COB | eP    | 06 | 42 | 49   |     | 0.3  | 100 | 11.08 | 212 |     | 4.2* | 3.5* |



|             |     |          |          |         |     |         |  |
|-------------|-----|----------|----------|---------|-----|---------|--|
| GPZ         | eS  | 44 48    | -0.8 100 |         |     |         |  |
|             | eS  | 06 45 38 | 2.1 100  | 13.28   | 206 | 3.8*    |  |
| AMPLITUDES: | ECZ | 1.7 1.1  | WTZ      | 5.3 1.8 | GNZ | 2.8 4.2 |  |
|             | KRP | 1.8      | TUA      | 0.7 1.1 | TRZ | 1.3     |  |
|             | TNZ | 0.3      | MNG      | 8.8 3.7 | WEL | 0.4     |  |
|             | COB | 0.8 0.7  | GPZ      | 0.3     |     |         |  |

OCT 04 07<sup>h</sup>40<sup>m</sup>34<sup>s</sup>.1 37°.44s 176°.69E 231 km M = 4.3  
 ± 1.0 0.06 0.06 6 S.E. of RES. 1.3

| STN         | PHASE | H     | M       | S | DIR | RES  | WT      | DIST | AZ  | W-A     | W P W S   |
|-------------|-------|-------|---------|---|-----|------|---------|------|-----|---------|-----------|
| WTZ         | P     | 07 41 | 03.9    |   |     | -1.3 | 100     | 0.59 | 157 |         | 4.1 3.8   |
|             | eS    |       | 26.5    |   |     | -2.8 | 96      |      |     |         |           |
| KRP         | P     | 07 41 | 07.3    |   |     | -0.1 | 100     | 1.03 | 242 |         | 3.0*      |
|             | eS    |       | 34.2    |   |     | 0.9  | 100     |      |     |         |           |
| TUA         | eP    | 07 41 | 10.5    |   |     | 0.4  | 100     | 1.41 | 165 |         | 4.0 4.2   |
|             | eS    |       | 38      |   |     | -0.1 | 100     |      |     |         |           |
| ECZ         | P     | 07 41 | 10.0    |   |     | -0.8 | 100     | 1.49 | 100 |         | 4.1 4.2   |
|             | S     |       | 41.2    |   |     | 2.1  | 99      |      |     |         |           |
| GNZ         | P     | 07 41 | 11.8    |   |     | 0.1  | 100     | 1.60 | 139 |         | 4.7 4.6   |
|             | S     |       | 40.6    |   |     | -0.1 | 100     |      |     |         |           |
| TRZ         | P     | 07 41 | 17.0    |   |     | 0.6  | 100     | 2.12 | 177 |         | 4.4 4.2   |
|             | eS    |       | 49.0    |   |     | -0.1 | 100     |      |     |         |           |
|             | e     |       | 54.8    |   |     |      |         |      |     |         |           |
| TNZ         | P     | 07 41 | 22.9    |   |     | 2.3  | 98      | 2.52 | 225 |         | 3.4*      |
| MNG         | P     | 07 41 | 28.8    |   |     | -0.6 | 100     | 3.31 | 196 |         | 4.6 4.6   |
|             | S     |       | 42 13.3 |   |     | 0.9  | 100     |      |     |         |           |
| WEL         | eP    | 07 41 | 38      |   |     | -1.2 | 100     | 4.12 | 201 | 4.2     |           |
|             | e     |       | 46      |   |     |      |         |      |     |         |           |
|             | eS    |       | 42 29   |   |     | -0.5 | 100     |      |     |         |           |
| COB         | P     | 07 41 | 46      |   |     | -1.0 | 100     | 4.77 | 219 |         | 3.6* 3.5* |
|             | i     |       | 42 42.0 |   |     |      |         |      |     |         |           |
|             | S     |       | 44.0    |   |     | 0.3  | 100     |      |     |         |           |
| AMPLITUDES: | WTZ   |       | 2.5 1.3 |   |     | KRP  | 0.7     | TUA  |     | 0.6 0.9 |           |
|             | ECZ   |       | 0.7 1.0 |   |     | GNZ  | 6.5 8.2 | TRZ  |     | 1.0 1.4 |           |
|             | TNZ   |       | 0.3     |   |     | MNG  | 5.2 7.2 | WEL  | 0.3 |         |           |
|             | COB   |       | 0.5 1.5 |   |     |      |         |      |     |         |           |

OCT 04 09<sup>h</sup>32<sup>m</sup>24<sup>s</sup>.6 44°.52s 167°.66E 12 km M = 4.3  
 ± 1.6 0.06 0.11 R S.E. of RES. 1.6

| STN         | PHASE | H     | M       | S | DIR | RES  | WT     | DIST | AZ  | W-A | W P W S |
|-------------|-------|-------|---------|---|-----|------|--------|------|-----|-----|---------|
| MSZ         | P*    | 09 32 | 31.0    |   |     | 1.2  | 100    | 0.23 | 129 |     |         |
| MNW         | P*    | 09 32 | 45.8    |   |     | -1.4 | 100    | 1.26 | 181 |     | 3.8 3.8 |
|             | S*    |       | 33 04.0 |   |     | 0.0  | 100    |      |     |     |         |
| ROX         | P*    | 09 32 | 51.2    |   |     | -0.5 | 100    | 1.52 | 130 |     |         |
|             | S*    |       | 33 12   |   |     | 0.2  | 100    |      |     |     |         |
| GSP         | ePn   | 09 32 | 53.2    |   |     | -0.6 | 100    | 1.74 | 78  |     |         |
|             | iP*   |       | 56.8    |   |     | 1.3  | 100    |      |     |     |         |
|             | S*    |       | 33 16   |   |     | -2.4 | 99     |      |     |     |         |
| OMZ         | eP*   | 09 33 | 09.0    |   |     | 2.5  | 99     | 2.38 | 104 |     | 4.7 5.1 |
|             | i     |       | 14      |   |     |      |        |      |     |     |         |
|             | i     |       | 47      |   |     |      |        |      |     |     |         |
| OBZ         | eS*   | 09 33 | 38      |   |     | -0.4 | 100    | 2.40 | 172 |     |         |
| KAI         |       |       |         |   |     |      |        | 3.38 | 55  | 3.9 |         |
| AMPLITUDES: | MNW   |       | 3.8 7.5 |   |     | OMZ  | 5.5 23 | OBZ  |     | 0.6 |         |

KAI 0.3

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OCT 04 10<sup>h</sup>20<sup>m</sup>36<sup>s</sup>.9 44°.60S 169°.78E 5 km M = 3.9  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| THP | Pg    | 10 | 20 | 39.2 |     | 0.1  | 100 | 0.10 | 53  |     |     |     |
| DMP | Pg    | 10 | 20 | 39.9 |     | -1.0 |     | 0.19 | 11  |     |     |     |
| TMP | Pg    | 10 | 20 | 44.4 |     | -0.2 |     | 0.38 | 40  |     |     |     |
| HHP | Pg    | 10 | 20 | 46.5 |     | -0.4 | 100 | 0.49 | 56  |     |     |     |
| GSP | Pg    | 10 | 20 | 46.2 |     | -0.9 | 100 | 0.50 | 20  |     |     |     |
|     | Sg    |    |    | 53.7 |     | -0.2 | 100 |      |     |     |     |     |
| HGP | Pg    | 10 | 20 | 46.4 |     | -0.7 |     | 0.50 | 6   |     |     |     |
| MMP | Pg    | 10 | 20 | 48.2 |     | -0.6 |     | 0.58 | 38  |     |     |     |
| BSP | Pg    | 10 | 20 | 51.3 |     | -1.2 |     | 0.77 | 18  |     |     |     |
| MJP | Pg    | 10 | 20 | 51.7 |     | -1.1 | 100 | 0.78 | 39  |     |     |     |
| MJZ | Pg    | 10 | 20 | 52.0 |     | -0.9 | 100 | 0.79 | 39  |     | 3.5 |     |
|     | eSg   |    | 21 | 05   |     | 1.4  | 99  |      |     |     |     |     |
| ROX | P*    | 10 | 20 | 55   |     | 0.3  | 100 | 0.93 | 200 |     |     |     |
| OMZ | P*    | 10 | 20 | 54.2 |     | -0.5 | 100 | 0.94 | 120 |     |     |     |
| MSZ | P*    | 10 | 21 | 01.2 |     | -0.3 | 100 | 1.33 | 267 |     |     |     |
|     | i     |    |    | 02.2 |     |      |     |      |     |     |     |     |
|     | S*    |    |    | 19.0 |     | -0.4 | 100 |      |     |     |     |     |
| MNW | ePn   | 10 | 21 | 10.0 |     | 0.3  | 100 | 1.93 | 232 |     | 4.5 | 4.1 |
|     | iP*   |    |    | 13.0 |     | 1.3  | 99  |      |     |     |     |     |
|     | S*    |    |    | 38.4 |     | 1.1  | 100 |      |     |     |     |     |
| GPZ | eP*   | 10 | 21 | 19   |     | 1.7  | 99  | 2.26 | 67  | 3.8 |     |     |
|     | e(S*) |    |    | 51   |     | 3.8  |     |      |     |     |     |     |
|     | e     |    |    | 58.0 |     |      |     |      |     |     |     |     |
| KAI | e(P*) | 10 | 21 | 23   |     | 3.4  |     | 2.39 | 30  | 3.7 |     |     |
| OBZ | eP*   | 10 | 21 | 23   |     | 0.2  | 100 | 2.58 | 206 |     |     |     |
|     | eS*   |    |    | 55   |     | -1.9 | 99  |      |     |     |     |     |
|     | e     |    |    | 58   |     |      |     |      |     |     |     |     |

AMPLITUDES: MJZ 10 MNW 7.5 7.0 GPZ 0.9  
 KAI 0.4 OBZ 0.5 1.4

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OCT 04 23<sup>h</sup>11<sup>m</sup>18<sup>s</sup>.2 44°.58S 169°.73E 5 km M = 3.5  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| THP | Pg    | 23 | 11 | 20.5 |     | -0.2 | 100 | 0.12 | 72  |     |     |     |
| DMP | Pg    | 23 | 11 | 22.2 |     | 0.2  |     | 0.18 | 22  |     |     |     |
| TMP | Pg    | 23 | 11 | 25.7 |     | -0.3 | 100 | 0.39 | 46  |     |     |     |
|     | Sg    |    |    | 31.1 |     | -0.1 | 100 |      |     |     |     |     |
| HGP | Pg    | 23 | 11 | 27.7 |     | -0.4 |     | 0.49 | 9   |     |     |     |
|     | Sg    |    |    | 34.8 |     | 0.1  |     |      |     |     |     |     |
| GSP | Pg    | 23 | 11 | 28.2 |     | 0.0  | 100 | 0.49 | 25  |     |     |     |
| HHP | Pg    | 23 | 11 | 27.9 |     | -0.6 | 100 | 0.50 | 60  |     |     |     |
|     | Sg    |    |    | 34.5 |     | -0.8 | 100 |      |     |     |     |     |
| MMP | Pg    | 23 | 11 | 29.5 |     | -0.6 |     | 0.58 | 42  |     |     |     |
| BSP | Pg    | 23 | 11 | 32.7 |     | -0.9 |     | 0.76 | 21  |     |     |     |
| MJZ | Pg    | 23 | 11 | 33.0 |     | -1.3 | 100 | 0.79 | 42  |     |     |     |
|     | Sg    |    |    | 47.2 |     | 2.2  | 98  |      |     |     |     |     |
|     | i     |    |    | 48.7 |     |      |     |      |     |     |     |     |
| MJP | Pg    | 23 | 11 | 33.1 |     | -1.0 | 100 | 0.79 | 42  |     |     |     |
| ROX | P*    | 23 | 11 | 37.0 |     | 0.9  | 100 | 0.94 | 198 |     | 3.6 |     |

|             |     |       |         |      |     |      |     |     |         |
|-------------|-----|-------|---------|------|-----|------|-----|-----|---------|
|             | S*  |       | 47.5    | -1.5 | 99  |      |     |     |         |
| OMZ         | P*  | 23 11 | 35.9    | -0.8 | 100 | 0.97 | 121 | 3.5 | 3.4     |
|             | eS* |       | 52      | 2.0  | 99  |      |     |     |         |
| MSZ         | P*  | 23 11 | 43.6    | 1.4  | 100 | 1.30 | 265 | 3.2 | 3.6     |
|             | S*  |       | 12 00.0 | 0.2  | 100 |      |     |     |         |
| MNW         | eP* | 23 11 | 53.7    | 0.9  | 100 | 1.92 | 231 | 3.8 | 3.3     |
|             | eS* |       | 12 17.5 | -0.8 | 100 |      |     |     |         |
| GPZ         | eS* | 23 12 | 30      | 0.9  |     | 2.28 | 68  | 3.2 |         |
| AMPLITUDES: | ROX |       | 2.5     | OMZ  |     | 2.0  | 3.0 | MSZ | 1.4 6.3 |
|             | MNW |       | 1.7 1.2 | GPZ  |     | 0.2  |     |     |         |

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OCT 05 18<sup>h</sup>03<sup>m</sup>12<sup>s</sup>.9 41°.06s 174°.91E 12 km M = 3.7  
 ± 0.5 0.02 0.05 R S.E. of RES. 1.3

| STN         | PHASE | H  | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|----|-----|------|-----|------|-----|------|-----|-----|---------|
| WEL         | P*    | 18 | 03  | 18.0 |     | -0.2 | 100 | 0.25 | 206 |     |         |
|             | S*    |    |     | 23.1 |     | 1.1  | 100 |      |     |     |         |
| MNG         | P*    | 18 | 03  | 22.8 |     | -1.8 | 99  | 0.62 | 45  |     |         |
| KKY         | eP*   | 18 | 03  | 42.5 |     | 0.6  | 100 | 1.64 | 214 |     |         |
|             | e     |    |     | 44.7 |     |      |     |      |     |     |         |
|             | e     |    |     | 50.1 |     |      |     |      |     |     |         |
| COB         | P*    | 18 | 03  | 40.8 |     | -1.3 | 100 | 1.65 | 268 |     | 3.6 3.7 |
|             | S*    |    | 04  | 02.7 |     | -1.2 | 100 |      |     |     |         |
| GSZ         | eP*   | 18 | 03  | 45.8 |     | 0.1  | 100 | 1.85 | 16  |     |         |
|             | i     |    |     | 50.3 |     |      |     |      |     |     |         |
|             | S*    |    | 04  | 10.2 |     | 0.0  | 100 |      |     |     |         |
|             | i     |    |     | 12.8 |     |      |     |      |     |     |         |
| TNZ         | eP*   | 18 | 03  | 49   |     | 2.3  | 98  | 1.92 | 348 |     | 3.4 3.8 |
|             | S*    |    | 04  | 13.2 |     | 1.2  | 100 |      |     |     |         |
| TRZ         | e(P*) | 18 | 03  | 55   |     | 5.1  |     | 2.10 | 45  |     | 3.5 3.4 |
|             | e(S*) |    | 04  | 22   |     | 4.5  |     |      |     |     |         |
|             | e     |    |     | 31   |     |      |     |      |     |     |         |
| KAI         |       |    |     |      |     |      |     | 3.01 | 240 | 3.6 |         |
| KRP         | P*    | 18 | 04  | 08.0 |     | -0.1 | 100 | 3.17 | 9   |     | 4.1 4.3 |
|             | e     |    |     | 12.0 |     |      |     |      |     |     |         |
|             | e     |    |     | 15.2 |     |      |     |      |     |     |         |
|             | eS*   |    |     | 49.0 |     | -0.6 | 100 |      |     |     |         |
|             | e     |    |     | 55   |     |      |     |      |     |     |         |
|             | e     |    |     | 59.0 |     |      |     |      |     |     |         |
| GNZ         | eSn   | 18 | 04  | 39.5 |     | -4.5 |     | 3.40 | 46  |     | 3.4     |
| WTZ         | eP*   | 18 | 04  | 18   |     | 4.8  |     | 3.47 | 28  |     | 3.6     |
| AMPLITUDES: | WEL   |    | 15  |      | COB |      | 0.8 | 3.6  | TNZ |     | 0.2 0.8 |
|             | TRZ   |    | 0.3 | 0.3  | KAI | 0.2  |     |      | KRP |     | 0.6 0.7 |
|             | GNZ   |    |     | 0.3  | WTZ |      | 0.3 |      |     |     |         |

FELT: Wellington and Hutt Valley (68) MM IV

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OCT 06 00<sup>h</sup>38<sup>m</sup>20<sup>s</sup>.1 46°.24s 166°.06E 12 km M = 4.0  
 ± 1.1 0.04 0.08 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---------|
| MNW | P*    | 00 | 38 | 42.0    |     | 0.6  | 100 | 1.18 | 68  |     | 4.0     |
|     | S*    |    |    | 57.5    |     | 0.4  | 100 |      |     |     |         |
|     | e     |    |    | 39 02.2 |     |      |     |      |     |     |         |
| OBZ | P*    | 00 | 38 | 47.8    |     | -0.2 | 100 | 1.57 | 116 |     |         |
|     | S*    |    | 39 | 09.4    |     | 0.7  | 100 |      |     |     |         |
| MSZ | ePn   | 00 | 38 | 53.0    |     | -0.5 | 100 | 2.04 | 40  |     | 3.7 3.6 |

|             |       |       |         |     |      |     |      |    |     |     |     |
|-------------|-------|-------|---------|-----|------|-----|------|----|-----|-----|-----|
|             | eP*   |       | 58.3    |     | 2.2  | 98  |      |    |     |     |     |
|             | eS*   |       | 39 23   |     | -0.0 | 100 |      |    |     |     |     |
| ROX         | P*    | 00 39 | 00.5    |     | -1.8 | 99  | 2.40 | 73 |     | 4.0 | 3.9 |
|             | eS*   |       | 33.5    |     | -0.3 | 100 |      |    |     |     |     |
| GSP         | eP*   | 00 39 | 24      |     | 2.9  |     | 3.50 | 54 |     |     |     |
|             | i(S*) |       | 40 04   |     | -2.8 |     |      |    |     |     |     |
| MJZ         | ePn   | 00 39 | 17      |     | -1.1 | 100 | 3.85 | 56 |     |     |     |
|             | eP*   |       | 28      |     | 1.0  | 100 |      |    |     |     |     |
|             | eSn   |       | 40 01   |     | -1.0 | 100 |      |    |     |     |     |
|             | e(S*) |       | 23      |     | 5.8  |     |      |    |     |     |     |
| COB         | eP*   | 00 40 | 27      |     | 5.1  |     | 7.07 | 46 |     | 4.6 |     |
|             | e     |       | 38      |     |      |     |      |    |     |     |     |
|             | e     |       | 41      |     |      |     |      |    |     |     |     |
| AMPLITUDES: | MNW   |       | 6.5     | OBZ | 0.8  | 5.6 | MSZ  |    | 1.9 | 2.3 |     |
|             | ROX   |       | 1.0 1.8 | COB | 0.5  |     |      |    |     |     |     |

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OCT 06 15<sup>h</sup>00<sup>m</sup>30<sup>s</sup>.3 35°.50s 177°.97E 273 km M = 4.2  
 ± 2.0 0.17 0.32 20 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| ECZ | eP    | 15 | 01 | 18.0 |     | 0.9  | 100 | 2.24 | 168 |     | 4.0 4.1 |
|     | i     |    |    | 45   |     |      |     |      |     |     |         |
|     | e     |    |    | 46.5 |     |      |     |      |     |     |         |
| WTZ | eP    | 15 | 01 | 21.2 |     | 0.6  | 100 | 2.60 | 197 |     | 4.2 4.2 |
|     | i     |    |    | 22.0 |     |      |     |      |     |     |         |
|     | eS    |    | 02 | 00   |     | 0.3  | 100 |      |     |     |         |
| GNZ | P     | 15 | 01 | 25.8 |     | -0.2 | 100 | 3.14 | 179 |     | 4.5 4.4 |
|     | e     |    | 02 | 05.2 |     |      |     |      |     |     |         |
|     | S     |    |    | 09.0 |     | -0.5 | 100 |      |     |     |         |
| TUA | eS    | 15 | 02 | 11   |     | -2.9 | 98  | 3.37 | 191 |     | 4.3     |
| TRZ | eP    | 15 | 01 | 37   |     | -0.4 | 100 | 4.15 | 192 |     | 4.2 4.2 |
|     | eS    |    | 02 | 33   |     | 3.3  | 97  |      |     |     |         |
| MNG | P     | 15 | 01 | 52.3 |     | -0.8 | 100 | 5.48 | 200 |     | 3.7 4.2 |
|     | eS    |    | 02 | 58   |     | 0.1  | 100 |      |     |     |         |
| WEL | eS    | 15 | 03 | 16   |     | -0.1 | 100 | 6.31 | 203 | 4.3 |         |

|             |     |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ |     | 0.3 | 0.4 | WTZ | 1.1 | 1.2 | GNZ | 1.6 | 2.2 |
|             | TUA |     |     | 0.4 | TRZ | 0.2 | 0.5 | MNG | 0.3 | 1.1 |
|             | WEL | 0.2 |     |     |     |     |     |     |     |     |

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OCT 06 18<sup>h</sup>19<sup>m</sup>50<sup>s</sup>.4 47°.20s 166°.05E 33 km M = 3.9  
 ± 1.5 0.07 0.12 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|---------|
| OBZ | P     | 18 | 20 | 13.5 |     | -0.1 | 100 | 1.44 | 79 |     |         |
|     | S     |    |    | 31.0 |     | -0.0 | 100 |      |    |     |         |
| MNW | eP    | 18 | 20 | 16.7 |     | -1.6 | 99  | 1.79 | 38 |     |         |
|     | S     |    |    | 37.7 |     | -1.6 | 99  |      |    |     |         |
| MSZ | eP    | 18 | 20 | 33.0 |     | 0.2  | 100 | 2.84 | 28 |     | 3.9 3.7 |
|     | S     |    | 21 | 05   |     | 0.2  | 100 |      |    |     |         |
|     | e     |    |    | 08.2 |     |      |     |      |    |     |         |
| ROX | eP    | 18 | 20 | 33   |     | 0.2  | 100 | 2.85 | 54 |     | 4.1 4.0 |
|     | S     |    | 21 | 04   |     | -0.8 | 100 |      |    |     |         |
| GSP | e(P)  | 18 | 20 | 56   |     | 5.5  |     | 4.14 | 44 |     |         |
|     | S     |    | 21 | 38.3 |     | 2.4  | 98  |      |    |     |         |
|     | e     |    |    | 50   |     |      |     |      |    |     |         |
| MJZ | eP    | 18 | 20 | 56   |     | 1.1  | 100 | 4.46 | 46 |     |         |
|     | e     |    | 21 | 08   |     |      |     |      |    |     |         |



|             |                                                    |         |         |          |     |         |                  |         |     |     |         |
|-------------|----------------------------------------------------|---------|---------|----------|-----|---------|------------------|---------|-----|-----|---------|
| eS          |                                                    | 43      |         | -0.7 100 |     |         |                  |         |     |     |         |
| AMPLITUDES: |                                                    | MSZ     | 1.3 1.7 |          | ROX | 1.0 2.0 |                  |         |     |     |         |
|             |                                                    |         |         |          |     |         |                  | 77/ 646 |     |     |         |
| OCT 07      | 16 <sup>h</sup> 33 <sup>m</sup> 36 <sup>s</sup> .8 | 45°.48s |         | 166°.48E |     | 12 km   | M = 3.6          |         |     |     |         |
|             | ± 1.6                                              | 0.04    |         | 0.12     |     | R       | S.E. of RES. 1.8 |         |     |     |         |
| STN         | PHASE                                              | H       | M       | S        | DIR | RES     | WT               | DIST    | AZ  | W-A | W P W S |
| MNW         | eP*                                                | 16      | 33      | 51       |     | -1.6    | 100              | 0.85    | 111 |     |         |
|             | eS*                                                |         | 34      | 03.0     |     | -1.1    | 100              |         |     |     |         |
| MSZ         | Pn                                                 | 16      | 33      | 57.8     |     | -2.3    | 99               | 1.30    | 52  |     | 3.6 3.5 |
|             | iP*                                                |         | 34      | 01.0     |     | 0.8     | 100              |         |     |     |         |
|             | S*                                                 |         |         | 17.3     |     | -0.1    | 100              |         |     |     |         |
| OBZ         | ePn                                                | 16      | 34      | 09.0     |     | 1.7     | 100              | 1.83    | 142 |     |         |
|             | eP*                                                |         |         | 11.0     |     | 1.8     | 100              |         |     |     |         |
|             | eS*                                                |         |         | 32.8     |     | -0.4    | 100              |         |     |     |         |
| GSP         | i                                                  | 16      | 34      | 47.2     |     |         |                  | 2.85    | 63  |     |         |
|             | e(S*)                                              |         | 35      | 02       |     | -2.1    |                  |         |     |     |         |
| MJZ         | ePn                                                | 16      | 34      | 25       |     | -1.1    | 100              | 3.21    | 64  |     |         |
|             | e(Sn)                                              |         | 35      | 07       |     | 3.7     |                  |         |     |     |         |
|             | eS*                                                |         |         | 17       |     | 2.3     | 99               |         |     |     |         |
| AMPLITUDES: |                                                    | MSZ     | 3.8 5.0 |          | OBZ | 0.6 0.8 |                  |         |     |     |         |

|                        |                                                    |         |          |       |                  |      |     |      |     |     |         |
|------------------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|
| 77/ 647                |                                                    |         |          |       |                  |      |     |      |     |     |         |
| OCT 08                 | 09 <sup>h</sup> 58 <sup>m</sup> 41 <sup>s</sup> .5 | 38°.70s | 176°.08E | 12 km | M = 2.3          |      |     |      |     |     |         |
|                        | ± R                                                | R       | R        | R     | S.E. of RES. 2.8 |      |     |      |     |     |         |
| STN                    | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |
| WNZ                    | Pg                                                 | 09      | 58       | 46.0  |                  | 1.9  | 100 | 0.07 | 15  |     |         |
|                        | e                                                  |         |          | 48.2  |                  |      |     |      |     |     |         |
| KRP                    | ePg                                                | 09      | 58       | 57.5  |                  | -2.0 | 100 | 0.88 | 331 |     | 2.3     |
| AMPLITUDES:            |                                                    | WNZ     | 1.7      | KRP   | 0.2              |      |     |      |     |     |         |
| FELT: Taupo (41) MM IV |                                                    |         |          |       |                  |      |     |      |     |     |         |

|             |                                                    |         |          |        |                  |      |         |      |     |     |         |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|---------|------|-----|-----|---------|
| 77/ 648     |                                                    |         |          |        |                  |      |         |      |     |     |         |
| OCT 08      | 10 <sup>h</sup> 05 <sup>m</sup> 23 <sup>s</sup> .6 | 36°.88s | 179°.68w | 179 km | M = 4.2          |      |         |      |     |     |         |
|             | ± 1.0                                              | 0.06    | 0.09     | 9      | S.E. of RES. 1.0 |      |         |      |     |     |         |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT      | DIST | AZ  | W-A | W P W S |
| ECZ         | P                                                  | 10      | 05       | 56.2   |                  | -0.9 | 100     | 1.63 | 239 |     | 4.3     |
| GNZ         | P                                                  | 10      | 06       | 07.0   |                  | -0.1 | 100     | 2.54 | 225 |     | 4.0 4.3 |
|             | S                                                  |         |          | 40.5   |                  | -0.1 | 100     |      |     |     |         |
| WIZ         | eP                                                 | 10      | 06       | 07     |                  | -0.7 | 100     | 2.58 | 254 |     |         |
| WTZ         | P                                                  | 10      | 06       | 11.0   |                  | -0.2 | 100     | 2.87 | 246 |     | 4.3 4.5 |
|             | eS                                                 |         |          | 47.0   |                  | -0.8 | 100     |      |     |     |         |
| TUA         | eS                                                 | 10      | 06       | 55     |                  | 0.8  | 100     | 3.16 | 231 |     | 4.3     |
| TRZ         | eP                                                 | 10      | 06       | 24.5   |                  | 1.2  | 99      | 3.83 | 225 |     | 4.2 4.2 |
|             | eS                                                 |         | 07       | 11     |                  | 1.6  | 99      |      |     |     |         |
| KRP         | eP                                                 | 10      | 06       | 26.0   |                  | 1.3  | 99      | 3.95 | 253 |     | 2.9*    |
|             | eS                                                 |         | 07       | 12.3   |                  | 0.4  | 100     |      |     |     |         |
| MNG         | eP                                                 | 10      | 06       | 42     |                  | -0.4 | 100     | 5.32 | 224 |     | 3.6 4.0 |
|             | eS                                                 |         | 07       | 43.5   |                  | -0.0 | 100     |      |     |     |         |
| WEL         | eS                                                 | 10      | 08       | 02     |                  | -1.6 | 99      | 6.16 | 223 | 4.5 |         |
| COB         | eS                                                 | 10      | 08       | 29     |                  | -0.2 | 100     | 7.25 | 232 |     | 3.0*    |
| AMPLITUDES: |                                                    | ECZ     | 1.5      | GNZ    | 0.9 2.9          | WTZ  | 1.3 2.7 |      |     |     |         |
|             |                                                    | TUA     | 0.6      | TRZ    | 0.3 0.7          | KRP  | 0.3     |      |     |     |         |
|             |                                                    | MNG     | 0.3 0.9  | WEL    | 0.3              | COB  | 0.3     |      |     |     |         |

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OCT 09 10<sup>h</sup>17<sup>m</sup>42<sup>s</sup>.1 38°.70s 176°.08E 12 km  
 ± R R R R S.E. of RES. 3.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|-----|-----|
| WNZ | Pg    | 10 | 17 | 42.0 |     | -2.6 | 100 | 0.07 | 15 |     |     |     |
|     | Sg    |    |    | 49.0 |     | 2.6  | 100 |      |    |     |     |     |

AMPLITUDES: WNZ 0.6 1.0

FELT: Taupo (41) MM IV. Mag. about two

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OCT 09 22<sup>h</sup>32<sup>m</sup>11<sup>s</sup>.1 36°.82s 179°.32W 33 km M = 4.1  
 ± 1.6 0.12 0.14 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | ePn   | 22 | 32 | 40.0 |     | -0.7 | 100 | 1.92 | 242 |     | 4.1 | 4.4 |
|     | e     |    |    | 50.5 |     |      |     |      |     |     |     |     |
| GNZ | Pn    | 22 | 32 | 52.2 |     | -0.4 | 100 | 2.78 | 228 |     | 3.9 | 4.2 |
|     | Sn    |    | 33 | 24.5 |     | 0.6  | 100 |      |     |     |     |     |
| WIZ | ePn   | 22 | 32 | 58.4 |     | 0.6  | 100 | 3.16 | 247 |     | 4.0 | 4.4 |
|     | eSn   |    | 33 | 32.0 |     | -1.0 | 100 |      |     |     |     |     |
| KRP | ePn   | 22 | 33 | 12   |     | -0.5 | 100 | 4.25 | 253 |     | 4.2 |     |
|     | e     |    |    | 20   |     |      |     |      |     |     |     |     |
|     | eP*   |    |    | 26   |     | 1.4  | 99  |      |     |     |     |     |
|     | e     |    |    | 52   |     |      |     |      |     |     |     |     |
| MNG | ePn   | 22 | 33 | 29   |     | -1.5 |     | 5.56 | 225 |     | 3.8 | 4.0 |
|     | eSn   |    | 34 | 28   |     | -2.6 |     |      |     |     |     |     |

AMPLITUDES: ECZ 0.7 1.6 GNZ 0.9 2.7 WIZ 1.0 2.3  
 KRP 0.4 MNG 0.4 0.8

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OCT 09 22<sup>h</sup>43<sup>m</sup>44<sup>s</sup>.0 36°.61s 179°.60W 33 km M = 3.8  
 ± 2.2 0.15 0.20 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | ePn   | 22 | 44 | 11    |     | -1.6 | 99  | 1.84 | 233 |     | 3.8 | 3.8 |
|     | e     |    |    | 20    |     |      |     |      |     |     |     |     |
| GNZ | Pn    | 22 | 44 | 26.2  |     | 0.7  | 100 | 2.77 | 222 |     | 3.9 | 3.7 |
|     | eSn   |    |    | 57    |     | 0.3  | 100 |      |     |     |     |     |
| WIZ | Pn    | 22 | 44 | 28.5  |     | -0.7 | 100 | 3.05 | 242 |     | 3.7 | 4.0 |
|     | eSn   |    |    | 45 03 |     | -0.3 | 100 |      |     |     |     |     |
| KRP | ePn   | 22 | 44 | 45    |     | 1.5  | 99  | 4.09 | 250 |     | 4.1 |     |
|     | e     |    |    | 45 19 |     |      |     |      |     |     |     |     |
|     | eSn   |    |    | 25    |     | -3.5 |     |      |     |     |     |     |
| MNG | e     | 22 | 45 | 55    |     |      |     | 5.56 | 222 |     |     | 3.6 |

AMPLITUDES: ECZ 0.4 0.5 GNZ 0.8 0.8 WIZ 0.6 1.0  
 KRP 0.3 MNG 0.3

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OCT 09 23<sup>h</sup>02<sup>m</sup>16<sup>s</sup>.2 36°.82s 179°.35W 33 km M = 4.4  
 ± 1.5 0.09 0.14 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | Pn    | 23 | 02 | 47.2 |     | 1.6  | 99  | 1.89 | 242 |     | 4.6 | 4.5 |
|     | i     |    |    | 56.9 |     |      |     |      |     |     |     |     |
| GNZ | Pn    | 23 | 02 | 58.0 |     | 0.4  | 100 | 2.77 | 228 |     | 4.3 | 4.6 |
|     | Sn    |    | 03 | 30.2 |     | 1.5  | 99  |      |     |     |     |     |
| WIZ | ePn   | 23 | 02 | 58.7 |     | -0.0 | 100 | 2.85 | 255 |     |     |     |

|             |       |       |         |      |     |         |     |  |         |     |  |  |
|-------------|-------|-------|---------|------|-----|---------|-----|--|---------|-----|--|--|
|             | e     | 03    | 11.7    |      |     |         |     |  |         |     |  |  |
| WTZ         | Pn    | 23 03 | 02.2    | -0.4 | 100 | 3.14    | 247 |  | 4.4     | 4.6 |  |  |
|             | eSn   |       | 38      |      | 0.4 | 100     |     |  |         |     |  |  |
| TUA         | ePn   | 23 03 | 07      | 0.7  | 100 | 3.41    | 233 |  | 4.3     |     |  |  |
| KRP         | Pn    | 23 03 | 17.8    | 0.4  | 100 | 4.22    | 253 |  | 4.8     |     |  |  |
|             | eP*   |       | 28      | -1.4 | 100 |         |     |  |         |     |  |  |
|             | e     |       | 35.5    |      |     |         |     |  |         |     |  |  |
|             | e(Sn) |       | 58.2    | -5.4 |     |         |     |  |         |     |  |  |
| ONE         | ePn   | 23 03 | 33.5    | 2.9  |     | 5.18    | 280 |  |         |     |  |  |
| MNG         | ePn   | 23 03 | 34      | -1.4 | 99  | 5.54    | 225 |  | 4.0     | 4.2 |  |  |
|             | e     |       | 43.8    |      |     |         |     |  |         |     |  |  |
|             | eSn   | 04 34 |         | -1.4 | 99  |         |     |  |         |     |  |  |
| AMPLITUDES: | ECZ   |       | 2.1 2.1 | GNZ  |     | 2.2 6.5 | WTZ |  | 2.6 3.8 |     |  |  |
|             | TUA   |       | 0.5     | KRP  |     | 1.6     | MNG |  | 0.6 1.2 |     |  |  |

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OCT 09 23<sup>h</sup>04<sup>m</sup>22<sup>s</sup>.2 36°.82s 179°.35W 33 km M = 4.1  
 ± R R R R S.E. of RES. 3.2

| STN         | PHASE | H     | M       | S   | DIR | RES  | WT  | DIST | AZ      | W-A | W P | W S |
|-------------|-------|-------|---------|-----|-----|------|-----|------|---------|-----|-----|-----|
| ECZ         | Pn    | 23 04 | 54.5    |     |     | 2.9  | 100 | 1.89 | 242     |     | 4.3 | 4.1 |
|             | e     |       | 05 03.4 |     |     |      |     |      |         |     |     |     |
|             | eSn   |       | 09.0    |     |     | -4.7 | 99  |      |         |     |     |     |
| GNZ         | Pn    | 23 05 | 03.8    |     |     | 0.2  | 100 | 2.77 | 228     |     | 4.1 |     |
|             | e     |       | 13.0    |     |     |      |     |      |         |     |     |     |
|             | eSn   |       | 38      |     |     | 3.3  | 100 |      |         |     |     |     |
| WTZ         | ePn   | 23 05 | 08      |     |     | -0.7 | 100 | 3.14 | 247     |     | 3.3 | 3.6 |
|             | eSn   |       | 40      |     |     | -3.7 | 100 |      |         |     |     |     |
| KRP         | ePn   | 23 05 | 26      |     |     | 2.6  | 100 | 4.22 | 253     |     | 4.0 | 5.5 |
| AMPLITUDES: | ECZ   |       | 1.2 0.9 | GNZ |     | 1.3  | WTZ |      | 0.2 0.4 |     |     |     |
|             | KRP   |       | 0.3 6.5 |     |     |      |     |      |         |     |     |     |

Partially obscured by previous earthquake

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OCT 10 02<sup>h</sup>18<sup>m</sup>36<sup>s</sup>.2 44°.28s 168°.03E 12 km M = 3.8  
 ± 1.1 0.05 0.06 R S.E. of RES. 1.3

| STN         | PHASE | H     | M       | S   | DIR | RES     | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-------|---------|-----|-----|---------|-----|------|-----|-----|-----|-----|
| MSZ         | P*    | 02 18 | 42.2    |     |     | -2.0    | 99  | 0.40 | 192 |     |     |     |
|             | i     |       | 46.8    |     |     |         |     |      |     |     |     |     |
| GSP         | P*    | 02 19 | 01.6    |     |     | -0.3    | 100 | 1.44 | 85  |     |     |     |
|             | S*    |       | 21.4    |     |     | 0.4     | 100 |      |     |     |     |     |
| ROX         | P*    | 02 19 | 02.2    |     |     | -0.9    | 100 | 1.51 | 143 |     |     |     |
|             | eS*   |       | 21      |     |     | -2.1    | 99  |      |     |     |     |     |
| MNW         | P*    | 02 19 | 03.0    |     |     | -0.5    | 100 | 1.53 | 191 |     | 3.8 | 3.9 |
|             | eS*   |       | 26      |     |     | 2.3     | 99  |      |     |     |     |     |
| MJZ         | P*    | 02 19 | 08.0    |     |     | 0.3     | 100 | 1.78 | 81  |     |     |     |
|             | S*    |       | 30.6    |     |     | -0.6    | 100 |      |     |     |     |     |
| OMZ         | ePn   | 02 19 | 13.0    |     |     | 1.2     | 100 | 2.20 | 112 |     | 4.0 | 3.8 |
|             | iP*   |       | 15.2    |     |     | 0.2     | 100 |      |     |     |     |     |
|             | eSn   |       | 39.2    |     |     | 0.6     | 100 |      |     |     |     |     |
|             | eS*   |       | 45      |     |     | 1.0     | 100 |      |     |     |     |     |
| KAI         |       |       |         |     |     |         |     | 3.02 | 56  | 4.0 |     |     |
| GPZ         |       |       |         |     |     |         |     | 3.38 | 82  | 3.5 |     |     |
| COB         | ePn   | 02 19 | 46      |     |     | -0.0    |     | 4.72 | 49  |     | 4.1 | 3.6 |
|             | eSn   |       | 20 39   |     |     | 0.1     |     |      |     |     |     |     |
| AMPLITUDES: | MNW   |       | 2.5 7.0 | OMZ |     | 1.1 1.6 | KAI |      | 0.4 |     |     |     |
|             | GPZ   |       | 0.2     | COB |     | 0.3 0.4 |     |      |     |     |     |     |

OCT 10 14<sup>h</sup>45<sup>m</sup>11<sup>s</sup>.1 36°.70s 176°.96E 33 km M = 3.9  
 ± 1.4 0.07 0.06 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---------|
| WIZ | P*    | 14 | 45 | 25.9    |     | -1.2 | 100 | 0.85 | 167 |     |         |
|     | eS*   |    |    | 38.4    |     | -0.4 | 100 |      |     |     |         |
| WTZ | P*    | 14 | 45 | 32.8    |     | -1.5 | 100 | 1.28 | 179 | 3.7 | 3.9     |
|     | S*    |    |    | 52.0    |     | 0.5  | 100 |      |     |     |         |
| ECZ | P*    | 14 | 45 | 41.5    |     | 1.6  | 99  | 1.61 | 128 | 4.2 | 4.1     |
|     | eS*   |    |    | 46 01.0 |     | -0.3 | 100 |      |     |     |         |
| KRP | eP*   | 14 | 45 | 42      |     | 1.2  | 100 | 1.66 | 222 | 3.3 |         |
| GNZ | Pn    | 14 | 45 | 42.0    |     | -1.5 | 100 | 2.12 | 157 | 3.9 | 4.0     |
|     | Sn    |    |    | 46 09.0 |     | 1.1  | 100 |      |     |     |         |
| MNG | ePn   | 14 | 46 | 17      |     | 6.7  |     | 4.08 | 196 | 3.9 |         |
|     | e     |    |    | 33.9    |     |      |     |      |     |     |         |

AMPLITUDES: WTZ 1.1 1.3 ECZ 0.7 0.7 KRP 0.3  
 GNZ 0.7 1.2 MNG 0.3

OCT 11 05<sup>h</sup>08<sup>m</sup>55<sup>s</sup>.6 38°.27s 176°.11E 167 km M = 3.8  
 ± 1.2 0.05 0.06 8 S.E. of RES. 1.6

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S   |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----------|
| KRP | P     | 05 | 09 | 20.0  |     | 0.7  | 100 | 0.57 | 307 |     | 3.1* 2.7* |
|     | S     |    |    | 37.8  |     | 0.2  | 100 |      |     |     |           |
| WTZ | P     | 05 | 09 | 19.8  |     | -0.5 | 100 | 0.75 | 68  | 3.7 | 3.3       |
|     | e     |    |    | 33.5  |     |      |     |      |     |     |           |
|     | eS    |    |    | 37.8  |     | -1.5 | 100 |      |     |     |           |
| TUA | eP    | 05 | 09 | 20    |     | -1.9 | 99  | 0.97 | 124 | 3.6 | 3.8       |
|     | eS    |    |    | 42.5  |     | 0.3  | 100 |      |     |     |           |
| GSZ | P     | 05 | 09 | 24.8  |     | 1.9  | 99  | 1.09 | 202 |     |           |
| TRZ | P     | 05 | 09 | 27.5  |     | 1.8  | 100 | 1.39 | 157 | 4.0 | 4.0       |
|     | eS    |    |    | 52.0  |     | 3.2  | 97  |      |     |     |           |
| GNZ | eP    | 05 | 09 | 28.0  |     | 0.8  | 100 | 1.55 | 105 | 3.9 |           |
|     | i     |    |    | 48.5  |     |      |     |      |     |     |           |
|     | S     |    |    | 50.0  |     | -1.6 | 100 |      |     |     |           |
| ECZ | eP    | 05 | 09 | 32.8  |     | 0.6  | 100 | 2.01 | 74  | 3.7 | 3.7       |
|     | eS    |    |    | 59.7  |     | -0.7 | 100 |      |     |     |           |
| MNG | iP    | 05 | 09 | 37.0  |     | 0.2  | 100 | 2.39 | 192 | 4.4 | 3.7       |
|     | S     |    |    | 10 07 |     | -1.5 | 100 |      |     |     |           |
| WEL | P     | 05 | 09 | 46.8  |     | 0.2  | 100 | 3.19 | 199 | 3.9 |           |
|     | eS    |    |    | 10 24 |     | -1.9 | 99  |      |     |     |           |
| COB | eS    | 05 | 10 | 39.8  |     | -0.9 | 100 | 3.84 | 222 |     | 2.9*      |

AMPLITUDES: KRP 1.6 0.7 WTZ 1.7 0.8 TUA 0.5 0.8  
 TRZ 0.8 2.0 GNZ 1.8 ECZ 0.3 0.3  
 MNG 7.5 1.8 WEL 0.2 COB 0.5

OCT 11 11<sup>h</sup>23<sup>m</sup>15<sup>s</sup>.1 38°.34s 179°.34E 33 km M = 3.7  
 ± 1.5 0.04 0.11 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| ECZ | P     | 11 | 23 | 29.9 |     | -1.0 | 100 | 0.90 | 316 | 4.1 | 4.1     |
|     | i     |    |    | 39.0 |     |      |     |      |     |     |         |
|     | iS    |    |    | 44.2 |     | 1.5  | 100 |      |     |     |         |
| GNZ | P     | 11 | 23 | 33.6 |     | 0.3  | 100 | 1.07 | 253 | 3.6 | 3.4     |
|     | e     |    |    | 44.5 |     |      |     |      |     |     |         |



|             |     |       |         |     |      |     |      |     |     |     |     |  |
|-------------|-----|-------|---------|-----|------|-----|------|-----|-----|-----|-----|--|
|             | S   |       | 47.2    |     | 0.3  | 100 |      |     |     |     |     |  |
| TUA         | e   | 11 23 | 49      |     |      |     | 1.77 | 254 |     | 3.6 | 3.5 |  |
|             | e   |       | 24 00   |     |      |     |      |     |     |     |     |  |
| WTZ         | P   | 11 23 | 44.0    |     | -0.4 | 100 | 1.89 | 280 |     | 3.5 | 3.8 |  |
|             | S   |       | 24 05.2 |     | -1.2 | 100 |      |     |     |     |     |  |
| TRZ         | eP  | 11 23 | 51      |     | 0.9  | 100 | 2.30 | 238 |     | 3.4 | 3.7 |  |
|             | S   |       | 24 19.0 |     | 2.5  | 98  |      |     |     |     |     |  |
| KRP         | eP  | 11 23 | 59      |     | -1.0 | 100 | 3.02 | 277 |     | 3.5 |     |  |
| MNG         | P   | 11 24 | 10.6    |     | 0.7  | 100 | 3.75 | 231 |     | 3.6 | 3.8 |  |
|             | S   |       | 50.0    |     | -1.2 | 100 |      |     |     |     |     |  |
| WEL         | eS  | 11 25 | 10      |     | -1.3 | 100 | 4.59 | 229 | 4.0 |     |     |  |
| AMPLITUDES: | ECZ |       | 3.5     | 4.4 | GNZ  |     | 2.8  | 3.1 | TUA | 0.4 | 0.4 |  |
|             | WTZ |       | 0.9     | 1.6 | TRZ  |     | 0.2  | 0.5 | KRP | 0.2 |     |  |
|             | MNG |       | 0.5     | 1.0 | WEL  |     | 0.2  |     |     |     |     |  |

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OCT 11 12<sup>h</sup>35<sup>m</sup>42<sup>s</sup>.1 36°.93s 179°.54w 33 km M = 3.9  
 ± 1.8 0.10 0.14 R S.E. of RES. 1.5

| STN         | PHASE | H     | M     | S   | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-------|-------|-----|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | P     | 12 36 | 10.9  |     |     | 1.9  | 99  | 1.71 | 243 |     | 4.0 |     |
| GNZ         | P     | 12 36 | 21.0  |     |     | 0.1  | 100 | 2.58 | 228 |     | 3.8 | 3.8 |
|             | e     |       | 50.5  |     |     |      |     |      |     |     |     |     |
|             | S     |       | 53    |     |     | 2.8  | 98  |      |     |     |     |     |
| WTZ         | P     | 12 36 | 26.2  |     |     | 0.1  | 100 | 2.96 | 248 |     | 3.8 | 4.0 |
|             | e     |       | 36.0  |     |     |      |     |      |     |     |     |     |
|             | eS    |       | 58.8  |     |     | -0.4 | 100 |      |     |     |     |     |
| TRZ         | e(S)  | 12 37 | 26    |     |     | 4.5  |     | 3.89 | 226 |     | 3.9 | 3.9 |
| KRP         | eP    | 12 36 | 40    |     |     | -0.9 | 100 | 4.05 | 254 |     | 4.0 |     |
|             | eS    |       | 37 25 |     |     | -0.3 | 100 |      |     |     |     |     |
|             | e     |       | 26.3  |     |     |      |     |      |     |     |     |     |
| MNG         | eP    | 12 36 | 57.8  |     |     | -1.0 | 100 | 5.36 | 225 |     | 3.7 | 3.9 |
|             | eS    |       | 37 56 |     |     | -0.9 | 100 |      |     |     |     |     |
| WEL         | eS    | 12 38 | 16    |     |     | -1.4 | 100 | 6.21 | 224 | 4.3 |     |     |
| AMPLITUDES: | ECZ   |       | 0.7   |     | GNZ |      | 0.8 | 1.3  | WTZ |     | 0.8 | 1.0 |
|             | TRZ   |       | 0.2   | 0.3 | KRP |      | 0.3 |      | MNG |     | 0.3 | 0.6 |
|             | WEL   |       | 0.2   |     |     |      |     |      |     |     |     |     |

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OCT 11 20<sup>h</sup>34<sup>m</sup>25<sup>s</sup>.2 32°.07s 179°.62w 452 km M = 4.7  
 ± 2.1 0.21 0.45 16 S.E. of RES. 1.6

| STN         | PHASE | H     | M       | S | DIR | RES  | WT  | DIST  | AZ  | W-A | W P  | W S  |
|-------------|-------|-------|---------|---|-----|------|-----|-------|-----|-----|------|------|
| ECZ         | eS    | 20 37 | 11      |   |     | -1.1 | 100 | 5.81  | 195 |     |      | 4.8  |
| WTZ         | eP    | 20 36 | 05.5    |   |     | -0.5 | 100 | 6.52  | 204 |     | 4.4  | 4.7  |
|             | eS    |       | 37 26.5 |   |     | 0.9  | 100 |       |     |     |      |      |
| GNZ         | eP    | 20 36 | 09.5    |   |     | 0.2  | 100 | 6.84  | 196 |     | 4.4  | 4.9  |
|             | e     |       | 37 28.8 |   |     |      |     |       |     |     |      |      |
|             | S     |       | 30.8    |   |     | -0.9 | 100 |       |     |     |      |      |
| TUA         | eS    | 20 37 | 36.8    |   |     | -2.3 | 99  | 7.23  | 201 |     |      | 4.8  |
| TRZ         | eS    | 20 37 | 57.2    |   |     | 2.7  | 98  | 8.01  | 200 |     |      | 5.1  |
| MNG         | eP    | 20 36 | 37.0    |   |     | -0.4 | 100 | 9.40  | 203 |     | 4.5  | 4.9  |
|             | S     |       | 38 21.0 |   |     | -1.3 | 100 |       |     |     |      |      |
| WEL         | eS    | 20 38 | 38      |   |     | -1.2 | 100 | 10.24 | 205 | 4.9 |      |      |
| COB         | eS    | 20 38 | 52      |   |     | -0.4 | 100 | 10.90 | 212 |     |      | 3.6* |
| GPZ         | eS    | 20 39 | 37      |   |     | 0.7  | 100 | 13.11 | 206 |     | 3.9* |      |
| AMPLITUDES: | ECZ   |       | 0.4     |   | WTZ |      | 0.3 | 0.8   | GNZ |     | 0.3  | 1.7  |
|             | TUA   |       | 0.3     |   | TRZ |      |     | 1.0   | MNG |     | 0.7  | 2.2  |

|             |                                                    |         |    |         |             |      |             |      |                  |     |   |   |      |     |
|-------------|----------------------------------------------------|---------|----|---------|-------------|------|-------------|------|------------------|-----|---|---|------|-----|
|             |                                                    | WEL 0.2 |    |         | COB         |      | 0.7 GPZ     |      | 0.5              |     |   |   |      |     |
|             |                                                    |         |    |         |             |      |             |      | 77/ 660          |     |   |   |      |     |
| OCT 11      | 21 <sup>h</sup> 52 <sup>m</sup> 08 <sup>s</sup> .1 | 44°.60s |    |         | 168°.28E    |      | 93 km       |      | M = 4.0          |     |   |   |      |     |
|             | ± 0.7                                              | 0.03    |    |         | 0.05        |      | 9           |      | S.E. of RES. 1.1 |     |   |   |      |     |
| STN         | PHASE                                              | H       | M  | S       | DIR         | RES  | WT          | DIST | AZ               | W-A | W | P | W    | S   |
| MSZ         | P                                                  | 21      | 52 | 21.8    |             | -0.2 | 100         | 0.27 | 255              |     |   |   |      |     |
| ROX         | P                                                  | 21      | 52 | 31.3    |             | 1.3  | 100         | 1.14 | 140              |     |   |   |      |     |
|             | S                                                  |         |    | 45.5    |             | -1.0 | 100         |      |                  |     |   |   |      |     |
| MNW         | P                                                  | 21      | 52 | 31.7    |             | 0.2  | 100         | 1.27 | 201              |     |   |   | 4.7* |     |
|             | S                                                  |         |    | 48.0    |             | -1.2 | 100         |      |                  |     |   |   |      |     |
| GSP         | P                                                  | 21      | 52 | 33.9    |             | 1.7  | 99          | 1.33 | 70               |     |   |   |      |     |
|             | S                                                  |         |    | 51.5    |             | 0.9  | 100         |      |                  |     |   |   |      |     |
| MJZ         | P                                                  | 21      | 52 | 37.6    |             | 0.8  | 100         | 1.68 | 69               |     |   |   |      |     |
|             | S                                                  |         |    | 58.1    |             | -0.1 | 100         |      |                  |     |   |   |      |     |
| OMZ         | P                                                  | 21      | 52 | 41.3    |             | 1.3  | 100         | 1.93 | 105              |     |   |   | 4.2  | 4.0 |
|             | S                                                  |         |    | 53 03   |             | -0.6 | 100         |      |                  |     |   |   |      |     |
| OBZ         | P                                                  | 21      | 52 | 45.8    |             | 0.6  | 100         | 2.31 | 183              |     |   |   |      |     |
|             | S                                                  |         |    | 53 12.0 |             | -0.7 | 100         |      |                  |     |   |   |      |     |
| KAI         | eS                                                 | 21      | 53 | 31      |             | -0.7 | 100         | 3.08 | 49               | 3.9 |   |   |      |     |
|             | e                                                  |         |    | 37      |             |      |             |      |                  |     |   |   |      |     |
| GPZ         | eS                                                 | 21      | 53 | 36      |             | -0.4 | 100         | 3.27 | 75               | 3.6 |   |   |      |     |
| COB         | P                                                  | 21      | 53 | 19.5    |             | 0.0  | 100         | 4.80 | 45               |     |   |   | 4.2  | 4.2 |
|             | S                                                  |         |    | 54 12.2 |             | -2.1 | 98          |      |                  |     |   |   |      |     |
| MNG         | e                                                  | 21      | 53 | 51      |             |      |             | 6.64 | 56               |     |   |   | 2.8* |     |
|             | eS                                                 |         |    | 54 59   |             | -0.6 |             |      |                  |     |   |   |      |     |
| AMPLITUDES: |                                                    | MNW 23  |    |         | OMZ 2.5 3.0 |      | OBZ 2.3 1.7 |      |                  |     |   |   |      |     |
|             |                                                    | KAI 0.3 |    |         | GPZ 0.2     |      | COB 0.4 1.1 |      |                  |     |   |   |      |     |
|             |                                                    | MNG 0.2 |    |         |             |      |             |      |                  |     |   |   |      |     |

|             |                                                    |         |    |         |          |      |       |      |                  |     |   |     |     |         |  |
|-------------|----------------------------------------------------|---------|----|---------|----------|------|-------|------|------------------|-----|---|-----|-----|---------|--|
|             |                                                    |         |    |         |          |      |       |      |                  |     |   |     |     | 77/ 661 |  |
| OCT 12      | 05 <sup>h</sup> 27 <sup>m</sup> 49 <sup>s</sup> .2 | 39°.24s |    |         | 175°.25E |      | 30 km |      | M = 3.7          |     |   |     |     |         |  |
|             | ± 0.3                                              | 0.02    |    |         | 0.03     |      | 2     |      | S.E. of RES. 1.0 |     |   |     |     |         |  |
| STN         | PHASE                                              | H       | M  | S       | DIR      | RES  | WT    | DIST | AZ               | W-A | W | P   | W S |         |  |
| GSZ         | P*                                                 | 05      | 27 | 56.3    |          | 0.2  | 100   | 0.26 | 98               |     |   |     |     |         |  |
|             | S*                                                 |         | 28 | 00.8    |          | -0.2 | 100   |      |                  |     |   |     |     |         |  |
| TNZ         | P*                                                 | 05      | 28 | 01.5    |          | -0.9 | 100   | 0.67 | 274              |     |   |     |     |         |  |
| TRZ         | ePn                                                | 05      | 28 | 10.0    |          | -0.2 | 100   | 1.26 | 105              |     |   | 3.1 | 3.3 |         |  |
|             | e(P*)                                              |         |    | 14.5    |          | 2.5  |       |      |                  |     |   |     |     |         |  |
|             | eSn                                                |         |    | 25.0    |          | -0.9 | 100   |      |                  |     |   |     |     |         |  |
|             | e                                                  |         |    | 33.8    |          |      |       |      |                  |     |   |     |     |         |  |
| KRP         | Pn                                                 | 05      | 28 | 11.0    |          | -0.3 | 100   | 1.33 | 10               |     |   | 4.0 | 4.1 |         |  |
|             | Sn                                                 |         |    | 28.6    |          | 0.8  | 100   |      |                  |     |   |     |     |         |  |
| MNG         | Pn                                                 | 05      | 28 | 12.2    |          | 0.2  | 100   | 1.39 | 173              |     |   | 3.6 | 3.8 |         |  |
|             | eSn                                                |         |    | 29.2    |          | 0.1  | 100   |      |                  |     |   |     |     |         |  |
|             | i                                                  |         |    | 31.2    |          |      |       |      |                  |     |   |     |     |         |  |
| WTZ         | eP*                                                | 05      | 28 | 24      |          | 1.9  |       | 1.85 | 48               |     |   | 3.3 | 3.5 |         |  |
|             | e                                                  |         |    | 52      |          |      |       |      |                  |     |   |     |     |         |  |
| WEL         | eP*                                                | 05      | 28 | 27      |          | 1.1  | 99    | 2.08 | 190              | 3.6 |   |     |     |         |  |
|             | eSn                                                |         |    | 47      |          | 1.4  | 99    |      |                  |     |   |     |     |         |  |
|             | e                                                  |         |    | 51      |          |      |       |      |                  |     |   |     |     |         |  |
| COB         | ePn                                                | 05      | 28 | 29.5    |          | -0.0 | 100   | 2.67 | 225              |     |   | 4.1 | 3.8 |         |  |
|             | e                                                  |         |    | 32.0    |          |      |       |      |                  |     |   |     |     |         |  |
|             | e                                                  |         |    | 29 05.0 |          |      |       |      |                  |     |   |     |     |         |  |
| GPZ         | eSn                                                | 05      | 29 | 51      |          | -1.6 | 98    | 4.87 | 203              | 3.9 |   |     |     |         |  |
| AMPLITUDES: |                                                    | TRZ     |    | 0.2     | 0.4      | KRP  |       | 2.6  | 2.8              | MNG |   | 3.2 | 7.0 |         |  |
|             | WTZ                                                | 0.2     |    | 0.2     | WEL      |      | 0.3   |      |                  | COB |   | 0.9 | 1.5 |         |  |

GPZ 0.2

OCT 12 11<sup>h</sup>59<sup>m</sup>28<sup>s</sup>.8 35°.32s 178°.91E 291 km 77/ 662  
 ± 0.8 0.04 0.06 5 S.E. of RES. 1.0 M = 4.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|
| ECZ | P     | 12 | 00 | 18.2 |     | -0.3 | 100 | 2.39 | 187 |      | 4.4  | 5.1  |
|     | e     |    |    | 52   |     |      |     |      |     |      |      |      |
|     | eS    |    |    | 58   |     | 0.9  | 100 |      |     |      |      |      |
| WIZ | eP    | 12 | 00 | 21.0 |     | 0.5  | 100 | 2.61 | 212 |      |      |      |
|     | e     |    |    | 55   |     |      |     |      |     |      |      |      |
|     | eS    |    | 01 | 01   |     | 0.2  | 100 |      |     |      |      |      |
| WTZ | P     | 12 | 00 | 25.0 |     | -0.1 | 100 | 3.08 | 210 |      | 4.6  | 4.9  |
|     | S     |    | 01 | 07.0 |     | -2.0 | 98  |      |     |      |      |      |
| GNZ | P     | 12 | 00 | 28.2 |     | -0.2 | 100 | 3.40 | 192 |      | 4.8  |      |
|     | i     |    | 01 | 12.2 |     |      |     |      |     |      |      |      |
|     | S     |    |    | 15.0 |     | 0.0  | 100 |      |     |      |      |      |
| ONE | P     | 12 | 00 | 32.0 |     | -0.1 | 100 | 3.74 | 262 | 3.5* |      |      |
|     | eS    |    | 01 | 21   |     | -0.6 | 100 |      |     |      |      |      |
| TUA | eP    | 12 | 00 | 32   |     | -0.3 | 100 | 3.76 | 201 |      | 4.3  | 5.0  |
|     | eS    |    | 01 | 20   |     | -2.0 | 98  |      |     |      |      |      |
| KRP | P     | 12 | 00 | 33.8 |     | 1.5  | 99  | 3.76 | 225 |      | 3.3* |      |
|     | S     |    | 01 | 24   |     | 1.9  | 98  |      |     |      |      |      |
|     | e     |    |    | 37   |     |      |     |      |     |      |      |      |
|     | e     |    |    | 40   |     |      |     |      |     |      |      |      |
| TRZ | eP    | 12 | 00 | 41   |     | -0.3 | 100 | 4.54 | 201 |      | 4.6  | 5.0  |
|     | S     |    | 01 | 39.5 |     | 1.5  | 99  |      |     |      |      |      |
| CRZ | P     | 12 | 00 | 48.5 |     | -0.3 | 100 | 5.20 | 278 |      |      |      |
| MNG | P     | 12 | 00 | 57.5 |     | -0.3 | 100 | 5.95 | 206 |      | 4.6  | 4.9  |
|     | S     |    | 02 | 07   |     | -0.6 | 100 |      |     |      |      |      |
| WEL | eS    | 12 | 02 | 25   |     | -1.2 | 100 | 6.79 | 207 | 4.8  |      |      |
| COB | S     | 12 | 02 | 43   |     | 0.3  | 100 | 7.54 | 218 |      |      | 3.8* |
| KAI | eS    | 12 | 03 | 21   |     | -0.2 | 100 | 9.28 | 217 | 3.8* |      |      |
| GPZ | eS    | 12 | 03 | 31   |     | 0.9  | 100 | 9.67 | 208 | 3.8* |      |      |

AMPLITUDES: ECZ 0.8 3.3 WTZ 2.1 4.1 GNZ 2.8  
 ONE 0.5 TUA 0.3 1.7 KRP 0.8  
 TRZ 0.4 2.3 MNG 2.0 4.8 WEL 0.5  
 COB 1.8 KAI 0.3 GPZ 0.5

OCT 12 18<sup>h</sup>35<sup>m</sup>45<sup>s</sup>.7 33°.59s 179°.38E 358 km 77/ 663  
 ± 2.2 0.17 0.34 27 S.E. of RES. 1.7 M = 4.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|
| ECZ | eS    | 18 | 37 | 54      |     | 0.6  | 100 | 4.16 | 189 |     |      | 4.4  |
| WTZ | eP    | 18 | 37 | 03.5    |     | -0.5 | 100 | 4.80 | 203 |     | 4.3  | 4.4  |
|     | S     |    |    | 38 04   |     | -1.5 | 100 |      |     |     |      |      |
| GNZ | eP    | 18 | 37 | 07.8    |     | -0.3 | 100 | 5.17 | 192 |     | 3.9  | 4.6  |
|     | S     |    |    | 38 11.3 |     | -1.4 | 100 |      |     |     |      |      |
| KRP | eP    | 18 | 37 | 11      |     | 1.0  | 100 | 5.34 | 215 |     | 2.9* |      |
| TUA | eS    | 18 | 38 | 20      |     | 0.4  | 100 | 5.52 | 198 |     |      | 4.6  |
| TRZ | eS    | 18 | 38 | 39      |     | 3.3  | 96  | 6.30 | 198 |     |      | 4.3  |
| MNG | P     | 18 | 37 | 36.8    |     | -0.2 | 100 | 7.68 | 203 |     | 4.7  | 4.5  |
|     | S     |    |    | 39 05   |     | 0.4  | 100 |      |     |     |      |      |
| WEL | eS    | 18 | 39 | 20      |     | -2.4 | 99  | 8.51 | 204 | 4.6 |      |      |
| COB | eS    | 18 | 39 | 37      |     | 0.6  | 100 | 9.17 | 213 |     |      | 2.9* |

AMPLITUDES: ECZ 0.3 WTZ 0.5 0.7 GNZ 0.2 1.6  
 KRP 0.2 TUA 0.3 TRZ 0.3

OCT 12 20<sup>h</sup>16<sup>m</sup>24<sup>s</sup>.0 37°.53s 177°.99E 107 km M = 4.2  
 ± 1.4 0.06 0.08 10 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|
| ECZ | iP    | 20 | 16 | 40.7    |     | 0.2  | 100 | 0.47 | 110 |      | 4.4  | 4.3  |
|     | S     |    |    | 52.2    |     | -0.9 | 100 |      |     |      |      |      |
| WIZ | P     | 20 | 16 | 40.8    |     | -0.9 | 100 | 0.64 | 270 |      |      |      |
|     | (S)   |    |    | 50.0    |     | -5.2 |     |      |     |      |      |      |
| WTZ | iP    | 20 | 16 | 44.1    |     | -0.1 | 100 | 0.92 | 240 |      |      |      |
| GNZ | P     | 20 | 16 | 47.0    |     | 0.6  | 100 | 1.12 | 179 |      |      |      |
|     | S     |    |    | 17 03.5 |     | -0.0 | 100 |      |     |      |      |      |
| TUA | P     | 20 | 16 | 52.0    |     | 1.7  | 99  | 1.44 | 207 |      | 4.0  | 4.1  |
|     | e     |    |    | 54.7    |     |      |     |      |     |      |      |      |
|     | S     |    |    | 17 11.8 |     | 1.5  | 99  |      |     |      |      |      |
|     | e     |    |    | 15.5    |     |      |     |      |     |      |      |      |
| KRP | P     | 20 | 16 | 58.8    |     | 1.6  | 99  | 1.99 | 258 |      | 3.5* | 3.3* |
|     | S     |    |    | 17 21.2 |     | -0.5 | 100 |      |     |      |      |      |
| TRZ | e(P)  | 20 | 17 | 02.5    |     | 2.3  |     | 2.22 | 204 |      |      |      |
| MNG | P     | 20 | 17 | 19.0    |     | -0.8 | 100 | 3.65 | 212 |      | 4.2  |      |
|     | e     |    |    | 18 01   |     |      |     |      |     |      |      |      |
| WEL | eS    | 20 | 18 | 21      |     | -2.0 | 99  | 4.51 | 213 | 4.2  |      |      |
| GPZ | eS    | 20 | 19 | 27      |     | -6.5 |     | 7.39 | 212 | 3.3* |      |      |

AMPLITUDES: ECZ 11 9.0 TUA 1.2 1.5 KRP 2.5 1.6  
 MNG 2.5 WEL 0.3 GPZ 0.2

OCT 13 06<sup>h</sup>35<sup>m</sup>47<sup>s</sup>.8 38°.72s 175°.72E 140 km M = 3.9  
 ± 1.0 0.03 0.05 8 S.E. of RES. 1.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|
| GSZ | P     | 06 | 36 | 10.8 |     | 2.3  | 98  | 0.57 | 191 |      |      |      |
| KRP | P     | 06 | 36 | 10.8 |     | 0.8  | 100 | 0.80 | 349 |      | 3.3* |      |
|     | S     |    |    | 27.0 |     | -0.2 | 100 |      |     |      |      |      |
| TUA | iS    | 06 | 36 | 32.2 |     | 0.1  | 100 | 1.12 | 95  |      | 4.0  |      |
|     | i     |    |    | 35.9 |     |      |     |      |     |      |      |      |
| TRZ | P     | 06 | 36 | 15.0 |     | 1.3  | 100 | 1.20 | 135 |      | 4.1  | 3.8  |
|     | eS    |    |    | 34.8 |     | 1.3  | 100 |      |     |      |      |      |
|     | e     |    |    | 37.8 |     |      |     |      |     |      |      |      |
| WTZ | P     | 06 | 36 | 13.3 |     | -0.7 | 100 | 1.23 | 54  |      | 3.6  | 3.5  |
|     | S     |    |    | 33.2 |     | -0.9 | 100 |      |     |      |      |      |
| GNZ | P     | 06 | 36 | 21.0 |     | 0.7  | 100 | 1.80 | 88  |      | 4.0  | 4.2  |
|     | S     |    |    | 43.5 |     | -1.6 | 99  |      |     |      |      |      |
| MNG | iP    | 06 | 36 | 22.0 |     | 0.4  | 100 | 1.91 | 186 |      | 4.2  | 4.0  |
|     | S     |    |    | 45.7 |     | -1.6 | 99  |      |     |      |      |      |
| ECZ | P     | 06 | 36 | 28.0 |     | -0.4 | 100 | 2.45 | 66  |      | 4.0  |      |
| WEL | eS    | 06 | 37 | 04.0 |     | -0.3 | 100 | 2.67 | 196 | 4.0  |      |      |
| COB | S     | 06 | 37 | 17.8 |     | -1.2 | 100 | 3.30 | 223 |      |      | 3.4* |
| GPZ | eS    | 06 | 38 | 05   |     | -6.2 |     | 5.49 | 204 | 3.5* |      |      |

AMPLITUDES: KRP 2.6 TUA 1.4 TRZ 1.4 1.6  
 WTZ 1.2 1.0 GNZ 1.8 4.8 MNG 6.8 5.8  
 ECZ 0.5 WEL 0.5 COB 1.5  
 GPZ 0.4

OCT 13 08<sup>h</sup>01<sup>m</sup>09<sup>s</sup>.1 38°.58s 175°.77E 171 km M = 4.1  
 ± 1.1 0.05 0.06 8 S.E. of RES. 1.7



| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W   | P    | W    | S    |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|------|-----|------|------|------|
| KRP         | P     | 08  | 01  | 35.0 |     | 1.1  | 100 | 0.68 | 344 |      |     |      |      | 3.9* |
|             | S     |     |     | 52.3 |     | -0.7 | 100 |      |     |      |     |      |      |      |
| GSZ         | P     | 08  | 01  | 36.0 |     | 2.0  | 99  | 0.71 | 192 |      |     |      |      |      |
|             | eS    |     |     | 54.8 |     | 1.5  | 100 |      |     |      |     |      |      |      |
| TUA         | P     | 08  | 01  | 38.0 |     | 1.1  | 100 | 1.11 | 102 |      |     | 4.2  | 4.3  |      |
|             | e     |     |     | 53.0 |     |      |     |      |     |      |     |      |      |      |
|             | S     |     |     | 57.4 |     | -0.9 | 100 |      |     |      |     |      |      |      |
| WTZ         | P     | 08  | 01  | 37.0 |     | -0.1 | 100 | 1.13 | 59  |      |     | 3.4  | 3.9  |      |
|             | eS    |     |     | 57.5 |     | -1.1 | 100 |      |     |      |     |      |      |      |
| TRZ         | P     | 08  | 01  | 40.0 |     | 1.6  | 100 | 1.27 | 140 |      |     | 4.6  | 4.3  |      |
|             | S     |     | 02  | 03.0 |     | 2.1  | 99  |      |     |      |     |      |      |      |
| GNZ         | P     | 08  | 01  | 44.1 |     | 0.8  | 100 | 1.76 | 93  |      |     | 4.0  | 4.2  |      |
|             | e     |     | 02  | 03.5 |     |      |     |      |     |      |     |      |      |      |
|             | S     |     |     | 07.9 |     | -1.8 | 100 |      |     |      |     |      |      |      |
| MNG         | iP    | 08  | 01  | 47.4 |     | 1.0  | 100 | 2.05 | 186 |      |     | 4.4  | 4.5  |      |
|             | S     |     | 02  | 13.0 |     | -2.1 | 99  |      |     |      |     |      |      |      |
| CAZ         | P     | 08  | 01  | 51.8 |     | 1.9  | 100 | 2.35 | 172 |      |     |      |      |      |
|             | S     |     | 02  | 22.5 |     | 1.1  | 100 |      |     |      |     |      |      |      |
| ECZ         | eS    | 08  | 02  | 20.2 |     | -1.4 | 100 | 2.37 | 69  |      |     |      | 3.8  |      |
| WEL         | eP    | 08  | 01  | 54   |     | -1.5 | 100 | 2.81 | 196 | 4.1  |     |      |      |      |
|             | eS    |     | 02  | 28.5 |     | -2.8 | 99  |      |     |      |     |      |      |      |
| COB         | eP    | 08  | 02  | 03.0 |     | -0.3 | 100 | 3.43 | 222 |      |     | 3.5* | 3.5* |      |
|             | eS    |     |     | 44.0 |     | -1.0 | 100 |      |     |      |     |      |      |      |
| GPZ         | S     | 08  | 03  | 31   |     | -5.3 |     | 5.63 | 204 | 3.5* |     |      |      |      |
| AMPLITUDES: |       | KRP |     | 9.0  |     | TUA  | 2.0 | 2.2  | WTZ |      | 0.6 | 2.2  |      |      |
|             |       | TRZ | 3.9 | 3.8  |     | GNZ  | 1.9 | 4.7  | MNG |      | 10  | 13   |      |      |
|             |       | ECZ |     | 0.3  |     | WEL  | 0.6 |      | COB |      | 0.5 | 2.0  |      |      |
|             |       | GPZ | 0.4 |      |     |      |     |      |     |      |     |      |      |      |

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OCT 13    13<sup>h</sup>25<sup>m</sup>45<sup>s</sup>.9    39°.25s    174°.74E    220 km    M = 4.5

± 0.9    0.04    0.06    7    S.E. of RES. 1.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W    | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|------|------|---|
| TNZ | eP    | 13 | 26 | 15   |     | 0.1  | 100 | 0.29 | 282 |     |   |      |      |   |
|     | S     |    |    | 39   |     | 1.8  | 100 |      |     |     |   |      |      |   |
| GSZ | P     | 13 | 26 | 17.8 |     | 1.8  | 100 | 0.66 | 93  |     |   |      |      |   |
|     | eS    |    |    | 38.4 |     | -0.9 | 100 |      |     |     |   |      |      |   |
| WNZ | P     | 13 | 26 | 19.7 |     | 0.3  | 100 | 1.22 | 60  |     |   | 4.5  |      |   |
| KRP | P     | 13 | 26 | 21.6 |     | 0.3  | 100 | 1.46 | 26  |     |   | 3.6* | 3.1* |   |
|     | S     |    |    | 47.7 |     | -1.0 | 100 |      |     |     |   |      |      |   |
| MNG | iP    | 13 | 26 | 23.1 |     | 1.6  | 100 | 1.48 | 158 |     |   |      |      |   |
|     | e     |    |    | 47.8 |     |      |     |      |     |     |   |      |      |   |
| TRZ | P     | 13 | 26 | 24.1 |     | 1.3  | 100 | 1.64 | 101 |     |   | 4.2  | 4.7  |   |
|     | e     |    |    | 46.2 |     |      |     |      |     |     |   |      |      |   |
|     | eS    |    |    | 51.5 |     | 0.1  | 100 |      |     |     |   |      |      |   |
| TUA | P     | 13 | 26 | 26.2 |     | 0.7  | 100 | 1.93 | 78  |     |   | 4.6  | 4.3  |   |
|     | S     |    |    | 55.5 |     | -0.6 | 100 |      |     |     |   |      |      |   |
| CAZ | iP    | 13 | 26 | 28.1 |     | 1.8  | 100 | 2.02 | 146 |     |   |      |      |   |
|     | e     |    |    | 54.7 |     |      |     |      |     |     |   |      |      |   |
|     | S     |    | 27 | 00.0 |     | 2.4  | 99  |      |     |     |   |      |      |   |
| WEL | P     | 13 | 26 | 27.9 |     | 1.3  | 100 | 2.04 | 179 | 4.8 |   |      |      |   |
|     | S     |    |    | 57.0 |     | -1.1 | 100 |      |     |     |   |      |      |   |
| WTZ | P     | 13 | 26 | 29.0 |     | 1.1  | 100 | 2.17 | 55  |     |   | 4.6  | 4.3  |   |
|     | eS    |    |    | 57.5 |     | -2.8 | 99  |      |     |     |   |      |      |   |
| COB | P     | 13 | 26 | 30.0 |     | -0.3 | 100 | 2.40 | 219 |     |   | 4.1* |      |   |
|     | S     |    | 27 | 03.3 |     | -1.4 | 100 |      |     |     |   |      |      |   |

|             |     |            |          |          |             |
|-------------|-----|------------|----------|----------|-------------|
| GNZ         | P   | 13 26 33.1 | 0.3 100  | 2.63 78  | 4.3 4.6     |
|             | e   | 27 03.8    |          |          |             |
|             | S   | 06.5       | -2.7 99  |          |             |
| ECZ         | P   | 13 26 41.8 | 0.5 100  | 3.37 64  | 4.7 4.5     |
|             | eS  | 27 23.8    | -0.4 100 |          |             |
| KAI         |     |            |          | 4.14 217 | 4.4*        |
| GPZ         | eP  | 13 26 57.0 | -0.9 100 | 4.72 199 | 4.5*        |
|             | S   | 27 50.5    | -3.3 97  |          |             |
| AMPLITUDES: |     |            |          |          |             |
|             | TNZ | 0.3 1.0    | WNZ      | 0.3      | KRP 2.6 1.0 |
|             | TRZ | 0.8 6.2    | TUA      | 2.0 1.1  | WEL 3.9     |
|             | WTZ | 4.0 2.2    | COB      | 2.6      | GNZ 1.8 4.8 |
|             | ECZ | 1.2 0.7    | KAI      | 2.8      | GPZ 5.0     |

OCT 13 15<sup>h</sup>31<sup>m</sup>20<sup>s</sup>.3 38°.69s 175°.73E 153 km M = 3.8  
 ± 1.0 0.04 0.05 8 S.E. of RES. 1.4 77/ 668

| STN         | PHASE | H       | M       | S       | DIR | RES      | WT | DIST | AZ  | W-A  | W P W S   |
|-------------|-------|---------|---------|---------|-----|----------|----|------|-----|------|-----------|
| GSZ         | P     | 15 31   | 45.2    |         |     | 2.6 98   |    | 0.60 | 190 |      |           |
| KRP         | P     | 15 31   | 44.2    |         |     | 0.5 100  |    | 0.77 | 349 |      | 3.3* 2.6* |
|             | S     |         | 32 01.7 |         |     | -0.0 100 |    |      |     |      |           |
| TUA         | S     | 15 32   | 07      |         |     | 0.4 100  |    | 1.12 | 97  |      | 3.9       |
| TRZ         | P     | 15 31   | 49.7    |         |     | 2.3 99   |    | 1.21 | 136 |      | 4.0 3.5   |
|             | e     |         | 32 13   |         |     |          |    |      |     |      |           |
| WTZ         | P     | 15 31   | 47.0    |         |     | -0.4 100 |    | 1.21 | 55  |      | 3.3 3.9   |
|             | S     |         | 32 07.0 |         |     | -1.2 100 |    |      |     |      |           |
| GNZ         | P     | 15 31   | 54.0    |         |     | 0.4 100  |    | 1.80 | 89  |      | 3.6 3.9   |
|             | e     |         | 32 10.2 |         |     |          |    |      |     |      |           |
|             | S     |         | 17.2    |         |     | -1.9 99  |    |      |     |      |           |
| MNG         | P     | 15 31   | 56.2    |         |     | 1.1 100  |    | 1.93 | 186 |      | 3.9 4.0   |
|             | S     |         | 32 21.7 |         |     | -0.3 100 |    |      |     |      |           |
| ECZ         | P     | 15 32   | 01.8    |         |     | 0.5 100  |    | 2.44 | 67  |      | 4.1       |
|             | e     |         | 28.8    |         |     |          |    |      |     |      |           |
|             | eS    |         | 32.3    |         |     | -0.3 100 |    |      |     |      |           |
| WEL         | eS    | 15 32   | 38      |         |     | -0.5 100 |    | 2.70 | 196 | 4.0  |           |
| COB         | eP    | 15 32   | 11      |         |     | -1.7 99  |    | 3.33 | 223 |      | 3.2* 3.3* |
|             | S     |         | 51.5    |         |     | -1.2 100 |    |      |     |      |           |
| GPZ         | S     | 15 33   | 39      |         |     | -5.5     |    | 5.52 | 204 | 3.4* |           |
| AMPLITUDES: |       |         |         |         |     |          |    |      |     |      |           |
|             | KRP   | 2.5 0.6 | TUA     | 1.0     | TRZ | 1.0 0.7  |    |      |     |      |           |
|             | WTZ   | 0.5 2.6 | GNZ     | 0.8 2.6 | MNG | 3.5 5.8  |    |      |     |      |           |
|             | ECZ   | 0.6     | WEL     | 0.4     | COB | 0.3 1.2  |    |      |     |      |           |
|             | GPZ   | 0.3     |         |         |     |          |    |      |     |      |           |

OCT 13 23<sup>h</sup>06<sup>m</sup>45<sup>s</sup>.0 37°.37s 179°.89E 160 km M = 4.1  
 ± 1.4 0.09 0.14 8 S.E. of RES. 1.3 77/ 669

| STN | PHASE | H     | M       | S | DIR | RES      | WT | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|---------|---|-----|----------|----|------|-----|-----|---------|
| ECZ | P     | 23 07 | 10.0    |   |     | -1.8 99  |    | 1.12 | 253 |     | 3.9 4.2 |
|     | e     |       | 24.9    |   |     |          |    |      |     |     |         |
|     | iS    |       | 32.0    |   |     | -0.4 100 |    |      |     |     |         |
| GNZ | P     | 23 07 | 20.8    |   |     | 0.3 100  |    | 1.95 | 229 |     | 3.9 4.2 |
|     | S     |       | 49.5    |   |     | 1.6 99   |    |      |     |     |         |
| WTZ | P     | 23 07 | 25.0    |   |     | -0.6 100 |    | 2.38 | 254 |     | 4.1 4.3 |
|     | e     |       | 54.8    |   |     |          |    |      |     |     |         |
|     | iS    |       | 56.8    |   |     | -0.1 100 |    |      |     |     |         |
| TUA | e     | 23 07 | 39      |   |     |          |    | 2.60 | 236 |     | 4.5     |
|     | S     |       | 08 02.5 |   |     | 0.9 100  |    |      |     |     |         |
| KRP | eP    | 23 07 | 42      |   |     | 2.1 99   |    | 3.50 | 260 |     | 3.0*    |

|     |    |            |          |          |         |
|-----|----|------------|----------|----------|---------|
| MNG | P  | 23 07 56.1 | 0.3 100  | 4.73 225 | 3.9 4.0 |
|     | eS | 08 49      | -1.4 100 |          |         |
| WEL | eS | 23 09 11   | 0.3 100  | 5.58 224 | 4.2     |
| COB | eP | 23 08 21.8 | 0.0 100  | 6.69 234 | 3.0*    |
|     | eS | 09 36.0    | -1.0 100 |          |         |

|             |     |         |     |         |     |         |
|-------------|-----|---------|-----|---------|-----|---------|
| AMPLITUDES: | ECZ | 1.0 2.1 | GNZ | 1.3 3.6 | WTZ | 1.2 2.6 |
|             | TUA | 1.2     | KRP | 0.4     | MNG | 0.7 1.1 |
|             | WEL | 0.2     | COB | 0.3     |     |         |

OCT 14 04<sup>h</sup>55<sup>m</sup>30<sup>s</sup>.7 34°.16s 179°.59w 229 km M = 5.1  
 ± 1.4 0.08 0.11 21 S.E. of RES. 2.1

| STN | PHASE | H     | M       | S | DIR | RES      | WT | DIST  | AZ  | W-A  | W P W S   |
|-----|-------|-------|---------|---|-----|----------|----|-------|-----|------|-----------|
| ECZ | P     | 04 56 | 32.1    |   |     | 0.0 100  |    | 3.84  | 203 |      | 5.0 5.3   |
|     | S     |       | 57 19.0 |   |     | -0.9 100 |    |       |     |      |           |
| WIZ | P     | 04 56 | 35.7    |   |     | -1.7 100 |    | 4.27  | 217 |      |           |
|     | eS    |       | 57 27   |   |     | -2.1 100 |    |       |     |      |           |
| WTZ | P     | 04 56 | 40.9    |   |     | -2.1 100 |    | 4.72  | 215 |      | 5.3 5.1   |
|     | e     |       | 42.0    |   |     |          |    |       |     |      |           |
|     | e     |       | 57 35.0 |   |     |          |    |       |     |      |           |
|     | eS    |       | 40.7    |   |     | 1.6 100  |    |       |     |      |           |
| GNZ | P     | 04 56 | 44.2    |   |     | -0.7 100 |    | 4.88  | 203 |      | 5.1 5.0   |
|     | eS    |       | 57 41   |   |     | -1.6 100 |    |       |     |      |           |
| ONE | P     | 04 56 | 49.0    |   |     | -0.3 100 |    | 5.23  | 250 | 3.5* |           |
|     | eS    |       | 57 51   |   |     | 0.5 100  |    |       |     |      |           |
| AUC | eP    | 04 56 | 52      |   |     | 1.4 100  |    | 5.33  | 238 |      |           |
| TUA | P     | 04 56 | 50.7    |   |     | 0.0 100  |    | 5.34  | 209 |      | 5.3 5.3   |
|     | e     |       | 51.4    |   |     |          |    |       |     |      |           |
|     | e     |       | 57 02   |   |     |          |    |       |     |      |           |
|     | eS    |       | 54      |   |     | 1.1 100  |    |       |     |      |           |
| KRP | P     | 04 56 | 53.1    |   |     | 0.9 100  |    | 5.45  | 225 |      | 3.9* 3.4* |
|     | eS    |       | 57 59   |   |     | 3.4 99   |    |       |     |      |           |
| TRZ | P     | 04 56 | 59.7    |   |     | -0.8 100 |    | 6.11  | 207 |      | 5.2 5.0   |
|     | e     |       | 57 06   |   |     |          |    |       |     |      |           |
|     | eS    |       | 58 13   |   |     | 2.5 100  |    |       |     |      |           |
| CRZ | eP    | 04 57 | 03      |   |     | -1.3 100 |    | 6.41  | 265 |      | 4.1* 3.7* |
|     | eS    |       | 58 15   |   |     | -2.4 100 |    |       |     |      |           |
| GSZ | P     | 04 57 | 09.0    |   |     | 4.6 96   |    | 6.42  | 216 |      |           |
|     | e     |       | 15      |   |     |          |    |       |     |      |           |
|     | e(S)  |       | 58 25   |   |     | 7.5      |    |       |     |      |           |
| MNG | P     | 04 57 | 18.2    |   |     | -0.7 100 |    | 7.55  | 210 |      | 4.8 4.8   |
|     | e     |       | 36.0    |   |     |          |    |       |     |      |           |
|     | eS    |       | 58 42   |   |     | -1.6 100 |    |       |     |      |           |
|     | e     |       | 59 21   |   |     |          |    |       |     |      |           |
| WEL | eS    | 04 59 | 01      |   |     | -2.2 100 |    | 8.41  | 210 | 5.0  |           |
| CIZ | eP    | 04 57 | 54      |   |     | 2.8 99   |    | 10.06 | 167 |      |           |
|     | eS    |       | 59 39   |   |     | -2.4 100 |    |       |     |      |           |

|             |     |         |     |         |     |         |
|-------------|-----|---------|-----|---------|-----|---------|
| AMPLITUDES: | ECZ | 1.7 3.7 | WTZ | 6.3 3.7 | GNZ | 3.9 5.0 |
|             | ONE | 0.4     | TUA | 2.0 2.1 | KRP | 2.2 0.8 |
|             |     | 1.2 1.6 | CRZ | 1.0 0.4 | MNG | 2.3 2.5 |
|             | WEL | 0.5     |     |         |     |         |

OCT 14 19<sup>h</sup>24<sup>m</sup>40<sup>s</sup>.1 37°.91s 176°.69E 150 km M = 3.6  
 ± 1.9 0.08 0.08 13 S.E. of RES. 2.0

| STN | PHASE | H     | M    | S | DIR | RES     | WT | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|------|---|-----|---------|----|------|-----|-----|---------|
| WTZ | P     | 19 24 | 57.6 |   |     | -3.0 99 |    | 0.24 | 108 |     |         |

## INSTRUMENTAL DATA

|             |      |       |         |          |          |             |
|-------------|------|-------|---------|----------|----------|-------------|
| KRP         | P    | 19 25 | 04.3    | 0.1 100  | 0.91 269 | 2.8* 2.5*   |
|             | S    |       | 22.9    | 0.1 100  |          |             |
| TUA         | P    | 19 25 | 06.0    | 1.4 100  | 0.97 158 | 3.6 3.8     |
|             | eS   |       | 26      | 2.5 99   |          |             |
| GNZ         | P    | 19 25 | 06.1    | -1.6 100 | 1.28 125 | 3.5 3.5     |
|             | S    |       | 26.0    | -2.8 99  |          |             |
| ECZ         | P    | 19 25 | 11.1    | 1.3 100  | 1.48 82  | 3.5 3.8     |
|             | eS   |       | 34      | 1.4 100  |          |             |
| TRZ         | e(P) | 19 25 | 16      | 4.5      | 1.65 176 | 3.6 3.7     |
|             | e(S) |       | 39      | 3.4      |          |             |
|             | e    |       | 48      |          |          |             |
| MNG         | eP   | 19 25 | 27      | 0.6 100  | 2.86 199 | 3.4 3.3     |
|             | e    |       | 32      |          |          |             |
|             | eS   |       | 26 01   | -0.8 100 |          |             |
| WEL         | eS   | 19 26 | 21      | 0.2 100  | 3.69 203 |             |
| AMPLITUDES: |      |       |         |          |          |             |
|             | WTZ  |       | 2.0     | KRP      | 0.8 0.4  | TUA 0.7 0.9 |
|             | GNZ  |       | 1.0 1.6 | ECZ      | 0.3 0.6  | TRZ 0.3 0.8 |
|             | MNG  |       | 0.5 0.6 |          |          |             |

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OCT 14    20<sup>h</sup>55<sup>m</sup>40<sup>s</sup>.9    38°.67S    175°.85E    183 km    M = 4.2  
                  ± 1.6            0.06            0.08            11    S.E. of RES. 2.0

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|------|------|
| WNZ         | iP    | 20  | 56 | 05.6 | U   | 0.3  | 100 | 0.20 | 80  |     |      |      |
| GSZ         | iP    | 20  | 56 | 08.2 | D   | 1.4  | 100 | 0.65 | 198 |     |      |      |
|             | eS    |     |    | 30   |     | 3.2  | 99  |      |     |     |      |      |
| KRP         | P     | 20  | 56 | 07.4 | DSW | -0.2 | 100 | 0.78 | 342 |     | 3.9* | 3.2* |
|             | eS    |     |    | 26   |     | -2.1 | 100 |      |     |     |      |      |
| TUA         | iP    | 20  | 56 | 10.5 | U   | 1.2  | 100 | 1.03 | 98  |     | 3.9  | 3.6  |
|             | eS    |     |    | 32   |     | 0.9  | 100 |      |     |     |      |      |
| WTZ         | iP    | 20  | 56 | 09.5 | U   | -0.4 | 100 | 1.13 | 53  |     | 4.3  | 4.0  |
|             | eS    |     |    | 28   |     | -4.4 | 96  |      |     |     |      |      |
| TRZ         | iP    | 20  | 56 | 12.0 | U   | 1.6  | 100 | 1.17 | 140 |     | 4.6  | 4.1  |
|             | eS    |     |    | 35   |     | 1.9  | 100 |      |     |     |      |      |
| TNZ         | eS    | 20  | 56 | 36   |     | 1.5  | 100 | 1.26 | 245 |     |      | 3.2* |
| GNZ         | iP    | 20  | 56 | 16.4 | UNE | 1.0  | 100 | 1.70 | 90  |     | 4.4  | 4.1  |
|             | eS    |     |    | 41.5 |     | -0.4 | 100 |      |     |     |      |      |
| MNG         | iP    | 20  | 56 | 18.7 | U   | 0.5  | 100 | 1.97 | 188 |     | 4.3  | 4.7  |
|             | e     |     |    | 40.2 |     |      |     |      |     |     |      |      |
|             | S     |     |    | 45.0 |     | -1.8 | 100 |      |     |     |      |      |
| CAZ         | eS    | 20  | 56 | 50   |     | -2.5 | 100 | 2.26 | 173 |     |      |      |
| ECZ         | eP    | 20  | 56 | 22.5 |     | 0.2  | 100 | 2.34 | 66  |     | 4.2  | 4.1  |
|             | eS    |     |    | 54.5 |     | 0.3  | 100 |      |     |     |      |      |
| WEL         | eS    | 20  | 57 | 00   |     | -2.8 | 99  | 2.74 | 197 | 4.3 |      |      |
| AMPLITUDES: |       | WNZ |    | 0.5  | KRP |      | 7.6 | 1.7  | TUA |     | 0.8  | 0.4  |
|             |       | WTZ |    | 4.5  | 2.5 | TRZ  |     | 4.0  | 2.5 | TNZ |      | 0.4  |
|             |       | GNZ |    | 4.3  | 3.6 | MNG  |     | 7.5  | 21  | ECZ |      | 0.7  |
|             |       | WEL |    | 0.9  |     |      |     |      |     |     |      | 0.6  |

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OCT 15    07<sup>h</sup>19<sup>m</sup>41<sup>s</sup>.3    34°.39S    179°.80E    301 km    M = 4.5  
                  ± 1.6            0.15            0.30            18    S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | eP    | 07 | 20 | 43   |     | 0.9  | 100 | 3.45 | 197 |     | 4.2 | 4.6 |
|     | eS    |    | 21 | 30   |     | 0.5  | 100 |      |     |     |     |     |
| WTZ | P     | 07 | 20 | 48.7 |     | -2.1 | 99  | 4.25 | 212 |     | 4.7 | 4.6 |
|     | e     |    | 21 | 38.5 |     |      |     |      |     |     |     |     |



|             |     |       |       |     |      |     |      |     |     |      |     |     |
|-------------|-----|-------|-------|-----|------|-----|------|-----|-----|------|-----|-----|
|             | eS  |       | 44    |     | -1.2 | 100 |      |     |     |      |     |     |
| GNZ         | P   | 07 20 | 53.2  |     | -0.2 | 100 | 4.48 | 198 |     | 4.6  | 4.6 |     |
|             | eS  |       | 21 48 |     | -1.9 | 99  |      |     |     |      |     |     |
| TUA         | eP  | 07 20 | 57.5  |     | -0.7 | 100 | 4.90 | 205 |     | 4.4  | 4.7 |     |
|             | eS  |       | 22 00 |     | 1.6  | 100 |      |     |     |      |     |     |
| KRP         | eP  | 07 21 | 00    |     | 1.4  | 100 | 4.93 | 223 |     | 3.2* |     |     |
| TRZ         | eS  | 07 22 | 17    |     | 2.1  | 99  | 5.68 | 204 |     |      | 4.6 |     |
| MNG         | eP  | 07 21 | 25    |     | 0.4  | 100 | 7.10 | 208 |     | 4.1  | 4.5 |     |
|             | eS  |       | 22 45 |     | -0.7 | 100 |      |     |     |      |     |     |
| WEL         | eS  | 07 23 | 04    |     | -0.5 | 100 | 7.96 | 209 | 4.7 |      |     |     |
| AMPLITUDES: |     |       |       |     |      |     |      |     |     |      |     |     |
|             | ECZ |       | 0.3   | 0.7 | WTZ  |     | 1.4  | 1.4 | GNZ |      | 1.2 | 2.2 |
|             | TUA |       | 0.3   | 0.5 | KRP  |     | 0.5  |     | TRZ |      | 0.7 |     |
|             | MNG |       | 0.5   | 1.5 | WEL  | 0.3 |      |     |     |      |     |     |

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OCT 15    14<sup>h</sup>20<sup>m</sup>02<sup>s</sup>.7    37°.46s    176°.74E    246 km    M = 4.0

S.E. of RES. 1.0

± 1.1    0.06    0.10    10

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W    | S   |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|---|---|------|-----|
| WTZ         | P     | 14 | 20 | 34.3  |     | -1.1 | 99  | 0.56 | 160 |     |   |   | 3.6  |     |
|             | e     |    |    | 37.3  |     |      |     |      |     |     |   |   |      |     |
| KRP         | P     | 14 | 20 | 38.0  |     | 0.2  | 100 | 1.06 | 244 |     |   |   | 2.6* |     |
| TUA         | eP    | 14 | 20 | 40.5  |     | 0.5  | 100 | 1.39 | 167 |     |   |   | 4.1  | 4.0 |
|             | eS    |    |    | 21 10 |     | 1.0  | 100 |      |     |     |   |   |      |     |
| ECZ         | P     | 14 | 20 | 40.6  |     | 0.1  | 100 | 1.45 | 100 |     |   |   | 3.7  |     |
| GNZ         | iP    | 14 | 20 | 41.4  | UN  | 0.1  | 100 | 1.56 | 140 |     |   |   | 4.4  | 3.9 |
|             | eS    |    |    | 21 11 |     | -0.2 | 100 |      |     |     |   |   |      |     |
| TRZ         | eP    | 14 | 20 | 47.0  |     | 1.0  | 100 | 2.10 | 178 |     |   |   | 4.0  | 3.8 |
|             | eS    |    |    | 21 18 |     | -1.5 | 99  |      |     |     |   |   |      |     |
|             | e     |    |    | 26.4  |     |      |     |      |     |     |   |   |      |     |
| MNG         | P     | 14 | 20 | 57.9  |     | -0.9 | 100 | 3.31 | 197 |     |   |   | 4.4  | 3.8 |
|             | S     |    |    | 21 43 |     | 0.7  | 100 |      |     |     |   |   |      |     |
| AMPLITUDES: |       |    |    |       |     |      |     |      |     |     |   |   |      |     |
|             | WTZ   |    |    | 0.8   |     | KRP  |     | 0.3  |     | TUA |   |   | 0.8  | 0.6 |
|             | ECZ   |    |    | 0.3   |     | GNZ  |     | 3.3  | 1.6 | TRZ |   |   | 0.4  | 0.5 |
|             | MNG   |    |    | 3.5   | 1.2 |      |     |      |     |     |   |   |      |     |

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OCT 15    17<sup>h</sup>05<sup>m</sup>38<sup>s</sup>.3    32°.88s    178°.53E    568 km    M = 4.6

S.E. of RES. 2.1

± 2.8    0.27    0.67    39

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W    | S   |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|---|---|------|-----|
| ECZ         | eS    | 17 | 08 | 22      |     | 2.5  | 99  | 4.81 | 180 |     |   |   | 4.5  |     |
| WTZ         | eP    | 17 | 07 | 10.5    |     | -1.4 | 100 | 5.25 | 193 |     |   |   | 4.3  | 4.4 |
|             | eS    |    |    | 08 24.5 |     | -1.6 | 100 |      |     |     |   |   |      |     |
| KRP         | eP    | 17 | 07 | 16.5    |     | 1.6  | 100 | 5.60 | 205 |     |   |   | 3.1* |     |
| GNZ         | eP    | 17 | 07 | 16      |     | -0.4 | 100 | 5.77 | 184 |     |   |   | 4.5  | 4.7 |
|             | eS    |    |    | 08 32   |     | -2.3 | 99  |      |     |     |   |   |      |     |
| TUA         | e(S)  | 17 | 08 | 48      |     | 9.6  |     | 6.02 | 190 |     |   |   |      | 5.1 |
| TRZ         | eS    | 17 | 08 | 53      |     | 1.7  | 100 | 6.80 | 191 |     |   |   |      | 4.8 |
| MNG         | iP    | 17 | 07 | 38.2    | D   | -0.1 | 100 | 8.11 | 197 |     |   |   | 4.5  | 4.7 |
|             | S     |    |    | 09 14.0 |     | 0.0  | 100 |      |     |     |   |   |      |     |
| AMPLITUDES: |       |    |    |         |     |      |     |      |     |     |   |   |      |     |
|             | ECZ   |    |    | 0.2     |     | WTZ  |     | 0.3  | 0.4 | KRP |   |   | 0.3  |     |
|             | GNZ   |    |    | 0.5     | 1.1 | TUA  |     |      | 0.7 | TRZ |   |   |      | 0.6 |
|             | MNG   |    |    | 0.7     | 1.3 |      |     |      |     |     |   |   |      |     |

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OCT 16    01<sup>h</sup>28<sup>m</sup>26<sup>s</sup>.9    39°.49s    175°.59E    7 km    M = 3.5

S.E. of RES. 1.8

± 0.7    0.03    0.04    5

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| GSZ         | Pg    | 01  | 28  | 29.9    | U   | -1.4 | 100 | 0.22 | 359 |     |     |     |     |   |
|             | Sg    |     |     | 33.5    |     | -0.8 | 100 |      |     |     |     |     |     |   |
| TRZ         | eP*   | 01  | 28  | 43      |     | -1.8 | 100 | 0.95 | 94  |     | 3.2 | 3.2 |     |   |
|             | eS*   |     |     | 59      |     | 1.2  | 100 |      |     |     |     |     |     |   |
| TNZ         | P*    | 01  | 28  | 45.1    |     | -0.3 | 100 | 0.99 | 288 |     | 3.4 | 3.1 |     |   |
|             | eSg   |     |     | 29 01.5 |     | 1.3  | 100 |      |     |     |     |     |     |   |
| MNG         | iP*   | 01  | 28  | 45.2    | D   | -2.6 | 99  | 1.13 | 184 |     | 4.1 | 3.1 |     |   |
|             | eS*   |     |     | 29 01   |     | -2.1 | 100 |      |     |     |     |     |     |   |
| TUA         | ePg   | 01  | 28  | 55      |     | -0.0 | 100 | 1.39 | 61  |     | 3.4 | 3.5 |     |   |
|             | e     |     |     | 29 09   |     |      |     |      |     |     |     |     |     |   |
|             | eSg   |     |     | 17      |     | 3.2  | 99  |      |     |     |     |     |     |   |
| KRP         | Pn    | 01  | 28  | 52.9    |     | -1.5 | 100 | 1.57 | 358 |     | 4.1 | 3.6 |     |   |
|             | P*    |     |     | 56.1    |     | 0.9  | 100 |      |     |     |     |     |     |   |
|             | eSn   |     |     | 29 13   |     | -1.9 | 100 |      |     |     |     |     |     |   |
|             | eS*   |     |     | 16      |     | -0.1 | 100 |      |     |     |     |     |     |   |
| WTZ         | ePn   | 01  | 28  | 59      |     | 0.6  | 100 | 1.86 | 36  |     | 3.3 | 3.7 |     |   |
| WEL         | ePn   | 01  | 28  | 59      |     | 0.0  | 100 | 1.90 | 199 | 3.4 |     |     |     |   |
|             | eSn   |     |     | 29 23   |     | 0.0  | 100 |      |     |     |     |     |     |   |
|             | eS*   |     |     | 27      |     | 0.8  | 100 |      |     |     |     |     |     |   |
| COB         | Pn    | 01  | 29  | 10.0    |     | 0.0  | 100 | 2.71 | 233 |     | 3.7 | 3.3 |     |   |
|             | eSn   |     |     | 46      |     | 3.7  | 97  |      |     |     |     |     |     |   |
| AMPLITUDES: |       | TRZ |     | 0.8     | 1.0 | TNZ  |     | 0.8  | 0.6 | MNG |     | 16  | 2.5 |   |
|             |       | TUA |     | 0.3     | 0.4 | KRP  |     | 2.2  | 0.6 | WTZ |     | 0.4 | 0.8 |   |
|             |       | WEL | 0.3 |         |     | COB  |     | 0.4  | 0.5 |     |     |     |     |   |

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OCT 16 12<sup>h</sup>08<sup>m</sup>42<sup>s</sup>.8 38°.78S 175°.56E 142 km M = 3.6  
 ± 1.1 0.04 0.06 10 S.E. of RES. 1.4

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W   | S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|------|------|-----|---|
| GSZ         | P     | 12  | 09  | 03.0  |     | -0.4 | 100 | 0.49 | 177 |     |      |      |     |   |
| KRP         | iP    | 12  | 09  | 06.7  | DN  | 1.0  | 100 | 0.85 | 359 |     | 3.1* | 2.5* |     |   |
|             | eS    |     |     | 24    |     | 0.7  | 100 |      |     |     |      |      |     |   |
| TUA         | eS    | 12  | 09  | 30    |     | 0.3  | 100 | 1.25 | 92  |     |      | 3.6  |     |   |
| TRZ         | P     | 12  | 09  | 12.9  |     | 3.5  | 91  | 1.25 | 129 |     | 3.8  | 3.4  |     |   |
|             | S     |     |     | 30.4  |     | 0.6  | 100 |      |     |     |      |      |     |   |
| WTZ         | P     | 12  | 09  | 09.9  | D   | -0.8 | 100 | 1.38 | 55  |     | 3.4  | 3.3  |     |   |
|             | eS    |     |     | 31    |     | -1.2 | 100 |      |     |     |      |      |     |   |
| MNG         | iP    | 12  | 09  | 16.7  | U   | 0.8  | 100 | 1.84 | 182 |     | 3.7  | 3.8  |     |   |
|             | S     |     |     | 40.0  |     | -1.2 | 100 |      |     |     |      |      |     |   |
|             | e     |     |     | 41.3  |     |      |     |      |     |     |      |      |     |   |
| GNZ         | P     | 12  | 09  | 17.0  |     | 0.0  | 100 | 1.93 | 87  |     | 3.8  | 3.6  |     |   |
|             | e     |     |     | 17.3  |     |      |     |      |     |     |      |      |     |   |
|             | eS    |     |     | 40.8  |     | -2.3 | 99  |      |     |     |      |      |     |   |
|             | e     |     |     | 42.7  |     |      |     |      |     |     |      |      |     |   |
| CAZ         | eS    | 12  | 09  | 50    |     | 1.5  | 100 | 2.19 | 167 |     |      |      |     |   |
| WEL         | eP    | 12  | 09  | 25    |     | -0.2 | 100 | 2.57 | 193 | 3.8 |      |      |     |   |
|             | eS    |     |     | 56    |     | -1.3 | 100 |      |     |     |      |      |     |   |
| COB         | eP    | 12  | 09  | 32.5  |     | -0.3 | 100 | 3.17 | 222 |     | 3.3* | 3.0* |     |   |
|             | eS    |     |     | 10 10 |     | -0.9 | 100 |      |     |     |      |      |     |   |
| AMPLITUDES: |       | KRP |     | 1.6   | 0.4 | TUA  |     | 0.5  | TRZ |     | 0.7  | 0.7  |     |   |
|             |       | WTZ |     | 0.7   | 0.6 | MNG  |     | 2.2  | 3.6 | GNZ |      | 1.1  | 1.2 |   |
|             |       | WEL | 0.3 |       |     | COB  |     | 0.4  | 0.7 |     |      |      |     |   |

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OCT 17 02<sup>h</sup>05<sup>m</sup>12<sup>s</sup>.9 35°.54S 179°.95E 12 km M = 4.6  
 ± 1.9 0.10 0.10 R S.E. of RES. 2.0

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| ECZ         | eP*   | 02  | 05  | 56    |     | 0.5  | 100 | 2.43 | 207 |     | 4.4 | 4.8 |   |   |
|             | eSn   |     |     | 06 23 |     | 2.3  | 100 |      |     |     |     |     |   |   |
| WIZ         | Pn    | 02  | 05  | 56.0  |     | -3.1 | 99  | 2.98 | 227 |     |     |     |   |   |
|             | e     |     |     | 59.3  |     |      |     |      |     |     |     |     |   |   |
|             | eSn   |     |     | 06 32 |     | -1.9 | 100 |      |     |     |     |     |   |   |
| WTZ         | Pn    | 02  | 06  | 05.2  |     | 0.3  | 100 | 3.41 | 223 |     | 4.5 | 4.5 |   |   |
|             | e     |     |     | 06.1  |     |      |     |      |     |     |     |     |   |   |
|             | eSn   |     |     | 44    |     | -0.2 | 100 |      |     |     |     |     |   |   |
| GNZ         | ePn   | 02  | 06  | 08    |     | 2.3  | 100 | 3.46 | 206 |     | 4.5 | 4.6 |   |   |
|             | ePg   |     |     | 23    |     | 0.1  | 100 |      |     |     |     |     |   |   |
|             | eSn   |     |     | 45    |     | -0.5 | 100 |      |     |     |     |     |   |   |
| TUA         | ePn   | 02  | 06  | 15    |     | 2.6  | 99  | 3.96 | 214 |     | 4.5 | 4.6 |   |   |
|             | eSn   |     |     | 07 00 |     | 2.6  | 99  |      |     |     |     |     |   |   |
| KRP         | Pn    | 02  | 06  | 17.8  | DE  | 1.1  | 100 | 4.27 | 235 |     | 5.0 | 5.1 |   |   |
|             | e     |     |     | 35    |     |      |     |      |     |     |     |     |   |   |
|             | eSn   |     |     | 07 03 |     | -1.9 | 100 |      |     |     |     |     |   |   |
| MNG         | ePn   | 02  | 06  | 44    |     | 1.3  | 100 | 6.17 | 213 |     | 4.4 | 4.7 |   |   |
|             | eP*   |     |     | 57    |     | -2.5 | 99  |      |     |     |     |     |   |   |
|             | e(S*) |     |     | 08 14 |     | -5.7 |     |      |     |     |     |     |   |   |
| WEL         | e     | 02  | 08  | 04    |     |      |     | 7.04 | 214 | 4.6 |     |     |   |   |
|             | eS*   |     |     | 46    |     | 0.5  | 100 |      |     |     |     |     |   |   |
| CIZ         | e(Pn) | 02  | 07  | 25    |     | 6.1  |     | 8.83 | 163 |     |     |     |   |   |
|             | eSn   |     |     | 08 52 |     | -2.4 | 100 |      |     |     |     |     |   |   |
| AMPLITUDES: |       | ECZ | 0.9 | 3.0   | WTZ | 2.9  | 2.5 | GNZ  | 2.3 | 4.0 |     |     |   |   |
|             |       | TUA | 0.6 | 0.9   | KRP | 1.6  | 1.2 | MNG  | 1.2 | 3.0 |     |     |   |   |
|             |       | WEL | 0.3 |       | CIZ | 0.4  | 1.3 |      |     |     |     |     |   |   |

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OCT 17    12<sup>h</sup>01<sup>m</sup>12<sup>s</sup>.8    31°.34s    179°.08w    300 km    M = 5.0

± 1.9    0.11    0.22    33    S.E. of RES. 2.2

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST  | AZ  | W-A  | W    | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|-------|-----|------|------|-----|-----|---|
| ECZ | eP    | 12 | 02 | 49.5  |     | -0.9 | 100 | 6.64  | 197 |      | 5.4  | 5.2 |     |   |
|     | eS    |    |    | 04 06 |     | -1.1 | 100 |       |     |      |      |     |     |   |
| WIZ | eP    | 12 | 02 | 52.5  |     | -1.2 | 100 | 6.90  | 206 |      |      |     |     |   |
|     | eS    |    |    | 04 12 |     | -0.9 | 100 |       |     |      |      |     |     |   |
| ONE | eP    | 12 | 02 | 56    |     | 0.7  | 100 | 7.04  | 229 | 3.8* |      |     |     |   |
| WTZ | eP    | 12 | 02 | 58.9  |     | -0.6 | 100 | 7.38  | 205 |      | 5.3  | 4.9 |     |   |
|     | e     |    |    | 04 02 |     |      |     |       |     |      |      |     |     |   |
| AUC | e(P)  | 12 | 03 | 08    |     | 6.9  |     | 7.51  | 221 |      |      |     |     |   |
|     | e     |    |    | 13    |     |      |     |       |     |      |      |     |     |   |
| GNZ | P     | 12 | 03 | 01.6  |     | -1.5 | 100 | 7.67  | 197 |      |      |     | 5.0 |   |
|     | eS    |    |    | 04 29 |     | -0.7 | 100 |       |     |      |      |     |     |   |
| KRP | eP    | 12 | 03 | 09    |     | 2.8  | 99  | 7.93  | 213 |      | 4.1* |     |     |   |
|     | e     |    |    | 57    |     |      |     |       |     |      |      |     |     |   |
|     | e     |    |    | 04 25 |     |      |     |       |     |      |      |     |     |   |
| TUA | iP    | 12 | 03 | 08.2  | D   | 0.2  | 100 | 8.07  | 201 |      | 5.2  | 5.2 |     |   |
|     | eS    |    |    | 04 43 |     | 4.5  | 97  |       |     |      |      |     |     |   |
| TRZ | eP    | 12 | 03 | 17    |     | -0.6 | 100 | 8.86  | 201 |      | 5.2  | 4.8 |     |   |
|     | eS    |    |    | 04 56 |     | 0.1  | 100 |       |     |      |      |     |     |   |
| TNZ | e     | 12 | 03 | 32    |     |      |     | 9.49  | 213 |      | 3.9* |     |     |   |
| MNG | eP    | 12 | 03 | 35    |     | 0.1  | 100 | 10.26 | 204 |      | 4.6  | 4.5 |     |   |
|     | eS    |    |    | 05 22 |     | -5.1 | 93  |       |     |      |      |     |     |   |
| CAZ | eS    | 12 | 05 | 30    |     | 2.5  | 100 | 10.28 | 200 |      |      |     |     |   |
| WEL | eS    | 12 | 05 | 45    |     | -0.9 | 100 | 11.10 | 205 | 5.0  |      |     |     |   |
|     | e     |    |    | 06 04 |     |      |     |       |     |      |      |     |     |   |
| CIZ | e     | 12 | 04 | 31.5  |     |      |     | 12.76 | 172 |      |      |     |     |   |



|             |                                                    |         |     |          |     |       |     |                  |     |     |     |     |  |
|-------------|----------------------------------------------------|---------|-----|----------|-----|-------|-----|------------------|-----|-----|-----|-----|--|
| eS          |                                                    | 06 23   |     | 0.5 100  |     |       |     |                  |     |     |     |     |  |
| AMPLITUDES: | ECZ                                                | 1.5     | 1.0 | ONE      | 0.5 |       |     | WTZ              | 2.5 | 1.0 |     |     |  |
|             | GNZ                                                |         | 1.8 | KRP      |     | 2.3   |     | TUA              | 0.8 | 0.7 |     |     |  |
|             | TRZ                                                | 0.5     | 0.5 | TNZ      |     | 0.3   |     | MNG              | 0.8 | 0.8 |     |     |  |
|             | WEL                                                | 0.3     |     | CIZ      |     | 0.3   | 0.3 |                  |     |     |     |     |  |
| 77/ 680     |                                                    |         |     |          |     |       |     |                  |     |     |     |     |  |
| OCT 18      | 07 <sup>h</sup> 23 <sup>m</sup> 13 <sup>s</sup> .9 | 50°.04s |     | 164°.39E |     | 33 km |     | M = 4.4          |     |     |     |     |  |
|             | ± 1.2                                              | 0.11    |     | 0.23     |     | R     |     | S.E. of RES. 1.3 |     |     |     |     |  |
| STN         | PHASE                                              | H       | M   | S        | DIR | RES   | WT  | DIST             | AZ  | W-A | W P | W S |  |
| OBZ         | Pn                                                 | 07      | 24  | 12.5     |     | 0.4   | 100 | 4.00             | 40  |     |     |     |  |
|             | eSn                                                |         |     | 54       |     | -2.0  | 99  |                  |     |     |     |     |  |
| MNW         | ePn                                                | 07      | 24  | 23       |     | 0.2   | 100 | 4.79             | 28  | 4.3 |     |     |  |
|             | eSn                                                |         |     | 25 13    |     | -1.9  | 99  |                  |     |     |     |     |  |
| ROX         | Pn                                                 | 07      | 24  | 34.3     |     | -0.3  | 100 | 5.65             | 38  |     | 4.6 | 4.4 |  |
|             | eSn                                                |         |     | 25 35    |     | -0.6  | 100 |                  |     |     |     |     |  |
| MSZ         | Pn                                                 | 07      | 24  | 39.0     |     | 1.2   | 100 | 5.89             | 25  |     | 4.7 | 4.2 |  |
|             | eSn                                                |         |     | 25 43    |     | 1.7   | 99  |                  |     |     |     |     |  |
| OMZ         | ePn                                                | 07      | 24  | 49       |     | 0.8   | 100 | 6.65             | 44  |     | 4.4 | 4.1 |  |
|             | e(Sn)                                              |         |     | 25 54    |     | -5.7  |     |                  |     |     |     |     |  |
|             | e                                                  |         |     | 26 20    |     |       |     |                  |     |     |     |     |  |
| GSP         | Sn-Pn                                              |         |     | 1 16     |     | 0.4   | 100 | 7.05             | 35  |     |     |     |  |
| MIJZ        | ePn                                                | 07      | 24  | 56       |     | -1.7  | 99  | 7.34             | 37  |     |     |     |  |
|             | eSn                                                |         |     | 26 17    |     | 0.6   | 100 |                  |     |     |     |     |  |
| GPZ         | eSn                                                | 07      | 26  | 46       |     | 1.8   | 99  | 8.50             | 45  | 4.5 |     |     |  |
|             | e                                                  |         |     | 27 19    |     |       |     |                  |     |     |     |     |  |
| COB         | ePn                                                | 07      | 25  | 43       |     | -0.4  | 100 | 10.69            | 36  |     | 4.8 |     |  |
| AMPLITUDES: | MNW                                                | 0.5     |     |          |     | ROX   | 0.8 | 1.2              | MSZ | 1.9 | 1.1 |     |  |
|             | OMZ                                                | 0.3     | 0.3 |          |     | GPZ   | 0.3 |                  | COB | 0.3 |     |     |  |

|         |                                                    |         |          |         |                  |      |     |      |     |      |      |      |  |
|---------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|------|------|------|--|
| 77/ 681 |                                                    |         |          |         |                  |      |     |      |     |      |      |      |  |
| OCT 18  | 09 <sup>h</sup> 08 <sup>m</sup> 30 <sup>s</sup> .1 | 34°.50s | 179°.51E | 291 km  | M = 5.1          |      |     |      |     |      |      |      |  |
|         | ± 1.2                                              | 0.07    | 0.11     | 12      | S.E. of RES. 1.6 |      |     |      |     |      |      |      |  |
| STN     | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |  |
| ECZ     | eP                                                 | 09      | 09       | 28      |                  | -0.5 | 100 | 3.28 | 193 |      | 4.5  | 5.2  |  |
|         | eS                                                 |         |          | 10 13   |                  | -1.1 | 100 |      |     |      |      |      |  |
|         | e                                                  |         |          | 18      |                  |      |     |      |     |      |      |      |  |
| WIZ     | iP                                                 | 09      | 09       | 33.8    | U                | 2.3  | 99  | 3.56 | 211 |      |      |      |  |
|         | eS                                                 |         |          | 10 18   |                  | -1.4 | 100 |      |     |      |      |      |  |
| WTZ     | iP                                                 | 09      | 09       | 35.3    | D                | -1.4 | 100 | 4.03 | 210 |      | 4.9  | 5.4  |  |
|         | eS                                                 |         |          | 10 30   |                  | 1.3  | 100 |      |     |      |      |      |  |
| GNZ     | iP                                                 | 09      | 09       | 38.3    | D                | -1.5 | 100 | 4.31 | 196 |      | 4.8  | 5.2  |  |
|         | e                                                  |         |          | 10 23   |                  |      |     |      |     |      |      |      |  |
|         | eS                                                 |         |          | 34      |                  | -0.3 | 100 |      |     |      |      |      |  |
| ONE     | eP                                                 | 09      | 09       | 40.2    |                  | -0.8 | 100 | 4.41 | 252 | 3.5* |      |      |  |
|         | eS                                                 |         |          | 10 36   |                  | -0.4 | 100 |      |     |      |      |      |  |
| AUC     | P                                                  | 09      | 09       | 43.2    |                  | 1.0  | 100 | 4.52 | 237 |      |      |      |  |
| KRP     | P                                                  | 09      | 09       | 45.0    |                  | 0.8  | 100 | 4.69 | 222 |      | 3.7* | 3.4* |  |
|         | eS                                                 |         |          | 10 42   |                  | -0.2 | 100 |      |     |      |      |      |  |
| TUA     | e(P)                                               | 09      | 09       | 50      |                  | 5.7  |     | 4.71 | 203 |      | 4.6  | 5.4  |  |
|         | eS                                                 |         |          | 10 44.9 |                  | 2.5  | 99  |      |     |      |      |      |  |
| TRZ     | eP                                                 | 09      | 09       | 53      |                  | -0.5 | 100 | 5.49 | 202 |      | 4.7  | 5.4  |  |
|         | eS                                                 |         |          | 11 00   |                  | 1.0  | 100 |      |     |      |      |      |  |
| MNG     | P                                                  | 09      | 10       | 08.2    |                  | -2.6 | 99  | 6.90 | 206 |      | 4.8  | 5.4  |  |
|         | e                                                  |         |          | 52      |                  |      |     |      |     |      |      |      |  |
|         | e                                                  |         |          | 11 22.5 |                  |      |     |      |     |      |      |      |  |
|         | eS                                                 |         |          | 28      |                  | -1.7 | 100 |      |     |      |      |      |  |



|             |     |          |      |         |      |         |     |  |
|-------------|-----|----------|------|---------|------|---------|-----|--|
| CAZ         | eP  | 09 10 14 | 3.1  | 98      | 6.90 | 201     |     |  |
|             | eS  | 11 30    | 0.1  | 100     |      |         |     |  |
| WEL         | eP  | 09 10 21 | -0.2 | 100     | 7.75 | 208     | 5.4 |  |
|             | eS  | 11 48    | -0.5 | 100     |      |         |     |  |
| AMPLITUDES: | ECZ | 0.7 3.0  | WITZ | 2.5 9.0 | GNZ  | 2.0 8.5 |     |  |
|             | ONE | 0.4      | KRP  | 1.4 0.9 | TUA  | 0.5 3.0 |     |  |
|             | TRZ | 0.4 5.0  | MNG  | 2.5 12  | WEL  | 1.5     |     |  |

OCT 18 12<sup>h</sup>26<sup>m</sup>14<sup>s</sup>.2 44°.49S 167°.78E 12 km M = 3.2  
 ± 1.2 0.05 0.07 R S.E. of RES. 1.6

| STN         | PHASE | H  | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|-----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ         | P*    | 12 | 26  | 19.4  |     | 0.5  | 100 | 0.21 | 152 |     |     |     |
|             | eSg   |    |     | 23.5  |     | 1.5  | 100 |      |     |     |     |     |
| MNW         | eSn   | 12 | 26  | 52.5  |     | -2.2 | 99  | 1.30 | 185 | 3.3 |     |     |
| ROX         | Pn    | 12 | 26  | 40.0  |     | 0.2  | 100 | 1.48 | 133 |     | 3.5 | 3.1 |
|             | e(Sg) |    |     | 27 10 |     | 6.1  |     |      |     |     |     |     |
| GSP         | Pn    | 12 | 26  | 41.7  |     | -0.5 | 100 | 1.65 | 78  |     |     |     |
|             | eSn   |    |     | 27 02 |     | -1.1 | 100 |      |     |     |     |     |
| MJZ         | Pn    | 12 | 26  | 47.8  |     | 0.8  | 100 | 2.00 | 76  |     |     |     |
|             | eSn   |    |     | 27 13 |     | 1.5  | 100 |      |     |     |     |     |
| OMZ         | ePn   | 12 | 26  | 54    |     | 2.8  | 98  | 2.30 | 106 |     |     | 3.1 |
|             | ePg   |    |     | 59    |     | -1.9 | 99  |      |     |     |     |     |
|             | eS*   |    |     | 27 25 |     | -0.0 | 100 |      |     |     |     |     |
|             | eSg   |    |     | 32.5  |     | 0.5  | 100 |      |     |     |     |     |
| GPZ         | eSg   | 12 | 28  | 14    |     | -1.3 | 100 | 3.60 | 79  |     |     |     |
| AMPLITUDES: | MSZ   | 17 | 18  |       | MNW | 0.6  |     |      |     | ROX | 0.8 | 0.8 |
|             | OMZ   |    | 0.3 |       |     |      |     |      |     |     |     |     |

OCT 18 20<sup>h</sup>58<sup>m</sup>00<sup>s</sup>.5 40°.40S 174°.35E 33 km M = 4.2  
 ± 0.5 0.03 0.05 R S.E. of RES. 1.9

| STN  | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MNG  | iPn!  | 20 | 58 | 16.4  |     | 0.2  | 100 | 0.88 | 104 |     |     |     |
| WEL  | Pn    | 20 | 58 | 18.0  |     | 1.2  | 100 | 0.94 | 161 | 4.2 |     |     |
|      | S*    |    |    | 32.0  |     | 1.1  | 100 |      |     |     |     |     |
| TNZ  | iPn!  | 20 | 58 | 20.9  |     | 0.2  | 100 | 1.21 | 1   |     |     |     |
| COB  | Pn    | 20 | 58 | 24.2  |     | 0.9  | 100 | 1.41 | 240 |     | 4.2 | 4.2 |
|      | eSn   |    |    | 42    |     | 1.7  | 100 |      |     |     |     |     |
| GSZ  | P     | 20 | 58 | 24.3  |     | 0.1  | 100 | 1.48 | 41  |     |     |     |
|      | eS    |    |    | 40.5  |     | -1.3 | 100 |      |     |     |     |     |
| CAZ  | Pn    | 20 | 58 | 24.1  |     | -0.6 | 100 | 1.51 | 110 |     |     |     |
|      | e     |    |    | 34.5  |     |      |     |      |     |     |     |     |
|      | e     |    |    | 38.5  |     |      |     |      |     |     |     |     |
|      | eSn   |    |    | 44    |     | 1.3  | 100 |      |     |     |     |     |
| TRZ  | eSn   | 20 | 58 | 55    |     | -1.4 | 100 | 2.08 | 67  |     |     | 4.1 |
| KKY  | eS*   | 20 | 59 | 03    |     | -1.6 | 100 | 2.08 | 194 |     |     |     |
| KRP  | Pn    | 20 | 58 | 38.3  |     | -1.8 | 100 | 2.65 | 21  |     | 4.0 | 4.2 |
|      | eSn   |    |    | 59 09 |     | -0.9 | 100 |      |     |     |     |     |
| TUA  | eP*   | 20 | 58 | 47    |     | -0.5 | 100 | 2.68 | 54  |     |     | 4.0 |
|      | eSn   |    |    | 59 15 |     | 4.0  | 98  |      |     |     |     |     |
| KAI  | e     | 20 | 59 | 02    |     |      |     | 3.07 | 225 | 4.0 |     |     |
|      | e(Sn) |    |    | 28    |     | 7.8  |     |      |     |     |     |     |
| WITZ | e     | 20 | 59 | 10    |     |      |     | 3.17 | 41  |     |     | 4.5 |
|      | eSn   |    |    | 26    |     | 3.4  | 99  |      |     |     |     |     |
| GNZ  | P?    | 20 | 58 | 42.8  | N   | -6.8 |     | 3.34 | 59  |     |     | 4.0 |
|      | eSn   |    |    | 59 23 |     | -3.7 | 98  |      |     |     |     |     |

|             |      |            |      |     |      |     |         |
|-------------|------|------------|------|-----|------|-----|---------|
| GPZ         | eSn  | 20 59 29   | -2.3 | 100 | 3.53 | 201 | 4.5     |
| MJZ         | eSn  | 20 59 56   | -1.1 | 100 | 4.61 | 218 |         |
| GSP         | (Pn) | 20 59 17.3 | 6.0  |     | 4.92 | 219 |         |
|             | eSn  | 21 00 06   | 1.1  | 100 |      |     |         |
| AMPLITUDES: |      |            |      |     |      |     |         |
|             | WEL  | 8.1        |      | COB | 4.6  | 15  | TRZ 1.6 |
|             | KRP  | 2.2        | 4.0  | TUA |      | 0.5 | KAI 0.4 |
|             | WTZ  |            | 0.7  | GNZ |      | 1.3 | GPZ 1.6 |

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OCT 19 09<sup>h</sup>40<sup>m</sup>56<sup>s</sup>.0 37°.49S 176°.38E 12 km M = 3.6  
 ± 0.9 0.06 0.04 R S.E. of RES. 1.3

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WIZ         | P*    | 09 | 41 | 06.6  |     | -1.6 | 99  | 0.65 | 94  |     |     |     |   |   |
|             | ePg   |    |    | 10    |     | 0.8  | 100 |      |     |     |     |     |   |   |
| WTZ         | P*    | 09 | 41 | 06.6  |     | -2.4 | 98  | 0.69 | 136 |     | 3.7 | 3.9 |   |   |
|             | eS*   |    |    | 17.5  |     | -0.9 | 100 |      |     |     |     |     |   |   |
| KRP         | S*    | 09 | 41 | 21.7  |     | 0.0  | 100 | 0.80 | 236 |     | 2.8 | 2.8 |   |   |
|             | e     |    |    | 34    |     |      |     |      |     |     |     |     |   |   |
| TUA         | ePn   | 09 | 41 | 22    |     | 0.6  | 100 | 1.46 | 156 |     | 3.8 |     |   |   |
| ECZ         | P*    | 09 | 41 | 27.0  |     | 0.2  | 100 | 1.74 | 98  |     | 3.9 | 3.7 |   |   |
|             | ePg   |    |    | 31    |     | -0.1 | 100 |      |     |     |     |     |   |   |
|             | e     |    |    | 42 05 |     |      |     |      |     |     |     |     |   |   |
| GNZ         | Pn    | 09 | 41 | 25.7  |     | 0.5  | 100 | 1.74 | 132 |     | 4.2 | 3.6 |   |   |
|             | P*    |    |    | 28.1  |     | 1.3  | 100 |      |     |     |     |     |   |   |
|             | eSn   |    |    | 49    |     | 1.9  | 99  |      |     |     |     |     |   |   |
| TRZ         | ePg   | 09 | 41 | 38    |     | -0.4 | 100 | 2.10 | 171 |     | 3.9 |     |   |   |
| MNG         | e(Pg) | 09 | 42 | 06    |     | 5.1  |     | 3.21 | 192 |     | 3.8 |     |   |   |
| AMPLITUDES: |       |    |    |       |     |      |     |      |     |     |     |     |   |   |
|             | WTZ   |    |    | 5.6   | 7.3 | KRP  |     | 0.7  | 0.7 | TUA |     | 0.5 |   |   |
|             | ECZ   |    |    | 0.3   | 0.2 | GNZ  |     | 2.5  | 0.9 | TRZ |     | 0.3 |   |   |
|             | MNG   |    |    | 0.4   |     |      |     |      |     |     |     |     |   |   |

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OCT 20 04<sup>h</sup>54<sup>m</sup>27<sup>s</sup>.4 33°.01S 177°.98W 323 km M = 4.7  
 ± 2.8 0.21 0.41 34 S.E. of RES. 2.2

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST  | AZ  | W-A | W    | P   | W   | S |
|-------------|-------|----|----|---------|-----|------|-----|-------|-----|-----|------|-----|-----|---|
| ECZ         | P     | 04 | 55 | 54.9    |     | 3.1  | 99  | 5.47  | 210 |     | 4.7  | 4.7 |     |   |
|             | eS    |    |    | 56 57   |     | -1.0 | 100 |       |     |     |      |     |     |   |
| WTZ         | eP    | 04 | 56 | 00.5    |     | -2.7 | 99  | 6.44  | 218 |     | 4.7  | 4.7 |     |   |
|             | e     |    |    | 15      |     |      |     |       |     |     |      |     |     |   |
|             | e(S)  |    |    | 57 12   |     | -6.5 |     |       |     |     |      |     |     |   |
| GNZ         | e?    | 04 | 55 | 53      |     |      |     | 6.50  | 209 |     | 4.6  | 4.5 |     |   |
|             | eS    |    |    | 57 17   |     | -2.6 | 99  |       |     |     |      |     |     |   |
| TUA         | eS    | 04 | 57 | 33      |     | 2.4  | 100 | 7.01  | 213 |     |      |     | 5.2 |   |
| KRP         | P     | 04 | 56 | 12.0    |     | -0.5 | 100 | 7.22  | 225 |     | 3.3* |     |     |   |
|             | eS    |    |    | 57 36   |     | 0.9  | 100 |       |     |     |      |     |     |   |
| TRZ         | eS    | 04 | 57 | 48      |     | 1.0  | 100 | 7.77  | 211 |     |      |     | 4.7 |   |
| CAZ         | eS    | 04 | 58 | 19      |     | 1.8  | 100 | 9.14  | 209 |     |      |     |     |   |
| MNG         | eP    | 04 | 56 | 37      |     | 0.1  | 100 | 9.23  | 213 |     | 4.1  | 4.8 |     |   |
|             | eS    |    |    | 58 17.5 |     | -1.5 | 100 |       |     |     |      |     |     |   |
| WEL         | eS    | 04 | 58 | 37      |     | -0.9 | 100 | 10.09 | 213 | 5.0 |      |     |     |   |
| AMPLITUDES: |       |    |    |         |     |      |     |       |     |     |      |     |     |   |
|             | ECZ   |    |    | 0.4     | 0.4 | WTZ  |     | 0.8   | 0.8 | GNZ |      | 0.6 | 0.9 |   |
|             | TUA   |    |    |         | 0.9 | KRP  |     | 0.4   |     | TRZ |      |     | 0.5 |   |
|             | MNG   |    |    | 0.3     | 1.7 | WEL  |     | 0.3   |     |     |      |     |     |   |

|             |                                                    |         |          |        |                  |      |     |      |     |      |         |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|------|---------|
|             |                                                    |         |          |        |                  |      |     |      |     |      | 77/ 686 |
| OCT 21      | 17 <sup>h</sup> 45 <sup>m</sup> 09 <sup>s</sup> .8 | 33°.59s | 179°.91w | 340 km | M = 4.8          |      |     |      |     |      |         |
|             | ± 1.9                                              | 0.13    | 0.28     | 22     | S.E. of RES. 2.0 |      |     |      |     |      |         |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A  | W P W S |
| ECZ         | eP                                                 | 17      | 46       | 21.5   |                  | -0.2 | 100 | 4.28 | 197 |      | 4.5 4.7 |
|             | eS                                                 |         | 47       | 17     |                  | -1.2 | 100 |      |     |      |         |
| WTZ         | P                                                  | 17      | 46       | 28.4   |                  | -1.8 | 100 | 5.07 | 209 |      | 5.0 4.7 |
|             | eS                                                 |         | 47       | 32     |                  | -1.3 | 100 |      |     |      |         |
| ONE         | eP                                                 | 17      | 46       | 32     |                  | 0.2  | 100 | 5.20 | 244 | 3.6* |         |
| GNZ         | P                                                  | 17      | 46       | 31.4   |                  | -1.7 | 100 | 5.32 | 198 |      | 4.8 4.7 |
|             | eS                                                 |         | 47       | 37     |                  | -1.5 | 100 |      |     |      |         |
| KRP         | eP                                                 | 17      | 46       | 38     |                  | 0.6  | 100 | 5.70 | 219 |      | 3.6*    |
|             | e                                                  |         | 47       | 27     |                  |      |     |      |     |      |         |
| TUA         | eS                                                 | 17      | 47       | 48     |                  | 1.1  | 100 | 5.73 | 204 |      | 4.9     |
| TRZ         | eP?                                                | 17      | 46       | 49     |                  | 2.2  | 100 | 6.52 | 203 |      | 4.9 4.8 |
|             | eS                                                 |         | 48       | 07     |                  | 3.8  | 98  |      |     |      |         |
| MNG         | P                                                  | 17      | 47       | 01.3   |                  | -2.4 | 99  | 7.93 | 206 |      | 5.2 4.7 |
|             | e                                                  |         |          | 03.8   |                  |      |     |      |     |      |         |
|             | eS                                                 |         | 48       | 32     |                  | -1.4 | 100 |      |     |      |         |
| CAZ         | P                                                  | 17      | 47       | 05.1   |                  | 1.4  | 100 | 7.93 | 202 |      |         |
| WEL         | eP                                                 | 17      | 47       | 14     |                  | 0.2  | 100 | 8.77 | 207 | 4.8  |         |
|             | eS                                                 |         | 48       | 49     |                  | -2.7 | 99  |      |     |      |         |
| AMPLITUDES: |                                                    | ECZ     |          | 0.4    | 0.6              | WTZ  |     | 2.1  | 1.2 | ONE  | 0.4     |
|             |                                                    | GNZ     |          | 1.4    | 1.7              | KRP  |     | 1.0  |     | TUA  | 0.7     |
|             |                                                    | TRZ     |          | 0.5    | 0.8              | MNG  |     | 4.2  | 2.0 | WEL  | 0.3     |

|             |                                                    |         |          |        |                  |      |     |      |     |     |         |
|-------------|----------------------------------------------------|---------|----------|--------|------------------|------|-----|------|-----|-----|---------|
|             |                                                    |         |          |        |                  |      |     |      |     |     | 77/ 687 |
| OCT 22      | 15 <sup>h</sup> 40 <sup>m</sup> 22 <sup>s</sup> .6 | 32°.47s | 179°.95w | 260 km | M = 4.7          |      |     |      |     |     |         |
|             | ± 3.7                                              | 0.29    | 0.73     | 72     | S.E. of RES. 2.9 |      |     |      |     |     |         |
| STN         | PHASE                                              | H       | M        | S      | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |
| ECZ         | eP                                                 | 15      | 41       | 46     |                  | 2.3  | 100 | 5.36 | 193 |     | 4.5 4.6 |
|             | eS                                                 |         | 42       | 47     |                  | -0.1 | 100 |      |     |     |         |
| WTZ         | eP                                                 | 15      | 41       | 48     |                  | -4.2 | 99  | 6.06 | 204 |     | 4.8 4.6 |
|             | e                                                  |         |          | 52     |                  |      |     |      |     |     |         |
| GNZ         | eS                                                 |         | 43       | 02     |                  | -0.3 | 100 |      |     |     |         |
|             | P                                                  | 15      | 41       | 56.1   |                  | -0.2 | 100 | 6.39 | 194 |     | 4.4 4.5 |
|             | S                                                  |         | 43       | 08.3   |                  | -1.5 | 100 |      |     |     |         |
| KRP         | eP                                                 | 15      | 42       | 01     |                  | 2.2  | 100 | 6.59 | 213 |     | 3.1*    |
| TUA         | e(S)                                               | 15      | 43       | 23     |                  | 4.9  |     | 6.76 | 200 |     | 4.8     |
| TRZ         | e(P)                                               | 15      | 42       | 22     |                  | 11.1 |     | 7.54 | 199 |     | 4.8 4.7 |
|             | eS                                                 |         | 43       | 39     |                  | 3.2  | 99  |      |     |     |         |
| WEL         | eS                                                 | 15      | 44       | 25     |                  | -1.2 | 100 | 9.77 | 204 | 4.9 |         |
| AMPLITUDES: |                                                    | ECZ     |          | 0.3    | 0.4              | WTZ  |     | 1.1  | 0.8 | GNZ | 0.5 0.9 |
|             |                                                    | KRP     |          | 0.3    |                  | TUA  |     |      | 0.4 | TRZ | 0.3 0.5 |
|             |                                                    | WEL     | 0.3      |        |                  |      |     |      |     |     |         |

|        |                                                    |    |    |         |          |        |                  |      |     |     |         |
|--------|----------------------------------------------------|----|----|---------|----------|--------|------------------|------|-----|-----|---------|
|        |                                                    |    |    |         |          |        |                  |      |     |     | 77/ 688 |
| OCT 22 | 16 <sup>h</sup> 34 <sup>m</sup> 30 <sup>s</sup> .3 |    |    | 32°.83s | 178°.01E | 514 km | M = 4.6          |      |     |     |         |
|        | ± 3.8                                              |    |    | 0.23    | 0.79     | 45     | S.E. of RES. 2.5 |      |     |     |         |
| STN    | PHASE                                              | H  | M  | S       | DIR      | RES    | WT               | DIST | AZ  | W-A | W P W S |
| WTZ    | P                                                  | 16 | 36 | 01.1    |          | 0.4    | 100              | 5.21 | 189 |     | 4.6 4.4 |
|        | eS                                                 |    | 37 | 11      |          | -1.3   | 100              |      |     |     |         |
| KRP    | eP                                                 | 16 | 36 | 04      |          | 0.9    | 100              | 5.47 | 201 |     | 3.1*    |
| GNZ    | eP                                                 | 16 | 36 | 05      |          | -1.2   | 100              | 5.80 | 180 |     | 4.7 4.6 |
|        | eS                                                 |    | 37 | 21      |          | -1.2   | 100              |      |     |     |         |

|             |    |          |      |     |      |     |     |     |     |
|-------------|----|----------|------|-----|------|-----|-----|-----|-----|
| TUA         | eS | 16 37 29 | 3.2  | 99  | 6.01 | 186 | 4.7 |     |     |
| TRZ         | eS | 16 37 38 | -1.4 | 100 | 6.78 | 188 | 4.7 |     |     |
| CAZ         | e? | 16 36 53 |      |     | 8.19 | 190 |     |     |     |
|             | eS | 38 08    | 2.8  | 99  |      |     |     |     |     |
| WEL         | eS | 16 38 15 | -2.3 | 100 | 8.83 | 196 | 4.9 |     |     |
| AMPLITUDES: |    | WITZ     | 0.6  | 0.4 | KRP  | 0.3 | GNZ | 0.8 | 0.9 |
|             |    | TUA      | 0.3  | TRZ |      | 0.5 | WEL | 0.3 |     |

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OCT 23 04<sup>h</sup>12<sup>m</sup>52<sup>s</sup>.5 37°.10s 177°.50E 172 km M = 4.8  
 ± 0.9 0.04 0.07 6 S.E. of RES. 1.5

| STN         | PHASE | H    | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|------|-----|---------|-----|------|-----|------|-----|------|------|------|
| WIZ         | iP    | 04   | 13  | 15.8    | U   | -0.7 | 100 | 0.49 | 210 |      |      |      |
|             | S     |      |     | 33.0    |     | -1.9 | 99  |      |     |      |      |      |
| WTZ         | iP    | 04   | 13  | 19.5    | D   | 0.2  | 100 | 0.97 | 204 |      | 4.4  | 4.5  |
|             | eS    |      |     | 38      |     | -2.0 | 99  |      |     |      |      |      |
| ECZ         | P     | 04   | 13  | 20.9    |     | 1.2  | 100 | 1.03 | 126 |      | 4.3  | 4.4  |
|             | e     |      |     | 25.7    |     |      |     |      |     |      |      |      |
|             | (S)   |      |     | 48.0    |     | 7.2  |     |      |     |      |      |      |
| GNZ         | P     | 04   | 13  | 25.8    | USW | 0.7  | 100 | 1.60 | 165 |      | 4.9  | 4.9  |
|             | e(S)  |      |     | 46      |     | -4.1 |     |      |     |      |      |      |
| TUA         | P     | 04   | 13  | 27.2    |     | 0.8  | 100 | 1.73 | 189 |      | 4.8  | 4.9  |
|             | e     |      |     | 28.6    |     |      |     |      |     |      |      |      |
|             | eS    |      |     | 54      |     | 1.5  | 100 |      |     |      |      |      |
| KRP         | iP    | 04   | 13  | 28.0    | DNE | 1.2  | 100 | 1.76 | 242 |      | 4.3* | 3.7* |
|             | S     |      |     | 55      |     | 1.8  | 100 |      |     |      |      |      |
| AUC         | iP    | 04   | 13  | 31.7    | U   | 0.2  | 100 | 2.19 | 275 |      |      |      |
| TRZ         | P     | 04   | 13  | 36.0    |     | 0.7  | 100 | 2.51 | 192 |      | 4.8  | 4.9  |
|             | e     |      |     | 14 04   |     |      |     |      |     |      |      |      |
|             | eS    |      |     | 09      |     | 0.7  | 100 |      |     |      |      |      |
| GSZ         | P     | 04   | 13  | 38.5    |     | 1.5  | 100 | 2.65 | 214 |      |      |      |
|             | eS    |      |     | 14 13.5 |     | 2.3  | 99  |      |     |      |      |      |
| ONE         | eP    | 04   | 13  | 39      |     | -0.5 | 100 | 2.85 | 297 | 3.4* |      |      |
|             | eS    |      |     | 14 15   |     | -0.7 | 100 |      |     |      |      |      |
| TNZ         | eP    | 04   | 13  | 46      |     | 1.9  | 99  | 3.22 | 229 |      | 3.5* | 3.5* |
|             | e     |      |     | 14 36   |     |      |     |      |     |      |      |      |
| MNG         | P     | 04   | 13  | 50.7    |     | -1.5 | 100 | 3.85 | 203 |      | 5.0  | 5.1  |
|             | i     |      |     | 51.0    |     |      |     |      |     |      |      |      |
|             | eS    |      |     | 14 36   |     | -2.2 | 99  |      |     |      |      |      |
| CAZ         | P     | 04   | 13  | 52.0    |     | -1.2 | 100 | 3.92 | 194 |      |      |      |
|             | eS    |      |     | 14 40   |     | 0.1  | 100 |      |     |      |      |      |
| WEL         | P     | 04   | 14  | 01.0    |     | -2.0 | 99  | 4.69 | 206 | 5.2  |      |      |
|             | eS    |      |     | 56      |     | -1.5 | 100 |      |     |      |      |      |
| AMPLITUDES: |       | WITZ | 8.0 | 11      | ECZ | 2.5  | 2.9 | GNZ  | 17  | 24   |      |      |
|             |       | TUA  | 4.7 | 5.2     | KRP | 14   | 4.2 | TRZ  | 2.3 | 7.0  |      |      |
|             |       | ONE  | 0.5 |         | TNZ | 0.3  | 0.5 | MNG  | 11  | 18   |      |      |
|             |       | WEL  | 2.6 |         |     |      |     |      |     |      |      |      |

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OCT 23 23<sup>h</sup>51<sup>m</sup>19<sup>s</sup>.7 38°.87s 175°.15E 212 km M = 4.1  
 ± 0.9 0.04 0.06 7 S.E. of RES. 1.2

| STN | PHASE | H  | M  | S     | DIR | RES | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|-------|-----|-----|-----|------|-----|-----|------|------|
| TNZ | iP    | 23 | 51 | 51.0  |     | 2.0 | 99  | 0.67 | 242 |     | 3.2* |      |
| KRP | eP    | 23 | 51 | 51    |     | 0.2 | 100 | 0.99 | 18  |     | 2.5* | 2.6* |
|     | eS    |    |    | 52 15 |     | 0.1 | 100 |      |     |     |      |      |
| TRZ | eS    | 23 | 52 | 23    |     | 1.7 | 99  | 1.47 | 118 |     | 4.1  |      |
| TUA | P     | 23 | 51 | 56.1  |     | 0.8 | 100 | 1.57 | 88  |     | 4.0  | 4.2  |



|             |     |    |         |     |      |     |      |     |     |      |      |
|-------------|-----|----|---------|-----|------|-----|------|-----|-----|------|------|
|             | S   | 52 | 22.0    |     | -0.8 | 100 |      |     |     |      |      |
| WTZ         | iP  | 23 | 51 55.8 | D   | -0.6 | 100 | 1.70 | 59  |     | 4.1  | 3.7  |
|             | S   |    | 52 24   |     | -0.9 | 100 |      |     |     |      |      |
| MNG         | iP  | 23 | 51 58.0 | U   | 0.9  | 100 | 1.76 | 172 |     | 4.3  | 4.0  |
|             | S   |    | 52 26.0 |     | 0.0  | 100 |      |     |     |      |      |
| GNZ         | iP  | 23 | 52 02.7 | DN  | 0.6  | 100 | 2.26 | 85  |     | 4.1  | 4.1  |
|             | S   |    | 33.1    |     | -1.8 | 99  |      |     |     |      |      |
| WEL         | P   | 23 | 52 04.7 |     | 0.7  | 100 | 2.43 | 187 | 3.9 |      |      |
|             | eS  |    | 38      |     | -0.2 | 100 |      |     |     |      |      |
| COB         | P   | 23 | 52 08.1 |     | -1.0 | 100 | 2.89 | 219 |     | 3.7* | 3.4* |
|             | eS  |    | 45.5    |     | -1.9 | 99  |      |     |     |      |      |
| ECZ         | eP  | 23 | 52 09.5 |     | 0.0  | 100 | 2.92 | 67  |     | 4.4  |      |
| AMPLITUDES: | TNZ |    | 0.3     | KRP |      | 0.3 | 0.4  | TRZ |     | 1.6  |      |
|             | TUA |    | 0.7     | 1.0 | WTZ  |     | 1.5  | 0.7 | MNG | 6.6  | 4.6  |
|             | GNZ |    | 1.3     | 2.2 | WEL  | 0.4 |      | COB | 0.9 | 1.9  |      |
|             | ECZ |    |         | 0.8 |      |     |      |     |     |      |      |

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OCT 24 00<sup>h</sup>49<sup>m</sup>03<sup>s</sup>.4 45°.08S 168°.03E 33 km M= 3.2  
 ± 0.7 0.04 0.06 R S.E. of RES. 1.8

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| MSZ         | iPn   | 00 | 49 | 11.3 | U   | -1.2 | 100 | 0.41 | 349 |     | 3.2 3.3 |
|             | iP*   |    |    | 12.0 |     | -0.6 | 100 |      |     |     |         |
|             | S*    |    |    | 22.3 |     | 3.0  | 99  |      |     |     |         |
| MNW         | eSn   | 00 | 49 | 28   |     | 0.4  | 100 | 0.76 | 202 | 3.0 |         |
| ROX         | Pn    | 00 | 49 | 21.1 |     | 0.5  | 100 | 1.00 | 114 |     | 3.2 3.4 |
|             | S*    |    |    | 37.7 |     | 2.1  | 99  |      |     |     |         |
| GSP         | ePn   | 00 | 49 | 29   |     | -1.2 | 100 | 1.71 | 57  |     |         |
|             | eSn   |    |    | 52   |     | 1.6  | 100 |      |     |     |         |
| OMZ         | ePn   | 00 | 49 | 34   |     | -0.9 | 100 | 2.05 | 91  |     | 3.0     |
|             | eSn   |    |    | 58   |     | -0.5 | 100 |      |     |     |         |
| MJZ         | ePn   | 00 | 49 | 32.5 |     | -2.5 | 99  | 2.06 | 59  |     |         |
|             | eSn   |    |    | 58   |     | -0.8 | 100 |      |     |     |         |
| AMPLITUDES: | MSZ   |    | 14 | 29   | MNW | 0.8  |     | ROX  |     | 0.9 | 3.5     |
|             | OMZ   |    |    | 0.3  |     |      |     |      |     |     |         |

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OCT 25 16<sup>h</sup>49<sup>m</sup>46<sup>s</sup>.9 43°.29S 170°.70E 12 km  
 ± 0.9 0.09 0.13 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S  | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|----|-----|------|-----|------|-----|-----|---------|
| KAI | P*    | 16 | 50 | 03 |     | -0.9 | 100 | 0.93 | 34  |     |         |
| GSP | P*    | 16 | 50 | 05 |     | 0.2  | 100 | 0.97 | 210 |     |         |
| CHR | Pn    | 16 | 50 | 11 |     | -0.9 | 100 | 1.42 | 100 |     |         |
| WEL | Pn    | 16 | 50 | 43 |     | 1.0  | 100 | 3.63 | 58  |     |         |
|     | Sn    |    | 51 | 24 |     | 0.5  | 100 |      |     |     |         |

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OCT 25 16<sup>h</sup>49<sup>m</sup>48<sup>s</sup>.6 43°.39S 170°.93E 12 km M= 5.0  
 ± 0.4 0.05 0.08 R S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| MJZ | P*    | 16 | 50 | 01.2 | USW | -0.3 | 100 | 0.68 | 209 |     |         |
| KAI | iP*   | 16 | 50 | 03.1 | Y   | -2.5 | 99  | 0.94 | 23  |     |         |
| GSP | P*    | 16 | 50 | 05.3 |     | -1.4 | 100 | 1.00 | 221 |     |         |
| CHR | Pn    | 16 | 50 | 12.0 |     | 0.9  | 100 | 1.25 | 97  |     |         |
| GPZ | iPn   | 16 | 50 | 12.9 | N   | 1.2  | 100 | 1.29 | 104 |     |         |
| OMZ | Pn    | 16 | 50 | 17.8 | U   | 0.7  | 100 | 1.68 | 180 |     |         |

|             |     |            |         |          |          |         |         |
|-------------|-----|------------|---------|----------|----------|---------|---------|
| KKY         | iPn | 16 50 25.0 |         | 0.2 100  | 2.25 66  |         |         |
|             | ePg | 33         |         | -1.1 100 |          |         |         |
| ROX         | iPn | 16 50 26.3 | U       | -0.3 100 | 2.38 208 |         |         |
|             | Sg  | 51 06      |         | -3.0 99  |          |         |         |
| MSZ         | Pn  | 16 50 27.5 | U       | -1.0 100 | 2.52 238 |         |         |
| COB         | iPn | 16 50 28.7 | U       | -1.7 100 | 2.66 31  | 5.5 5.3 |         |
|             | eP* | 34         |         | -1.2 100 |          |         |         |
|             | eSn | 51 02.5    |         | 0.6 100  |          |         |         |
| MNW         | Pn  | 16 50 39.0 | U       | -1.0 100 | 3.37 223 | 5.4     |         |
|             | e   | 42         |         |          |          |         |         |
|             | P*  | 49.1       |         | 1.9 100  |          |         |         |
|             | eSn | 51 23      |         | 4.2 97   |          |         |         |
| WEL         | ePn | 16 50 44   |         | 1.6 100  | 3.55 55  | 4.8     |         |
|             | eP* | 49         |         | -1.2 100 |          |         |         |
|             | eSn | 51 23      |         | -0.0 100 |          |         |         |
| OBZ         | ePn | 16 50 48   |         | -1.3 100 | 4.04 208 |         |         |
|             | eP* | 51 01      |         | 2.3 100  |          |         |         |
|             | eSn | 35         |         | -0.1 100 |          |         |         |
| CAZ         | eSn | 16 51 49   |         | -0.9 100 | 4.66 60  |         |         |
| TNZ         | ePn | 16 51 01   |         | -0.5 100 | 4.94 33  | 5.1 5.1 |         |
|             | eSn | 52 02      |         | 5.3 84   |          |         |         |
| GSZ         | ePn | 16 51 10   |         | 2.2      | 5.40 42  |         |         |
|             | eSn | 52 13      |         | 5.2      |          |         |         |
| TRZ         | eP* | 16 51 26   |         | -3.7     | 5.86 51  | 4.5 4.7 |         |
|             | eSn | 52 24      |         | 5.3      |          |         |         |
|             | e   | 53 30      |         |          |          |         |         |
| KRP         | Pn  | 16 51 21.8 |         | -0.8     | 6.49 34  | 5.0 5.0 |         |
|             | Sn  | 52 32.0    |         | -1.9     |          |         |         |
| TUA         | Pn  | 16 51 32.7 |         | 9.0      | 6.56 48  | 5.1 5.0 |         |
|             | ePg | 55         |         | -6.2     |          |         |         |
|             | e   | 52 57      |         |          |          |         |         |
| WTZ         | ePn | 16 51 33   |         | 2.0      | 7.10 43  | 5.2 5.4 |         |
|             | eSn | 52 50      |         | 1.4      |          |         |         |
| GNZ         | e   | 16 51 44.5 |         |          | 7.16 51  | 4.8 4.9 |         |
|             | eSn | 52 48      |         | -2.0     |          |         |         |
| WIZ         | ePn | 16 51 40   |         | 2.8      | 7.56 41  |         |         |
| ONE         | ePn | 16 51 46   |         | 2.0      | 8.05 20  | 5.0     |         |
|             | eSn | 53 10      |         | -1.5     |          |         |         |
| AMPLITUDES: |     | COB        | 24 54   | MNW      | 11       | WEL     | 1.9     |
|             |     | TNZ        | 1.5 2.5 | TRZ      | 0.4 0.8  | KRP     | 3.3 3.5 |
|             |     | TUA        | 1.0 0.8 | WTZ      | 0.7 0.7  | GNZ     | 1.0 1.8 |
|             |     | ONE        | 0.8     |          |          |         |         |

FELT: Widely on West Coast of South Island.

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OCT 25 16<sup>h</sup>55<sup>m</sup>13<sup>s</sup>.4 43°.33s 171°.00E 12 km M = 3.9  
 ± 0.4 0.03 0.05 R S.E. of RES. 1.5

| STN  | PHASE | H     | M    | S | DIR | RES      | WT | DIST | AZ  | W-A | W P W S |
|------|-------|-------|------|---|-----|----------|----|------|-----|-----|---------|
| MIJZ | iP*   | 16 55 | 26.4 |   | UW  | -1.2 100 |    | 0.76 | 210 |     |         |
|      | eS*   |       | 36   |   |     | -1.9 99  |    |      |     |     |         |
|      | eSg   |       | 39   |   |     | -0.4 100 |    |      |     |     |         |
| KAI  | eP*   | 16 55 | 28.5 |   |     | -0.7 100 |    | 0.85 | 20  | 4.0 |         |
|      | Pg    |       | 30.0 |   |     | -0.9 100 |    |      |     |     |         |
|      | eS*   |       | 41   |   |     | 0.2 100  |    |      |     |     |         |
| GSP  | P*    | 16 55 | 30.7 |   | U   | -2.2 99  |    | 1.07 | 221 |     |         |
| GPZ  | eSg   | 16 55 | 56.5 |   |     | 0.8 100  |    | 1.25 | 108 | 3.2 |         |
| OMZ  | Pn    | 16 55 | 43.5 |   |     | 0.8 100  |    | 1.75 | 182 |     | 3.8 3.3 |

|             |     |     |         |      |     |         |     |     |         |
|-------------|-----|-----|---------|------|-----|---------|-----|-----|---------|
|             | eSn | 56  | 05.5    | 0.9  | 100 |         |     |     |         |
| ROX         | P*  | 16  | 55 57.0 | 0.4  | 100 | 2.47    | 209 | 4.1 | 3.7     |
|             | eSg |     | 56 34   | -2.4 | 99  |         |     |     |         |
| COB         | eP* | 16  | 55 59   | 0.3  | 100 | 2.58    | 30  | 4.1 | 3.8     |
|             | eSn |     | 56 24   | -0.9 | 100 |         |     |     |         |
| MSZ         | Pn  | 16  | 55 55.5 | 1.1  | 100 | 2.60    | 238 | 3.7 | 4.0     |
|             | Sn  |     | 56 28   | 2.8  | 99  |         |     |     |         |
| MNW         | eP* | 16  | 56 14   | 0.7  | 100 | 3.45    | 223 | 3.8 | 4.4 4.2 |
|             | eSn |     | 48      | 2.5  | 99  |         |     |     |         |
| AMPLITUDES: | KAI | 5.2 |         | GPZ  | 0.7 | OMZ     |     | 1.1 | 0.8     |
|             | ROX |     | 1.2 1.3 | COB  |     | 1.1 1.8 | MSZ |     | 1.2 3.7 |
|             | MNW | 0.3 | 2.0 2.5 |      |     |         |     |     |         |

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OCT 25    22<sup>h</sup>36<sup>m</sup>37<sup>s</sup>.3    43°.31s    170°.89E    12 km    M = 4.0  
                  ± 0.4            0.03            0.05            R    S.E. of RES. 1.5

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT      | DIST | AZ  | W-A     | W P W S |
|-------------|-------|-----|-----|-------|-----|------|---------|------|-----|---------|---------|
| MJZ         | iP*   | 22  | 36  | 50.0  | UW  | -1.1 | 100     | 0.74 | 204 |         |         |
|             | eS*   |     |     | 59.5  |     | -1.7 | 100     |      |     |         |         |
| KAI         | P*    | 22  | 36  | 52.9  |     | -0.5 | 100     | 0.87 | 26  | 4.2     |         |
|             | eS*   |     |     | 37 04 |     | -1.1 | 100     |      |     |         |         |
| GSP         | P*    | 22  | 36  | 54.6  | U   | -1.6 | 100     | 1.03 | 217 |         |         |
| GPZ         | Pn    | 22  | 37  | 03.0  |     | 2.0  | 99      | 1.33 | 107 | 3.5     |         |
|             | eSn   |     |     | 20    |     | 1.3  | 100     |      |     |         |         |
| OMZ         | Pn    | 22  | 37  | 07.8  |     | 1.0  | 100     | 1.75 | 179 |         | 4.0     |
|             | eSn   |     |     | 27    |     | -1.9 | 99      |      |     |         |         |
| ROX         | Pn    | 22  | 37  | 15.0  |     | -1.1 | 100     | 2.44 | 207 |         | 4.5 3.9 |
|             | eP*   |     |     | 20    |     | -0.1 | 100     |      |     |         |         |
|             | eSg   |     |     | 59.5  |     | -0.1 | 100     |      |     |         |         |
| MSZ         | Pn    | 22  | 37  | 16.7  |     | -0.8 | 100     | 2.54 | 237 |         | 4.1 3.9 |
|             | eS*   |     |     | 57    |     | 1.8  | 100     |      |     |         |         |
| COB         | ePn   | 22  | 37  | 18.0  |     | -0.4 | 100     | 2.61 | 32  |         | 4.4 3.8 |
|             | eP*   |     |     | 23    |     | -0.0 | 100     |      |     |         |         |
|             | eS*   |     |     | 58    |     | 0.7  | 100     |      |     |         |         |
| MNW         | ePn?  | 22  | 37  | 28.5  |     | -0.7 | 100     | 3.40 | 222 | 3.8     | 4.4 3.7 |
|             | eP*   |     |     | 37.2  |     | 0.7  | 100     |      |     |         |         |
|             | eSn   |     |     | 38 13 |     | 4.6  | 73      |      |     |         |         |
| AMPLITUDES: | KAI   | 7.7 |     |       | GPZ | 1.2  |         | OMZ  |     | 2.0     |         |
|             | ROX   |     | 3.2 | 2.0   | MSZ |      | 2.9 3.5 | COB  |     | 2.0 2.1 |         |
|             | MNW   | 0.3 | 2.0 | 0.8   |     |      |         |      |     |         |         |

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OCT 26    01<sup>h</sup>03<sup>m</sup>39<sup>s</sup>.8    43°.27s    170°.70E    12 km    M = 5.1  
                  ± 0.4            0.04            0.06            R    S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| MJZ | iP*   | 01 | 03 | 54.0 | UW  | 0.4  | 100 | 0.74 | 193 |     |         |
| KAI | iP*   | 01 | 03 | 56.0 | Y   | -0.5 | 100 | 0.91 | 35  |     |         |
| GSP | Pn    | 01 | 03 | 58.5 |     | -0.4 | 100 | 1.00 | 210 |     |         |
| GPZ | Pn    | 01 | 04 | 05.8 |     | 0.3  | 100 | 1.48 | 107 |     |         |
|     | eSn   |    |    | 24   |     | -0.7 | 100 |      |     |     |         |
| OMZ | iPn!  | 01 | 04 | 10.9 | U   | 0.9  | 100 | 1.81 | 175 |     |         |
| ROX | iPn   | 01 | 04 | 18.8 | U   | 0.5  | 100 | 2.42 | 204 |     | 5.4 5.1 |
|     | P*    |    |    | 23   |     | 0.8  | 100 |      |     |     |         |
|     | Sn    |    |    | 48   |     | 0.7  | 100 |      |     |     |         |
| MSZ | iPn   | 01 | 04 | 20.5 | U   | 1.8  | 100 | 2.45 | 234 |     | 5.2 4.9 |
|     | eS*   |    |    | 55   |     | 0.1  | 100 |      |     |     |         |
| COB | iPn   | 01 | 04 | 21.3 |     | -0.2 | 100 | 2.65 | 35  |     | 5.6 5.2 |



|             |       |       |      |     |      |     |      |     |     |     |
|-------------|-------|-------|------|-----|------|-----|------|-----|-----|-----|
|             | eP*   |       | 25   |     | -1.3 | 100 |      |     |     |     |
|             | e     |       | 45   |     |      |     |      |     |     |     |
| MNW         | Pn    | 01 04 | 32.0 |     | 1.1  | 100 | 3.34 | 220 | 5.0 |     |
|             | eP*   |       | 36   |     | -2.0 | 99  |      |     |     |     |
|             | e(Pg) |       | 42   |     | -5.3 |     |      |     |     |     |
|             | e     |       | 57   |     |      |     |      |     |     |     |
|             | e(S*) | 05    | 16   |     | -5.6 |     |      |     |     |     |
| WEL         | ePn   | 01 04 | 36   |     | 1.4  | 100 | 3.62 | 58  | 4.7 |     |
|             | eSn   | 05    | 16   |     | 0.0  | 100 |      |     |     |     |
| OBZ         | Pn    | 01 04 | 38.1 |     | -2.8 | 98  | 4.08 | 206 |     |     |
|             | eP*   |       | 53   |     | 2.5  | 99  |      |     |     |     |
|             | eSn   | 05    | 24   |     | -3.0 | 98  |      |     |     |     |
| KRP         | Pn    | 01 05 | 14.2 |     | 0.3  |     | 6.49 | 36  | 4.9 | 4.9 |
|             | eSn   | 06    | 24   |     | -1.1 |     |      |     |     |     |
| AMPLITUDES: | ROX   | 24    | 32   | MSZ | 35   | 37  | COB  | 35  | 48  |     |
|             | MNW   | 4.6   |      | WEL | 1.5  |     | KRP  | 3.0 | 3.0 |     |

FELT: On West Coast of South Island. Max Intensity MM V, at Ross (91) and Mahitahi (104).

OCT 26 01<sup>h</sup>10<sup>m</sup>40<sup>s</sup>.2 43°.37s 170°.97E 12 km M = 3.9  
 ± 0.3 0.02 0.04 R S.E. of RES. 1.1

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|---------|
| MJZ         | iP*   | 01  | 10  | 53.2  | UW  | -0.4 | 100 | 0.72 | 210 |     |         |
|             | eS*   |     | 11  | 02.5  |     | -0.8 | 100 |      |     |     |         |
| KAI         | eP*   | 01  | 10  | 55    |     | -1.8 | 99  | 0.91 | 21  | 3.8 |         |
|             | Pg    |     |     | 59.0  |     | 0.3  | 100 |      |     |     |         |
|             | S*    |     | 11  | 08.0  |     | -1.0 | 100 |      |     |     |         |
|             | Sg    |     |     | 13.2  |     | 2.3  | 98  |      |     |     |         |
| GSP         | P*    | 01  | 10  | 59.2  |     | 0.2  | 100 | 1.03 | 222 |     |         |
| GPZ         | ePg   | 01  | 11  | 05    |     | -0.8 | 100 | 1.26 | 106 | 3.1 |         |
|             | eSn   |     |     | 21    |     | 1.1  | 100 |      |     |     |         |
| OMZ         | iPn   | 01  | 11  | 10.7  | U   | 1.8  | 99  | 1.70 | 181 |     |         |
|             | eSg   |     |     | 37    |     | -0.6 | 100 |      |     |     |         |
| ROX         | Pn    | 01  | 11  | 17.8  |     | -0.9 | 100 | 2.41 | 209 | 4.3 | 3.7     |
|             | P*    |     |     | 23.5  |     | 0.9  | 100 |      |     |     |         |
|             | eSg   |     |     | 12 01 |     | -0.6 | 100 |      |     |     |         |
| MSZ         | ePn   | 01  | 11  | 22    |     | 1.4  | 100 | 2.56 | 238 | 4.0 | 3.9     |
|             | eS*   |     |     | 58    |     | -0.6 | 100 |      |     |     |         |
| COB         | ePn   | 01  | 11  | 21    |     | -0.7 | 100 | 2.64 | 30  | 4.1 | 3.8     |
|             | eP*   |     |     | 26    |     | -0.3 | 100 |      |     |     |         |
|             | eS*   |     |     | 12 00 |     | -0.8 | 100 |      |     |     |         |
| MNW         | ePn   | 01  | 11  | 32    |     | -0.1 | 100 | 3.40 | 224 | 3.8 | 4.4 4.0 |
|             | eP*   |     |     | 41    |     | 1.6  | 99  |      |     |     |         |
|             | eSn   |     |     | 12 17 |     | 5.8  | 0   |      |     |     |         |
| AMPLITUDES: | KAI   | 3.0 |     |       | GPZ | 0.5  |     | ROX  | 1.8 | 1.4 |         |
|             | MSZ   | 2.2 | 3.0 |       | COB | 1.1  | 1.7 | MNW  | 0.3 | 2.0 | 1.8     |

OCT 26 07<sup>h</sup>29<sup>m</sup>00<sup>s</sup>.5 38°.49s 175°.76E 173 km M = 4.1  
 ± 1.1 0.04 0.06 8 S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|---------|
| KRP | P     | 07 | 29 | 25.8 |     | 0.8  | 100 | 0.59 | 343 | 3.2* | 2.8*    |
|     | eS    |    |    | 44   |     | 0.2  | 100 |      |     |      |         |
| GSZ | P     | 07 | 29 | 28.0 |     | 1.8  | 99  | 0.80 | 190 |      |         |
| WIZ | eP    | 07 | 29 | 28   |     | -0.3 | 100 | 1.09 | 63  | 3.4  | 3.7     |



|             |     |            |      |     |      |     |     |     |      |
|-------------|-----|------------|------|-----|------|-----|-----|-----|------|
| TUA         | eS  | 48         | -1.8 | 99  |      |     |     |     |      |
|             | P   | 07 29 29.8 | 1.1  | 100 | 1.13 | 107 | 4.1 | 4.2 |      |
|             | eS  | 50         | -0.5 | 100 |      |     |     |     |      |
| TRZ         | P   | 07 29 32.1 | 1.5  | 100 | 1.34 | 142 | 4.5 | 3.8 |      |
|             | eS  | 56         | 2.2  | 99  |      |     |     |     |      |
| GNZ         | iP  | 07 29 34.3 | -0.7 | 100 | 1.78 | 96  | 4.0 | 4.2 |      |
|             | S   | 30 00.0    | -1.6 | 100 |      |     |     |     |      |
| MNG         | P   | 07 29 40.0 | 1.1  | 100 | 2.14 | 186 |     |     |      |
| ECZ         | P   | 07 29 41.0 | -0.3 | 100 | 2.34 | 71  | 4.2 | 4.1 |      |
|             | eS  | 30 13      | 0.3  | 100 |      |     |     |     |      |
| CAZ         | eS  | 07 30 14   | -0.8 | 100 | 2.44 | 172 |     |     |      |
| WEL         | eS  | 07 30 24   | -0.7 | 100 | 2.90 | 195 | 4.4 |     |      |
| COB         | eS  | 07 30 36   | -2.0 | 99  | 3.49 | 221 |     |     | 3.5* |
| AMPLITUDES: |     |            |      |     |      |     |     |     |      |
|             | KRP | 1.7        | 0.8  | WTZ | 0.7  | 1.5 | TUA | 1.5 | 1.7  |
|             | TRZ | 2.5        | 1.1  | GNZ | 1.8  | 4.2 | ECZ | 0.7 | 0.6  |
|             | WEL | 1.1        |      | COB |      | 2.0 |     |     |      |

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OCT 26 08<sup>h</sup>06<sup>m</sup>03<sup>s</sup>.9 38°.11s 178°.94E 51 km M = 3.7  
 ± 2.7 0.10 0.22 20 S.E. of RES. 2.2

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|------|-----|
| ECZ         | iP    | 08  | 06  | 14.8  | U   | -1.1 | 100 | 0.52 | 323 |     | 3.2  | 3.3 |
|             | eS    |     |     | 26    |     | 1.3  | 100 |      |     |     |      |     |
| GNZ         | iP    | 08  | 06  | 19.2  | U   | -1.4 | 100 | 0.90 | 233 |     | 3.7  | 3.6 |
|             | e     |     |     | 30    |     |      |     |      |     |     |      |     |
|             | eS    |     |     | 33    |     | -0.1 | 100 |      |     |     |      |     |
| WIZ         | eP    | 08  | 06  | 27.5  |     | -1.4 | 100 | 1.50 | 292 |     |      |     |
| WTZ         | P     | 08  | 06  | 27.9  |     | -1.7 | 100 | 1.55 | 274 |     | 4.1  | 3.8 |
|             | eS    |     |     | 48    |     | -0.9 | 100 |      |     |     |      |     |
| TUA         | eP    | 08  | 06  | 32    |     | 2.1  | 100 | 1.57 | 243 |     | 3.7  | 3.7 |
|             | e     |     |     | 07 04 |     |      |     |      |     |     |      |     |
| TRZ         | e     | 08  | 06  | 56    |     |      |     | 2.20 | 228 |     | 3.8  |     |
| KRP         | P     | 08  | 06  | 49.0  |     | 3.2  | 99  | 2.69 | 273 |     | 2.8* |     |
| AMPLITUDES: |       |     |     |       |     |      |     |      |     |     |      |     |
|             | ECZ   | 1.7 | 2.2 | GNZ   | 4.5 | 6.0  | WTZ | 3.6  | 2.4 |     |      |     |
|             | TUA   | 0.6 | 0.7 | TRZ   | 0.4 |      | KRP | 0.4  |     |     |      |     |

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OCT 26 20<sup>h</sup>46<sup>m</sup>36<sup>s</sup>.0 40°.95s 174°.11E 12 km M = 3.9  
 ± 0.3 0.02 0.03 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WEL | iP*   | 20 | 46 | 47.0    | U   | -0.5 | 100 | 0.60 | 124 | 3.8 |     |     |
|     | S*    |    |    | 56.0    |     | 0.2  | 100 |      |     |     |     |     |
| COB | iP*   | 20 | 46 | 55.1    |     | 0.0  | 100 | 1.04 | 262 |     | 4.2 | 4.0 |
|     | eS*   |    |    | 47 09   |     | -0.1 | 100 |      |     |     |     |     |
| MNG | iP*   | 20 | 46 | 53.9    | U   | -2.0 | 100 | 1.10 | 73  |     | 4.1 | 4.1 |
|     | eS*   |    |    | 47 09.5 |     | -1.1 | 100 |      |     |     |     |     |
| KKY | Pn    | 20 | 46 | 59.0    |     | -3.0 | 99  | 1.50 | 192 |     |     |     |
|     | P*    |    |    | 47 02.4 |     | -0.4 | 100 |      |     |     |     |     |
|     | Sn    |    |    | 22.6    |     | 1.1  | 100 |      |     |     |     |     |
| CAZ | Pg    | 20 | 47 | 08.9    |     | 0.3  | 100 | 1.61 | 89  |     |     |     |
|     | eSg   |    |    | 34      |     | 3.7  | 97  |      |     |     |     |     |
| TNZ | ePn   | 20 | 47 | 07      |     | 1.2  | 100 | 1.77 | 7   |     | 3.6 | 3.8 |
|     | ePg   |    |    | 12      |     | 0.1  | 100 |      |     |     |     |     |
|     | eS*   |    |    | 33      |     | 2.1  | 99  |      |     |     |     |     |
|     | e     |    |    | 47      |     |      |     |      |     |     |     |     |
| GSZ | ePn   | 20 | 47 | 08      |     | -1.1 | 100 | 2.02 | 35  |     |     |     |
|     | Pg    |    |    | 18.0    |     | 1.1  | 100 |      |     |     |     |     |

|             |     |            |         |     |      |     |     |     |    |
|-------------|-----|------------|---------|-----|------|-----|-----|-----|----|
| KAI         | eSg | 43         | -1.2    | 100 |      |     |     |     |    |
|             | eP* | 20 47 21   | 0.1     | 100 | 2.56 | 231 | 4.2 |     |    |
|             | ePg | 28         | 0.1     | 100 |      |     |     |     |    |
| GPZ         | eSn | 49         | 2.0     | 100 |      |     |     |     |    |
|             | ePn | 20 47 19   | -2.8    | 99  | 2.95 | 201 | 3.7 |     |    |
|             | e   | 48         |         |     |      |     |     |     |    |
| KRP         | ePn | 20 47 25   | -0.5    | 100 | 3.22 | 21  | 3.8 | 3.8 |    |
|             | eP* | 33         | 0.8     | 100 |      |     |     |     |    |
|             | eSn | 48 01      | -1.8    | 100 |      |     |     |     |    |
| GSP         | ePn | 20 47 40.5 | -0.9    | 100 | 4.39 | 222 |     |     |    |
|             | eSn | 48 33      | 2.1     | 99  |      |     |     |     |    |
| AMPLITUDES: |     |            |         |     |      |     |     |     |    |
|             | WEL | 7.6        |         | COB | 8.8  | 17  | MNG | 18  | 21 |
|             | TNZ |            | 0.4 0.9 | KAI | 0.9  |     | GPZ | 0.4 |    |
|             | KRP |            | 0.9 1.1 |     |      |     |     |     |    |

FELT: Wellington (68).

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OCT 26 21<sup>h</sup>03<sup>m</sup>33<sup>s</sup>.8 33°.42S 179°.67E 345 km M = 4.7

S.E. of RES. 1.5

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|
| ECZ         | eS    | 21 | 05 | 44    |     | 0.0  | 100 | 4.36 | 192 |     |      | 4.6 |
| WTZ         | iP    | 21 | 04 | 54.9  | U   | 0.6  | 100 | 5.06 | 205 |     | 4.7  | 4.5 |
|             | eS    |    | 05 | 56    |     | -1.5 | 99  |      |     |     |      |     |
| GNZ         | eS    | 21 | 06 | 05    |     | 0.9  | 100 | 5.38 | 194 |     |      | 4.8 |
| KRP         | eP    | 21 | 05 | 02    |     | 1.4  | 100 | 5.62 | 216 |     | 3.3* |     |
| TUA         | e(S)  | 21 | 06 | 18    |     | 6.3  |     | 5.75 | 200 |     |      | 4.8 |
| MNG         | eP    | 21 | 05 | 26    |     | -1.8 | 99  | 7.93 | 204 |     | 4.8  | 4.6 |
|             | i     |    |    | 27.1  |     |      |     |      |     |     |      |     |
|             | e     |    |    | 06 50 |     |      |     |      |     |     |      |     |
|             | eS    |    |    | 58.0  |     | 0.4  | 100 |      |     |     |      |     |
| WEL         | eS    | 21 | 07 | 16    |     | 0.3  | 100 | 8.77 | 205 | 4.8 |      |     |
| AMPLITUDES: |       |    |    |       |     |      |     |      |     |     |      |     |
|             | ECZ   |    |    |       | 0.5 | WTZ  | 1.0 | 0.8  | GNZ |     |      | 2.4 |
|             | KRP   |    |    | 0.5   |     | TUA  |     | 0.5  | MNG |     | 1.7  | 1.3 |
|             | WEL   |    |    | 0.3   |     |      |     |      |     |     |      |     |

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OCT 27 07<sup>h</sup>54<sup>m</sup>59<sup>s</sup>.5 45°.19S 167°.61E 114 km M = 3.7

S.E. of RES. 0.8

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-------------|-------|----|----|------|-----|------|-----|------|-----|------|------|------|
| MSZ         | iP    | 07 | 55 | 17.2 | D   | -0.1 | 100 | 0.57 | 23  |      | 3.7* | 3.7* |
|             | eS    |    |    | 31   |     | -0.1 | 100 |      |     |      |      |      |
| MNW         | iP!   | 07 | 55 | 17.4 |     | -0.1 | 100 | 0.59 | 180 | 3.7* |      |      |
|             | eS    |    |    | 31   |     | -0.3 | 100 |      |     |      |      |      |
| ROX         | iP    | 07 | 55 | 24.7 | U   | 0.9  | 99  | 1.24 | 104 |      | 3.9  | 3.8  |
|             | S     |    |    | 43.0 |     | 0.7  | 100 |      |     |      |      |      |
| GSP         | eP    | 07 | 55 | 33   |     | -0.3 | 100 | 2.02 | 59  |      |      |      |
|             | eS    |    |    | 59   |     | 0.4  | 100 |      |     |      |      |      |
| OMZ         | eS    | 07 | 56 | 05   |     | -1.2 | 98  | 2.34 | 88  |      |      | 3.5  |
| AMPLITUDES: |       |    |    |      |     |      |     |      |     |      |      |      |
|             | MSZ   |    |    | 8.0  | 14  | MNW  | 3.0 |      | ROX |      | 2.0  | 2.8  |
|             | OMZ   |    |    | 0.4  |     |      |     |      |     |      |      |      |

77/ 703

OCT 27 14<sup>h</sup>15<sup>m</sup>08<sup>s</sup>.6 32°.92S 179°.91E 458 km M = 5.2

S.E. of RES. 1.9

| STN         | PHASE | H   | M   | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-------------|-------|-----|-----|-------|-----|------|-----|------|-----|-----|------|-----|---|---|
| ECZ         | eP    | 14  | 16  | 34.5  |     | 1.4  | 100 | 4.90 | 193 |     | 4.9  | 4.8 |   |   |
|             | e     |     |     | 38    |     |      |     |      |     |     |      |     |   |   |
|             | eS    |     |     | 17 41 |     | 1.2  | 100 |      |     |     |      |     |   |   |
| WIZ         | eP    | 14  | 16  | 37    |     | 1.7  | 100 | 5.11 | 205 |     |      |     |   |   |
| WTZ         | P     | 14  | 16  | 39.0  |     | -0.9 | 100 | 5.60 | 204 |     | 5.5  | 4.9 |   |   |
|             | e     |     |     | 41.3  |     |      |     |      |     |     |      |     |   |   |
|             | eS    |     |     | 17 50 |     | -2.1 | 100 |      |     |     |      |     |   |   |
| GNZ         | P     | 14  | 16  | 43.0  |     | -0.3 | 100 | 5.92 | 195 |     | 5.4  | 5.2 |   |   |
|             | e     |     |     | 44.7  |     |      |     |      |     |     |      |     |   |   |
|             | e     |     |     | 17 51 |     |      |     |      |     |     |      |     |   |   |
|             | eS    |     |     | 56    |     | -2.0 | 100 |      |     |     |      |     |   |   |
| KRP         | eP    | 14  | 16  | 47    |     | 1.4  | 100 | 6.15 | 214 |     | 3.7* |     |   |   |
|             | e     |     |     | 49.5  |     |      |     |      |     |     |      |     |   |   |
| TUA         | eP    | 14  | 16  | 48    |     | 0.8  | 100 | 6.29 | 200 |     | 5.0  | 5.1 |   |   |
|             | eS    |     |     | 18 04 |     | -1.0 | 100 |      |     |     |      |     |   |   |
| TRZ         | eP    | 14  | 16  | 56    |     | 0.5  | 100 | 7.08 | 200 |     | 5.2  | 5.3 |   |   |
|             | eS    |     |     | 18 21 |     | 1.0  | 100 |      |     |     |      |     |   |   |
| MNG         | eP    | 14  | 17  | 09.5  |     | -1.1 | 100 | 8.47 | 204 |     | 5.4  | 5.3 |   |   |
|             | e     |     |     | 12    |     |      |     |      |     |     |      |     |   |   |
|             | eS    |     |     | 18 47 |     | -0.3 | 100 |      |     |     |      |     |   |   |
| CAZ         | eP    | 14  | 17  | 07    |     | -4.0 | 96  | 8.50 | 199 |     |      |     |   |   |
|             | e     |     |     | 10    |     |      |     |      |     |     |      |     |   |   |
|             | eS    |     |     | 18 51 |     | 3.1  | 99  |      |     |     |      |     |   |   |
| WEL         | eS    | 14  | 19  | 04    |     | 0.1  | 100 | 9.31 | 205 | 5.2 |      |     |   |   |
| AMPLITUDES: |       | ECZ | 0.6 | 0.5   | WTZ | 4.7  | 1.5 | GNZ  | 3.7 | 3.7 |      |     |   |   |
|             |       | KRP | 1.2 |       | TUA | 0.6  | 0.8 | TRZ  | 0.7 | 2.2 |      |     |   |   |
|             |       | MNG | 6.0 | 6.0   | WEL | 0.6  |     |      |     |     |      |     |   |   |

OCT 27 15<sup>h</sup>17<sup>m</sup>04<sup>s</sup>.4 47°.70s 165°.75E 12 km 77/ 704  
 $\pm 1.5$  0.11 0.11 R S.E. of RES. 1.7 M = 4.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|----|-----|-----|-----|---|---|
| OBZ | P*    | 15 | 17 | 38.0    |     | 1.8  | 100 | 1.80 | 64 |     |     |     |   |   |
|     | eS*   |    |    | 18 01   |     | 1.1  | 100 |      |    |     |     |     |   |   |
| MNW | iPn   | 15 | 17 | 41.0    | U   | -0.5 | 100 | 2.31 | 34 | 4.8 |     |     |   |   |
|     | eSn   |    |    | 18 11   |     | 1.6  | 100 |      |    |     |     |     |   |   |
| ROX | Pn    | 15 | 17 | 55.8    |     | 0.6  | 100 | 3.32 | 49 |     | 5.2 | 5.0 |   |   |
|     | e     |    |    | 57.0    |     |      |     |      |    |     |     |     |   |   |
|     | eSn   |    |    | 18 36   |     | 2.4  | 99  |      |    |     |     |     |   |   |
| MSZ | ePn   | 15 | 17 | 54      |     | -2.1 | 99  | 3.39 | 27 |     | 4.8 | 4.9 |   |   |
|     | eSn   |    |    | 18 35.5 |     | 0.3  | 100 |      |    |     |     |     |   |   |
| OMZ | Pn    | 15 | 18 | 11.3    |     | 0.8  | 100 | 4.44 | 55 |     | 4.4 | 4.6 |   |   |
|     | P*    |    |    | 22.6    |     | 1.2  | 100 |      |    |     |     |     |   |   |
|     | Sn    |    |    | 58.8    |     | -1.7 | 100 |      |    |     |     |     |   |   |
|     | eS*   |    |    | 19 18   |     | -1.2 | 100 |      |    |     |     |     |   |   |
|     | eSg   |    |    | 31      |     | -3.0 | 99  |      |    |     |     |     |   |   |
| GSP | ePn   | 15 | 18 | 12      |     | -1.4 | 100 | 4.65 | 41 |     |     |     |   |   |
|     | eSn   |    |    | 19 07   |     | 1.4  | 100 |      |    |     |     |     |   |   |
| MJZ | ePn   | 15 | 18 | 15.5    |     | -2.2 | 99  | 4.97 | 43 |     |     |     |   |   |
|     | eSn   |    |    | 19 14   |     | 0.8  | 100 |      |    |     |     |     |   |   |
|     | e     |    |    | 27      |     |      |     |      |    |     |     |     |   |   |
| GPZ | e(P*) | 15 | 18 | 46      |     | -6.7 |     | 6.27 | 53 | 4.5 |     |     |   |   |
|     | e     |    |    | 19 59   |     |      |     |      |    |     |     |     |   |   |
| KAI | eP*   | 15 | 18 | 58      |     | 0.7  |     | 6.55 | 40 | 4.6 |     |     |   |   |
|     | eSn   |    |    | 19 57   |     | 5.9  |     |      |    |     |     |     |   |   |
| COB | Pn    | 15 | 19 | 01.2    |     | -1.9 |     | 8.30 | 40 |     | 4.6 | 4.0 |   |   |

|             |                                                    |         |     |          |     |       |     |                  |     |     |     |     |  |  |
|-------------|----------------------------------------------------|---------|-----|----------|-----|-------|-----|------------------|-----|-----|-----|-----|--|--|
| Sn          |                                                    | 20 29.7 |     | -3.4     |     |       |     |                  |     |     |     |     |  |  |
| AMPLITUDES: |                                                    | MNW     | 5.6 | ROX      |     | 7.5   | 14  | MSZ              | 8.2 |     | 16  |     |  |  |
|             |                                                    | OMZ     | 0.8 | 2.3      | GPZ | 0.5   |     | KAI              | 0.4 |     |     |     |  |  |
|             |                                                    | COB     | 0.3 | 0.3      |     |       |     |                  |     |     |     |     |  |  |
| 77/ 705     |                                                    |         |     |          |     |       |     |                  |     |     |     |     |  |  |
| OCT 28      | 09 <sup>h</sup> 32 <sup>m</sup> 41 <sup>s</sup> .7 | 44°.50s |     | 169°.26E |     | 12 km |     | M = 3.5          |     |     |     |     |  |  |
|             | ± 0.3                                              | 0.02    |     | 0.02     |     | R     |     | S.E. of RES. 1.1 |     |     |     |     |  |  |
| STN         | PHASE                                              | H       | M   | S        | DIR | RES   | WT  | DIST             | AZ  | W-A | W P | W S |  |  |
| GSP         | P*                                                 | 09      | 32  | 54       |     | -0.1  | 100 | 0.66             | 56  |     |     |     |  |  |
|             | S*                                                 |         | 33  | 02.5     |     | -0.5  | 100 |                  |     |     |     |     |  |  |
| MSZ         | P*                                                 | 09      | 32  | 59.8     |     | 0.3   | 100 | 0.97             | 259 |     | 3.4 | 4.0 |  |  |
|             | Pg                                                 |         | 33  | 00.7     | D   | -0.8  | 100 |                  |     |     |     |     |  |  |
|             | (S*)                                               |         |     | 12       |     | -0.6  |     |                  |     |     |     |     |  |  |
|             | Sg                                                 |         |     | 13.5     |     | -1.2  | 100 |                  |     |     |     |     |  |  |
| ROX         | Pg                                                 | 09      | 33  | 00.5     |     | -1.1  | 100 | 0.98             | 178 |     | 3.6 | 4.0 |  |  |
|             | S*                                                 |         |     | 12       |     | -0.6  | 100 |                  |     |     |     |     |  |  |
|             | Sg                                                 |         |     | 14       |     | -0.8  | 100 |                  |     |     |     |     |  |  |
| MJZ         | P*                                                 | 09      | 33  | 00.2     |     | 0.1   | 100 | 1.01             | 60  |     |     |     |  |  |
|             | S*                                                 |         |     | 13       |     | -0.6  | 100 |                  |     |     |     |     |  |  |
|             | Sg                                                 |         |     | 17       |     | 1.2   | 100 |                  |     |     |     |     |  |  |
| OMZ         | P*                                                 | 09      | 33  | 05.3     | U   | 0.1   | 100 | 1.31             | 116 |     | 3.6 | 3.3 |  |  |
|             | eS*                                                |         |     | 23       |     | 0.4   | 100 |                  |     |     |     |     |  |  |
| MNW         | iP*                                                | 09      | 33  | 13.4     | D   | 1.0   | 100 | 1.73             | 222 | 3.4 | 3.9 | 3.6 |  |  |
|             | S*                                                 |         |     | 38       |     | 2.8   | 89  |                  |     |     |     |     |  |  |
| KAI         |                                                    |         |     |          |     |       |     | 2.52             | 39  | 3.2 |     |     |  |  |
| GPZ         |                                                    |         |     |          |     |       |     | 2.56             | 73  | 3.5 |     |     |  |  |
| COB         |                                                    |         |     |          |     |       |     | 4.27             | 38  |     | 3.5 | 2.9 |  |  |
| AMPLITUDES: |                                                    | MSZ     | 3.7 | 25       | ROX | 2.3   | 14  | OMZ              | 1.5 | 1.2 |     |     |  |  |
|             |                                                    | MNW     | 0.4 | 2.5      | 2.5 | KAI   | 0.1 | GPZ              | 0.3 |     |     |     |  |  |
|             |                                                    | COB     | 0.1 | 0.1      |     |       |     |                  |     |     |     |     |  |  |

|             |                                                    |     |     |         |          |        |                  |      |     |     |      |     |
|-------------|----------------------------------------------------|-----|-----|---------|----------|--------|------------------|------|-----|-----|------|-----|
| 77/ 706     |                                                    |     |     |         |          |        |                  |      |     |     |      |     |
| OCT 28      | 16 <sup>h</sup> 06 <sup>m</sup> 07 <sup>s</sup> .8 |     |     | 37°.48s | 177°.04E | 147 km | M = 3.7          |      |     |     |      |     |
|             | ± 1.0                                              |     |     | 0.05    | 0.04     | 6      | S.E. of RES. 1.1 |      |     |     |      |     |
| STN         | PHASE                                              | H   | M   | S       | DIR      | RES    | WT               | DIST | AZ  | W-A | W P  | W S |
| WIZ         | P                                                  | 16  | 06  | 27      |          | -0.8   | 100              | 0.13 | 113 |     |      |     |
|             | S                                                  |     |     | 42      |          | -1.1   | 100              |      |     |     |      |     |
| WIZ         | iP                                                 | 16  | 06  | 28.6    | U        | -0.4   | 100              | 0.50 | 184 |     | 3.4  | 3.7 |
|             | S                                                  |     |     | 45      |          | -0.3   | 100              |      |     |     |      |     |
| ECZ         | P                                                  | 16  | 06  | 34.5    |          | -0.0   | 100              | 1.21 | 101 |     | 3.5  | 3.7 |
|             | S                                                  |     |     | 57      |          | 2.0    | 97               |      |     |     |      |     |
| KRP         | iP                                                 | 16  | 06  | 35.8    | UW       | 0.7    | 100              | 1.27 | 249 |     |      |     |
|             | S                                                  |     |     | 57      |          | 1.0    | 100              |      |     |     |      |     |
| TUA         | eP                                                 | 16  | 06  | 36      |          | 0.2    |                  | 1.33 | 176 |     | 3.4  | 4.0 |
|             | S                                                  |     |     | 57.5    |          | 0.4    | 100              |      |     |     |      |     |
| GNZ         | P                                                  | 16  | 06  | 36      |          | -0.4   | 100              | 1.40 | 147 |     | 4.2  | 4.2 |
|             | S                                                  |     |     | 58      |          | -0.3   | 100              |      |     |     |      |     |
| TRZ         | P                                                  | 16  | 06  | 43.5    |          | -0.6   | 100              | 2.08 | 185 |     | 3.7  | 4.0 |
|             | e                                                  |     |     | 07 11   |          |        |                  |      |     |     |      |     |
|             | S                                                  |     |     | 13.5    |          | 1.6    |                  |      |     |     |      |     |
| MNG         |                                                    |     |     |         |          |        |                  | 3.37 | 201 |     | 3.6  | 3.6 |
| WEL         |                                                    |     |     |         |          |        |                  | 4.19 | 204 | 3.7 |      |     |
| COB         |                                                    |     |     |         |          |        |                  | 4.91 | 221 |     | 2.6* |     |
| AMPLITUDES: |                                                    | WIZ | 1.5 | 3.0     | ECZ      | 0.4    | 0.7              | TUA  | 0.3 | 1.1 |      |     |
|             |                                                    | GNZ | 4.4 | 6.5     | TRZ      | 0.3    | 1.2              | MNG  | 0.6 | 0.8 |      |     |





OCT 29 11<sup>h</sup>39<sup>m</sup>08<sup>s</sup>.7 40°.50s 173°.83E 126 km 77/ 709  
 ± 0.9 0.03 0.05 10 S.E. of RES. 1.3 M = 4.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S   |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|-----------|
| COB | P     | 11 | 39 | 32.1    | D   | 0.5  | 100 | 1.02 | 235 |      | 4.2* 4.4* |
|     | S     |    |    | 50      |     | 0.9  | 100 |      |     |      |           |
| WEL | P     | 11 | 39 | 33.0    | W   | 1.0  | 100 | 1.05 | 138 | 4.7  |           |
|     | S     |    |    | 48.5    |     | -1.3 | 100 |      |     |      |           |
| MNG | iP    | 11 | 39 | 34.8    |     | 0.6  | 100 | 1.26 | 96  |      |           |
|     | (S)   |    |    | 52      |     | -1.6 | 99  |      |     |      |           |
| TNZ | iP    | 11 | 39 | 36.3    |     | 0.8  | 100 | 1.38 | 18  |      |           |
| CNZ | iP    | 11 | 39 | 41.5    |     | 0.4  | 100 | 1.85 | 46  |      |           |
|     | S     |    |    | 40 06.5 |     | 1.0  | 100 |      |     |      |           |
| CAZ | iP    | 11 | 39 | 42.0    | U   | 0.8  | 100 | 1.86 | 103 |      |           |
|     | S     |    |    | 40 06   |     | 0.3  | 100 |      |     |      |           |
| KKY | iP    | 11 | 39 | 42.6    | D   | 0.8  | 100 | 1.92 | 183 |      |           |
|     | S     |    |    | 40 07   |     | 0.1  | 100 |      |     |      |           |
| TRZ | P     | 11 | 39 | 48      |     | -1.2 |     | 2.48 | 69  |      | 4.2 4.4   |
|     | e(S)  |    |    | 40 18.5 |     | -1.3 |     |      |     |      |           |
|     | e     |    |    | 21      |     |      |     |      |     |      |           |
| WNZ | S     | 11 | 40 | 22      |     | 0.3  |     | 2.56 | 44  |      | 4.6       |
| KAI | S     | 11 | 40 | 23      |     | -2.4 | 98  | 2.72 | 221 | 4.1* |           |
| KRP | iP    | 11 | 39 | 53.3    | D   | -1.4 | 100 | 2.90 | 28  |      |           |
|     | S     |    |    | 40 28   |     | -1.5 | 100 |      |     |      |           |
| TUA | P     | 11 | 39 | 55      |     | -2.0 |     | 3.07 | 58  |      | 4.2 4.5   |
|     | S     |    |    | 40 33   |     | -0.7 |     |      |     |      |           |
| GPZ | P     | 11 | 39 | 58      |     | -2.2 |     | 3.31 | 195 |      |           |
|     | S     |    |    | 40 34   |     | -5.3 |     |      |     |      |           |
| WTZ | P     | 11 | 40 | 00.4    | U   | -2.5 |     | 3.51 | 45  |      | 3.7 4.5   |
|     | S     |    |    | 42      |     | -2.2 |     |      |     |      |           |
| GNZ | P     | 11 | 40 | 03.4    |     | -2.5 |     | 3.73 | 62  |      | 4.5 4.9   |
|     | S     |    |    | 46      |     | -3.5 |     |      |     |      |           |
| MJZ |       |    |    |         |     |      |     | 4.28 | 215 |      | 4.1* 3.8* |
| ONE |       |    |    |         |     |      |     | 4.74 | 5   | 3.2* |           |
| OMZ |       |    |    |         |     |      |     | 5.05 | 204 |      | 4.2* 3.6* |
| ROX |       |    |    |         |     |      |     | 5.98 | 212 |      | 3.6*      |
| MSZ |       |    |    |         |     |      |     | 6.04 | 224 |      | 3.7*      |
| CRZ |       |    |    |         |     |      |     | 6.14 | 351 |      | 3.1*      |
| MNW |       |    |    |         |     |      |     | 6.97 | 219 | 3.4* | 3.8*      |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | COB | 8.0 | 40  | WEL | 12  | TRZ | 0.6 | 2.5 |
|             | WNZ |     | 0.2 | KAI | 2.1 | TUA | 0.5 | 1.0 |
|             | WTZ | 0.3 | 2.1 | GNZ | 1.9 | 7.7 | MJZ | 5.5 |
|             | ONE | 0.2 |     | OMZ | 2.0 | 1.1 | ROX | 1.0 |
|             | MSZ |     | 2.5 | CRZ | 0.1 |     | MNW | 0.2 |
|             |     |     |     |     |     |     |     | 1.9 |

FELT: Near Wellington city (68) MM IV

OCT 29 18<sup>h</sup>41<sup>m</sup>00<sup>s</sup>.3 47°.26s 165°.27E 12 km 77/ 710  
 ± 1.1 0.08 0.11 R S.E. of RES. 0.7 M = 3.9

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ | W-A | W P W S |
|-----|-------|----|----|-------|-----|------|-----|------|----|-----|---------|
| MNW | Pn    | 18 | 41 | 35    |     | -0.7 | 99  | 2.20 | 48 | 3.7 | 4.1 4.0 |
|     | Sn    |    |    | 42 02 |     | -0.4 | 100 |      |    |     |         |
| MSZ | Pn    | 18 | 41 | 50    |     | 0.8  | 99  | 3.19 | 36 |     | 3.8 3.6 |
|     | eSn   |    |    | 42 26 |     | -0.1 | 100 |      |    |     |         |
|     | Sg    |    |    | 50.5  |     | 3.0  |     |      |    |     |         |
| ROX | Pn    | 18 | 41 | 51    |     | -0.1 | 100 | 3.32 | 59 |     | 4.3 3.8 |

|             |      |             |      |     |         |     |         |  |
|-------------|------|-------------|------|-----|---------|-----|---------|--|
|             | Sn   | 42 30       | 0.5  | 100 |         |     |         |  |
| OMZ         | (P*) | 18 42 14    | -4.1 |     | 4.49    | 63  | 3.8     |  |
| MJZ         | (P*) | 18 42 18    | -7.0 |     | 4.90    | 50  |         |  |
|             | Sn   | 43 06       | -1.4 |     |         |     |         |  |
| AMPLITUDES: | MNW  | 0.5 2.5 4.0 | MSZ  |     | 0.9 1.1 | ROX | 1.0 0.9 |  |
|             | OMZ  | 0.2         |      |     |         |     |         |  |

OCT 29 19<sup>h</sup>06<sup>m</sup>49<sup>s</sup>.1 47°.55s 165°.47E 12 km M = 3.9  
 ± 1.7 0.12 0.18 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|-----|-----|
| MNW | Pn    | 19 | 07 | 26   |     | -0.1 | 100 | 2.31 | 41 |     | 4.1 | 3.8 |
|     | Sn    |    |    | 52.5 |     | -1.4 | 99  |      |    |     |     |     |
| MSZ | Pn    | 19 | 07 | 40   |     | -0.3 | 100 | 3.35 | 31 |     | 3.7 | 3.8 |
|     | Sn    |    | 08 | 20   |     | 1.1  | 99  |      |    |     |     |     |
|     | Sg    |    |    | 42   |     | 0.1  |     |      |    |     |     |     |
| ROX | Pn    | 19 | 07 | 41   |     | 0.3  | 100 | 3.37 | 53 |     | 3.9 | 3.8 |
|     | Sn    |    | 08 | 20   |     | 0.4  | 100 |      |    |     |     |     |
| MJZ | P*    | 19 | 08 | 11   |     | -4.5 |     | 4.99 | 46 |     |     |     |
|     | Sn    |    |    | 57   |     | -1.5 |     |      |    |     |     |     |

AMPLITUDES: MNW 2.1 2.7 MSZ 0.7 1.3 ROX 0.4 0.8

OCT 29 19<sup>h</sup>15<sup>m</sup>13<sup>s</sup>.1 47°.50s 165°.32E 12 km M = 3.8  
 ± 1.5 0.09 0.19 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|-----|-----|
| MNW | Pn    | 19 | 15 | 50   |     | -0.5 | 100 | 2.34 | 44 | 3.7 | 4.1 | 3.7 |
|     | Sn    |    | 16 | 17   |     | -1.6 | 99  |      |    |     |     |     |
| MSZ | ePn   | 19 | 16 | 04   |     | -0.4 | 100 | 3.36 | 34 |     | 3.7 | 3.6 |
|     | eSn   |    |    | 44   |     | 0.9  | 100 |      |    |     |     |     |
|     | Sg    |    | 17 | 06.5 |     | 0.3  | 100 |      |    |     |     |     |
| ROX | Pn    | 19 | 16 | 06.5 |     | 1.1  | 100 | 3.43 | 55 |     | 4.3 | 3.8 |
|     | Sn    |    |    | 45   |     | 0.2  | 100 |      |    |     |     |     |
| MJZ | (P*)  | 19 | 16 | 35   |     | -5.1 |     | 5.03 | 48 |     |     |     |
|     | Sn    |    | 17 | 23   |     | -0.4 |     |      |    |     |     |     |

AMPLITUDES: MNW 0.5 2.2 2.1 MSZ 0.7 0.9 ROX 0.9 0.7

OCT 29 20<sup>h</sup>17<sup>m</sup>22<sup>s</sup>.2 47°.33s 165°.23E 12 km M = 4.2  
 ± 0.2 0.02 0.02 R S.E. of RES. 0.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|----|-----|-----|-----|
| MNW | Pn    | 20 | 17 | 58.8 | U   | 0.1  | 100 | 2.27 | 48 | 4.0 | 4.6 | 4.4 |
|     | Sn    |    | 18 | 26   |     | -0.1 | 100 |      |    |     |     |     |
| MSZ | Pn    | 20 | 18 | 12   |     | -0.2 | 100 | 3.26 | 36 |     | 4.3 | 4.2 |
|     | eSn   |    |    | 50   |     | 0.1  | 100 |      |    |     |     |     |
|     | eSg   |    | 19 | 14   |     | 2.0  |     |      |    |     |     |     |
| ROX | Pn    | 20 | 18 | 14   |     | 0.0  | 100 | 3.39 | 58 |     | 4.6 | 4.4 |
|     | Sn    |    |    | 53   |     | -0.0 | 100 |      |    |     |     |     |
| OMZ | ePn   | 20 | 18 | 30   |     | 0.1  |     | 4.55 | 62 |     | 4.0 | 3.9 |
|     | P*    |    |    | 38   |     | -3.1 |     |      |    |     |     |     |
|     | Sn    |    | 19 | 31.5 |     | 10.5 |     |      |    |     |     |     |
| MJZ | Pn    | 20 | 18 | 34   |     | -1.5 |     | 4.98 | 50 |     |     |     |
|     | Sn    |    | 19 | 29   |     | -2.0 |     |      |    |     |     |     |
|     | S*    |    |    | 53   |     | 0.1  |     |      |    |     |     |     |
| GPZ |       |    |    |      |     |      |     | 6.36 | 58 | 4.1 |     |     |
| COB | Pn    | 20 | 19 | 19   |     | -1.3 |     | 8.25 | 44 |     | 4.4 | 4.0 |

|             |                                                    |         |     |          |     |       |                 |      |         |     |     |     |  |
|-------------|----------------------------------------------------|---------|-----|----------|-----|-------|-----------------|------|---------|-----|-----|-----|--|
| Sn          |                                                    | 20 48   |     | -1.9     |     |       |                 |      |         |     |     |     |  |
| AMPLITUDES: |                                                    | MNW     | 1.1 | 6.5      | 9.0 | MSZ   | 2.7             | 4.2  | ROX     | 2.0 | 3.0 |     |  |
|             |                                                    | OMZ     |     | 0.3      | 0.4 | GPZ   | 0.2             |      | COB     | 0.2 | 0.3 |     |  |
| 77/ 714     |                                                    |         |     |          |     |       |                 |      |         |     |     |     |  |
| OCT 29      | 21 <sup>h</sup> 58 <sup>m</sup> 13 <sup>s</sup> .1 | 47°.18s |     | 165°.17E |     | 12 km | M= 4.5          |      |         |     |     |     |  |
|             | ± 0.9                                              | 0.03    |     | 0.11     |     | R     | S.E.of RES. 0.8 |      |         |     |     |     |  |
| STN         | PHASE                                              | H       | M   | S        | DIR | RES   | WT              | DIST | AZ      | W-A | W P | W S |  |
| MNW         | iPn                                                | 21      | 58  | 48.1     | U   | -0.4  | 100             | 2.20 | 51      | 4.6 | 4.9 |     |  |
|             | Sn                                                 |         | 59  | 15       |     | -0.2  | 100             |      |         |     |     |     |  |
|             | e(S*)                                              |         |     | 25       |     | 4.5   |                 |      |         |     |     |     |  |
| MSZ         | Pn                                                 | 21      | 59  | 01.5     |     | -0.2  | 100             | 3.16 | 38      |     | 4.6 | 4.4 |  |
|             | e(P*)                                              |         |     | 10       |     | 1.9   |                 |      |         |     |     |     |  |
|             | Sn                                                 |         |     | 39.5     |     | 1.2   | 99              |      |         |     |     |     |  |
| ROX         | Pn                                                 | 21      | 59  | 03       |     | -1.2  | 99              | 3.34 | 61      |     | 4.9 | 4.8 |  |
|             | Sn                                                 |         |     | 42.5     |     | -0.2  | 100             |      |         |     |     |     |  |
| OMZ         | Pn                                                 | 21      | 59  | 19       |     | -1.2  |                 | 4.52 | 64      |     | 4.4 | 4.4 |  |
|             | (P*)                                               |         |     | 26       |     | -5.3  |                 |      |         |     |     |     |  |
|             | S*                                                 | 22      | 00  | 27       |     | -3.1  |                 |      |         |     |     |     |  |
| MJZ         | Pn                                                 | 21      | 59  | 24       |     | -1.5  |                 | 4.90 | 51      |     |     |     |  |
|             | e(P*)                                              |         |     | 39       |     | 1.1   |                 |      |         |     |     |     |  |
|             | Sn                                                 | 22      | 00  | 21       |     | 0.8   |                 |      |         |     |     |     |  |
| CBZ         | ePn                                                | 21      | 59  | 40.5     |     | 0.4   | 100             | 5.97 | 156     |     |     |     |  |
|             | eSn                                                | 22      | 00  | 46       |     | 0.1   | 100             |      |         |     |     |     |  |
| GPZ         |                                                    |         |     |          |     |       |                 | 6.31 | 59      | 4.4 |     |     |  |
| KAI         |                                                    |         |     |          |     |       |                 | 6.43 | 46      | 4.3 |     |     |  |
| COB         | Pn                                                 | 22      | 00  | 08       |     | -2.0  |                 | 8.16 | 44      |     | 4.5 | 4.1 |  |
|             | Sn                                                 |         | 01  | 35       |     | -3.6  |                 |      |         |     |     |     |  |
| AMPLITUDES: |                                                    | MNW     | 4.0 | 16       | MSZ | 6.0   | 7.0             | ROX  | 4.2 8.5 |     |     |     |  |
|             |                                                    | OMZ     |     | 0.8 1.5  | CBZ | 0.3   | 0.5             | GPZ  | 0.4     |     |     |     |  |
|             |                                                    | KAI     | 0.2 |          | COB | 0.3   | 0.4             |      |         |     |     |     |  |

| 77/ 715 |                                                    |         |          |         |              |      |     |      |     |     |     |     |
|---------|----------------------------------------------------|---------|----------|---------|--------------|------|-----|------|-----|-----|-----|-----|
| OCT 29  | 22 <sup>h</sup> 20 <sup>m</sup> 36 <sup>s</sup> .8 | 47°.23s | 165°.11E | 12 km   | M = 5.0      |      |     |      |     |     |     |     |
|         | ± 1.0                                              | 0.03    | 0.12     | R       | S.E. of RES. | 0.9  |     |      |     |     |     |     |
| STN     | PHASE                                              | H       | M        | S       | DIR          | RES  | WT  | DIST | AZ  | W-A | W P | W S |
| MNW     | iPn                                                | 22      | 21       | 13.3    | UN           | 0.1  | 100 | 2.26 | 51  | 5.1 |     |     |
|         | Sn                                                 |         |          | 41.5    |              | 1.0  | 99  |      |     |     |     |     |
| MSZ     | Pn                                                 | 22      | 21       | 26      |              | -0.3 | 100 | 3.22 | 38  |     |     |     |
|         | Sn                                                 |         |          | 22 03   |              | -0.7 | 100 |      |     |     |     |     |
|         | e(S*)                                              |         |          | 17      |              | 1.9  |     |      |     |     |     |     |
| ROX     | iPn                                                | 22      | 21       | 28.3    | U            | -0.5 | 100 | 3.40 | 60  |     | 5.6 | 5.4 |
|         | Sn                                                 |         |          | 22 08   |              | 0.0  | 100 |      |     |     |     |     |
| OMZ     | Pn                                                 | 22      | 21       | 43.9    | U            | -0.9 |     | 4.58 | 64  |     | 4.9 | 5.0 |
|         | eP*                                                |         |          | 54      |              | -2.1 |     |      |     |     |     |     |
|         | Sn                                                 |         |          | 22 37   |              | 0.8  |     |      |     |     |     |     |
|         | (S*)                                               |         |          | 23 00   |              | 4.3  |     |      |     |     |     |     |
| MJZ     | Pn                                                 | 22      | 21       | 48      |              | -2.1 |     | 4.97 | 51  |     |     |     |
|         | P*                                                 |         |          | 57      |              | -5.7 |     |      |     |     |     |     |
|         | Sn                                                 |         |          | 22 47   |              | 1.5  |     |      |     |     |     |     |
|         | S*                                                 |         |          | 23 13   |              | 5.7  |     |      |     |     |     |     |
| CBZ     | Pn                                                 | 22      | 22       | 04.5    |              | 1.2  | 99  | 5.94 | 155 |     |     |     |
|         | Sn                                                 |         |          | 23 08   |              | -0.8 | 100 |      |     |     |     |     |
|         | S*                                                 |         |          | 34      |              | -2.4 |     |      |     |     |     |     |
| GPZ     |                                                    |         |          |         |              |      |     | 6.37 | 59  | 4.4 |     |     |
| COB     | Pn                                                 | 22      | 22       | 33      |              | -1.7 |     | 8.23 | 44  |     | 5.0 | 4.6 |
|         | Sn                                                 |         |          | 24 02.5 |              | -1.5 |     |      |     |     |     |     |



| AMPLITUDES: |                                                    |         |          |         |                  |      |     |      |     |         |         |     |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|---------|---------|-----|
| MNW         |                                                    |         | 13       | ROX     |                  |      | 19  | 30   | OMZ | 2.4 5.0 |         |     |
| CBZ         |                                                    |         | 0.5 0.9  | GPZ     |                  |      | 0.4 | COB  |     |         | 0.9 1.2 |     |
| 77/ 716     |                                                    |         |          |         |                  |      |     |      |     |         |         |     |
| OCT 30      | 00 <sup>h</sup> 57 <sup>m</sup> 42 <sup>s</sup> .3 | 39°.62s | 176°.89E | 33 km   | M = 5.0          |      |     |      |     |         |         |     |
|             | ± 0.2                                              | 0.01    | 0.03     | R       | S.E. of RES. 0.6 |      |     |      |     |         |         |     |
| ✓ STN       | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A     | W P     | W S |
| ✓ TRZ       | iP*                                                | 00      | 57       | 47.6    |                  | -0.3 | 100 | 0.08 | 321 |         |         |     |
| ✓ TUA       | iP*                                                | 00      | 57       | 57.7    | D                | -0.4 | 100 | 0.84 | 14  |         | 4.8     | 4.9 |
|             | S*                                                 |         | 58       | 10      |                  | 0.2  | 100 |      |     |         |         |     |
| ✓ CNZ       | iPn                                                | 00      | 58       | 01.6    |                  | 0.5  | 100 | 1.13 | 291 |         |         |     |
| ✓ WNZ       | Pn                                                 | 00      | 58       | 02.5    | U                | 0.8  | 99  | 1.16 | 328 |         | 5.4     | 5.6 |
|             | S*                                                 |         |          | 20      |                  | 0.7  | 99  |      |     |         |         |     |
| ✓ GNZ       | Pn                                                 | 00      | 58       | 04.0    | D                | 0.2  | 100 | 1.31 | 43  |         |         |     |
|             | e                                                  |         |          | 11      |                  |      |     |      |     |         |         |     |
| ✓ CAZ       | Pn                                                 | 00      | 58       | 05.1    |                  | 0.4  | 100 | 1.38 | 201 |         |         |     |
|             | i                                                  |         |          | 13      |                  |      |     |      |     |         |         |     |
| MNG         | iPn                                                | 00      | 58       | 05.3    | D                | -0.6 | 100 | 1.47 | 227 |         |         |     |
| ✓ WTZ       | iPn                                                | 00      | 58       | 07.7    | D                | -0.4 | 100 | 1.64 | 3   |         |         |     |
| TNZ         | Pn                                                 | 00      | 58       | 13      |                  | -0.0 | 100 | 1.99 | 282 |         |         |     |
|             | eP*                                                |         |          | 15      |                  | -2.5 |     |      |     |         |         |     |
| ✓ KRP       | Pn                                                 | 00      | 58       | 12.8    | D                | -0.3 | 100 | 2.00 | 328 |         |         |     |
|             | P*                                                 |         |          | 19      |                  | 1.4  |     |      |     |         |         |     |
|             | S*                                                 |         |          | 43      |                  | -0.9 | 99  |      |     |         |         |     |
| WIZ         | Pn                                                 | 00      | 58       | 14      |                  | -0.5 |     | 2.11 | 7   |         |         |     |
|             | P*                                                 |         |          | 22      |                  | 2.6  |     |      |     |         |         |     |
| ECZ         | Pn                                                 | 00      | 58       | 18.4    |                  | 0.9  |     | 2.32 | 35  |         | 5.0     | 5.0 |
|             | e                                                  |         |          | 28.5    |                  |      |     |      |     |         |         |     |
| ✓ WEL       | Pn                                                 | 00      | 58       | 15.5    |                  | -2.0 |     | 2.32 | 224 | 4.8     |         |     |
|             | P*                                                 |         |          | 25.5    |                  | 2.3  |     |      |     |         |         |     |
|             | Sn                                                 |         |          | 44      |                  | -0.1 |     |      |     |         |         |     |
| AUC         | Pn                                                 | 00      | 58       | 32      |                  | 2.2  |     | 3.22 | 328 |         |         |     |
|             | (P*)                                               |         |          | 37.5    |                  | -0.9 |     |      |     |         |         |     |
| COB         | Pn                                                 | 00      | 58       | 32      |                  | -1.6 |     | 3.50 | 244 |         | 5.4     | 4.9 |
|             | P*                                                 |         |          | 44      |                  | 0.8  |     |      |     |         |         |     |
|             | S*                                                 |         |          | 59 28   |                  | -0.8 |     |      |     |         |         |     |
| ONE         | Pn                                                 | 00      | 58       | 49      |                  | 4.1  |     | 4.33 | 332 | 5.1     |         |     |
|             | e(Sn)                                              |         |          | 59 34   |                  | 1.7  |     |      |     |         |         |     |
| KAI         |                                                    |         |          |         |                  |      |     | 5.06 | 233 | 4.9     |         |     |
| GPZ         | e(Pn)                                              | 00      | 58       | 56      |                  | -0.4 |     | 5.17 | 217 | 5.2     |         |     |
|             | e                                                  |         |          | 59 26.5 |                  |      |     |      |     |         |         |     |
|             | Sn                                                 |         |          | 50      |                  | -2.5 |     |      |     |         |         |     |
| ROX         |                                                    |         |          |         |                  |      |     | 8.09 | 221 |         | 4.9     | 4.6 |
| MNW         |                                                    |         |          |         |                  |      |     | 9.20 | 225 | 4.8     | 4.6     | 4.7 |
| AMPLITUDES: |                                                    |         |          |         |                  |      |     |      |     |         |         |     |
|             | TUA                                                |         | 28       | 44      | WNZ              | 13   | 26  | ECZ  |     | 3.5     | 5.0     |     |
|             | WEL                                                | 5.2     |          |         | COB              | 12   | 12  | ONE  | 1.1 |         |         |     |
|             | KAI                                                | 1.2     |          |         | GPZ              | 3.7  |     | ROX  |     | 0.7     | 0.9     |     |
|             | MNW                                                | 0.4     | 0.4      | 1.3     |                  |      |     |      |     |         |         |     |

FELT: Central Hawke's Bay. Maximum intensity Napier (52), MM V

| 77/ 717 |                                                    |         |          |       |                  |      |      |      |     |     |         |  |
|---------|----------------------------------------------------|---------|----------|-------|------------------|------|------|------|-----|-----|---------|--|
| OCT 30  | 04 <sup>h</sup> 41 <sup>m</sup> 36 <sup>s</sup> .1 | 38°.59s | 175°.93E | 12 km | M = 3.4          |      |      |      |     |     |         |  |
|         | ± 0.0                                              | 0.00    | 0.00     | R     | S.E. of RES. 0.1 |      |      |      |     |     |         |  |
| STN     | PHASE                                              | H       | M        | S     | DIR              | RES  | WT   | DIST | AZ  | W-A | W P W S |  |
| WNZ     | iPg                                                | 04      | 41       | 39.7  | U                | -0.0 | 100  | 0.14 | 109 |     |         |  |
|         | Sg                                                 |         |          | 42    |                  | -0.1 | 100. |      |     |     |         |  |

|     |       |            |     |      |      |      |             |
|-----|-------|------------|-----|------|------|------|-------------|
| CNZ | iPg   | 04 41 50.1 | 0.0 | 100  | 0.68 | 206  |             |
| KRP | iPg   | 04 41 50.9 | UNW | -0.1 | 100  | 0.73 | 335         |
|     | Sg    | 42 01      |     | 0.0  | 100  |      |             |
| TUA | e(Pg) | 04 41 56.5 |     | 0.5  |      | 0.98 | 103 3.1     |
| WTZ | ePg   | 04 41 57   |     | 0.0  | 100  | 1.03 | 54 2.9      |
| GNZ | ePg   | 04 42 12   |     | 2.7  |      | 1.64 | 93 3.3      |
| MNG | Pg    | 04 42 15   |     | -2.8 |      | 2.06 | 190 3.5     |
| COB | ePg   | 04 42 44   |     | -3.1 |      | 3.51 | 224 4.0 3.7 |
|     | eS*   | 43 23      |     | 0.0  |      |      |             |

|             |     |     |    |     |     |     |         |
|-------------|-----|-----|----|-----|-----|-----|---------|
| AMPLITUDES: | WNZ | 2.3 | 12 | TUA | 0.3 | WTZ | 0.4     |
|             | GNZ | 0.4 |    | MNG | 0.7 | COB | 0.2 0.3 |

FELT: Okaia (40), Wairakei (41)

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OCT 30 04<sup>h</sup>43<sup>m</sup>12<sup>s</sup>.9 38°.59s 175°.92E 12 km M = 3.0

± 0.4 0.02 0.03 R S.E. of RES. 0.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WNZ | iPg   | 04 | 43 | 16.2 | U   | -0.4 | 100 | 0.14 | 106 |     |     |     |
|     | Sg    |    |    | 18.5 |     | -0.6 | 100 |      |     |     |     |     |
| CNZ | Pg    | 04 | 43 | 27   |     | 0.2  | 100 | 0.67 | 206 |     |     |     |
| KRP | Pg    | 04 | 43 | 27.7 | U   | -0.1 | 100 | 0.73 | 335 |     |     |     |
|     | Sg    |    |    | 37.5 |     | -0.3 | 100 |      |     |     |     |     |
| WTZ | ePg   | 04 | 43 | 35   |     | 1.1  | 99  | 1.03 | 55  |     | 2.6 |     |
| MNG | Pg    | 04 | 43 | 50   |     | -4.5 |     | 2.05 | 189 |     | 3.3 |     |

|             |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | WNZ | 2.0 | 5.0 | WTZ | 0.2 | MNG | 0.5 |
|-------------|-----|-----|-----|-----|-----|-----|-----|

FELT: Okaia (40)

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OCT 30 07<sup>h</sup>02<sup>m</sup>20<sup>s</sup>.7 39°.72s 177°.01E 33 km M = 4.1

± 0.7 0.03 0.06 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ | P*    | 07 | 02 | 27.5 |     | 0.1  | 100 | 0.22 | 318 |     |     |     |
| TUA | P*    | 07 | 02 | 37.5 |     | -0.4 | 100 | 0.92 | 7   |     | 3.6 | 3.9 |
|     | S*    |    |    | 50   |     | -0.5 | 100 |      |     |     |     |     |
| CNZ | Pn    | 07 | 02 | 41.5 |     | 0.2  | 100 | 1.24 | 294 |     |     |     |
|     | Sn    |    |    | 57   |     | 0.4  | 100 |      |     |     |     |     |
| WNZ | ePn   | 07 | 02 | 41.5 |     | -0.4 | 100 | 1.30 | 327 |     | 4.6 | 4.6 |
|     | P*    |    |    | 44   |     | -0.2 | 100 |      |     |     |     |     |
|     | Sn    |    |    | 59   |     | 1.2  | 100 |      |     |     |     |     |
| GNZ | e     | 07 | 02 | 50.5 |     |      |     | 1.33 | 37  |     | 4.0 | 3.8 |
|     | (S*)  |    | 03 | 04   |     | 1.3  |     |      |     |     |     |     |
|     | e     |    |    | 13.5 |     |      |     |      |     |     |     |     |
| CAZ | e(P*) | 07 | 02 | 45   |     | 0.2  |     | 1.33 | 206 |     |     |     |
|     | e     |    |    | 53   |     |      |     |      |     |     |     |     |
|     | i     |    | 03 | 17.5 |     |      |     |      |     |     |     |     |
| MNG | iPn   | 07 | 02 | 45.5 | D   | 1.0  | 100 | 1.48 | 232 |     | 4.2 | 4.3 |
|     | S*    |    | 03 | 06   |     | -1.0 | 100 |      |     |     |     |     |
| WTZ | Pn    | 07 | 02 | 48   |     | 0.1  | 100 | 1.73 | 359 |     | 3.9 |     |
|     | P*    |    |    | 53   |     | 1.4  |     |      |     |     |     |     |
| TNZ | P*    | 07 | 02 | 57.5 |     | -0.4 | 100 | 2.11 | 284 |     | 4.3 |     |
| KRP | Pn    | 07 | 02 | 52.5 |     | -0.8 | 100 | 2.12 | 327 |     |     |     |
|     | P*    |    |    | 59   |     | 0.7  | 100 |      |     |     |     |     |
|     | Sn    |    | 03 | 20   |     | 2.2  | 98  |      |     |     |     |     |
|     | S*    |    |    | 24   |     | -2.3 | 97  |      |     |     |     |     |
| WIZ | P*    | 07 | 03 | 00.5 |     | 1.1  |     | 2.19 | 4   |     |     |     |
| WEL | Sn    | 07 | 03 | 24   |     | 1.5  |     | 2.32 | 227 | 3.9 |     |     |

|             |       |          |         |      |         |     |         |
|-------------|-------|----------|---------|------|---------|-----|---------|
| ECZ         | e(P*) | 07 03 10 | 7.9     | 2.35 | 31      | 3.7 |         |
| COB         | ePn   | 07 03 12 | -0.6    | 3.55 | 246     | 4.4 | 3.9     |
|             | P*    | 24       | 1.7     |      |         |     |         |
|             | S*    | 04 07.5  | -1.1    |      |         |     |         |
| GPZ         | Sn    | 07 04 30 | -0.4    | 5.15 | 218     | 4.3 |         |
| AMPLITUDES: |       | TUA      | 1.7 3.7 | WNZ  | 1.5 2.3 | GNZ | 4.8 4.5 |
|             |       | MNG      | 13 19   | WTZ  | 2.6     | TNZ | 1.5     |
|             |       | WEL      | 0.5     | ECZ  | 0.2     | COB | 1.2 1.4 |
|             |       | GPZ      | 0.5     |      |         |     |         |

FELT: Central Hawke's Bay. Maximum intensity Napier (52), MM  
IV

OCT 30 15<sup>h</sup>13<sup>m</sup>05<sup>s</sup>.2 43°.31s 170°.70E 12 km M = 3.6  
± 0.5 0.03 0.04 R S.E. of RES. 1.1 77/ 720

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST    | AZ  | W-A     | W P W S |
|-------------|-------|-----|-----|------|-----|------|-----|---------|-----|---------|---------|
| MJZ         | iP*   | 15  | 13  | 18.5 | USW | 0.3  | 100 | 0.69    | 194 |         |         |
|             | S*    |     |     | 29.5 |     | 1.8  | 99  |         |     |         |         |
| KAI         | S*-P* |     |     | 15   |     | 2.3  |     | 0.94    | 34  | 3.4     |         |
| GSP         | iP*   | 15  | 13  | 23.2 | U   | 0.5  | 100 | 0.96    | 211 |         |         |
| GPZ         | P*    | 15  | 13  | 31.5 |     | 0.2  | 100 | 1.47    | 106 | 3.4     |         |
|             | S*    |     |     | 50   |     | -0.7 | 100 |         |     |         |         |
| OMZ         | P*    | 15  | 13  | 36   |     | -0.5 | 100 | 1.76    | 175 |         | 3.3 3.4 |
|             | Pg    |     |     | 41   |     | 0.1  |     |         |     |         |         |
|             | S*    |     |     | 59   |     | -0.7 | 100 |         |     |         |         |
|             | Sg    |     | 14  | 05.5 |     | 0.8  |     |         |     |         |         |
| ROX         | Pg    | 15  | 13  | 54   |     | 0.7  | 100 | 2.38    | 204 |         | 3.9     |
| MSZ         | P*    | 15  | 13  | 45.5 |     | -2.3 | 97  | 2.43    | 235 |         | 3.6 3.6 |
|             | eSg   |     | 14  | 28   |     | 1.0  |     |         |     |         |         |
| COB         | ePn   | 15  | 13  | 47   |     | -0.4 |     | 2.69    | 35  |         | 3.8 3.4 |
|             | P*    |     |     | 52.5 |     | 0.3  | 100 |         |     |         |         |
|             | S*    |     | 14  | 28   |     | 0.6  | 100 |         |     |         |         |
| MNW         |       |     |     |      |     |      |     | 3.31    | 221 |         | 4.3     |
| AMPLITUDES: |       | KAI | 1.1 |      |     | GPZ  | 0.7 |         | OMZ | 0.4 1.0 |         |
|             |       | ROX |     | 0.8  |     | MSZ  |     | 1.1 1.8 | COB | 0.5 0.7 |         |
|             |       | MNW |     | 1.7  |     |      |     |         |     |         |         |

OCT 30 20<sup>h</sup>47<sup>m</sup>05<sup>s</sup>.6 41°.52s 173°.43E 33 km M = 4.2  
± 0.4 0.03 0.04 R S.E. of RES. 1.7 77/ 721

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| COB | iP*   | 20 | 47 | 19.1 | U   | 0.2  | 100 | 0.68 | 309 |     | 4.3 4.2 |
|     | S*    |    |    | 29   |     | 0.3  | 100 |      |     |     |         |
| KKY | iPn   | 20 | 47 | 22.7 | U   | 1.0  | 100 | 0.92 | 168 |     |         |
|     | P*    |    |    | 24.7 |     | 1.8  |     |      |     |     |         |
|     | Sn    |    |    | 36   |     | 2.3  | 99  |      |     |     |         |
| WEL | P*    | 20 | 47 | 25   |     | 0.2  | 100 | 1.03 | 77  | 4.2 |         |
|     | S*    |    |    | 39.5 |     | 0.6  | 100 |      |     |     |         |
| MNG | iPn   | 20 | 47 | 33.7 | D   | 0.1  | 100 | 1.79 | 61  |     | 4.5     |
|     | P*    |    |    | 37.5 |     | -0.0 | 100 |      |     |     |         |
|     | Sn    |    |    | 52   |     | -2.7 | 99  |      |     |     |         |
|     | S*    |    | 48 | 02.5 |     | 1.2  | 100 |      |     |     |         |
| KAI |       |    |    |      |     |      |     | 1.81 | 236 | 4.3 |         |
| CAZ | ePn   | 20 | 47 | 36.5 |     | -2.7 |     | 2.20 | 75  |     |         |
|     | Sn    |    | 48 | 07   |     | 2.6  |     |      |     |     |         |
|     | S*    |    |    | 24   |     | 10.6 |     |      |     |     |         |

|             |     |            |      |     |      |     |     |     |
|-------------|-----|------------|------|-----|------|-----|-----|-----|
| GPZ         | ePn | 20 47 38   | -1.9 | 100 | 2.25 | 195 | 4.3 |     |
|             | P*  | 49         | 3.7  |     |      |     |     |     |
|             | Sn  | 48 03      | -2.7 | 99  |      |     |     |     |
| TNZ         | iPn | 20 47 44.0 | 1.5  | 100 | 2.44 | 18  |     |     |
| CNZ         | Pn  | 20 47 49   | 1.2  | 100 | 2.83 | 36  |     |     |
|             | P*  | 53         | -2.1 | 100 |      |     |     |     |
|             | eS* | 48 34      | 1.9  |     |      |     |     |     |
| TRZ         | P*  | 20 48 04   | 1.8  |     | 3.25 | 54  | 4.0 |     |
| MJZ         | Pn  | 20 47 53   | -1.1 | 100 | 3.29 | 221 |     |     |
|             | Sn  | 48 33      | 2.3  | 99  |      |     |     |     |
| KRP         | Pn  | 20 48 04   | 1.0  |     | 3.94 | 25  |     |     |
|             | Sn  | 49         | 2.7  |     |      |     |     |     |
| OMZ         |     |            |      |     | 4.00 | 207 | 3.9 | 3.8 |
| WTZ         |     |            |      |     | 4.47 | 39  | 4.3 |     |
| ROX         |     |            |      |     | 4.96 | 216 | 3.9 | 4.0 |
| MSZ         |     |            |      |     | 5.12 | 230 | 4.5 | 4.7 |
| MNW         |     |            |      |     | 5.99 | 223 | 3.8 | 4.3 |
| AMPLITUDES: |     |            |      |     |      |     |     |     |
|             | COB | 25 64      | WEL  | 5.6 |      | MNG | 20  |     |
|             | KAI | 2.4        | GPZ  | 2.8 |      | TRZ | 0.4 |     |
|             | OMZ | 0.3 0.5    | WTZ  | 0.3 |      | ROX | 0.2 | 0.6 |
|             | MSZ | 1.9 5.5    | MNW  | 0.1 | 1.2  |     |     |     |

FELT: Blenheim (77) MM III

OCT 31 01<sup>h</sup>45<sup>m</sup>55<sup>s</sup>.0 49°.27s 164°.13E 12 km M = 5.3  
 ± 1.5 0.04 0.17 R S.E. of RES. 1.6

| STN         | PHASE | H     | M    | S   | DIR | RES  | WT  | DIST  | AZ  | W-A | W P | W S |
|-------------|-------|-------|------|-----|-----|------|-----|-------|-----|-----|-----|-----|
| OBZ         | Pn    | 01 46 | 48.4 |     |     | -0.8 | 100 | 3.57  | 50  |     |     |     |
|             | i     | 47    | 26   |     |     |      |     |       |     |     |     |     |
|             | Sn    |       | 30   |     |     | -0.1 | 100 |       |     |     |     |     |
| MNW         | Pn    | 01 46 | 58   |     |     | -0.1 | 100 | 4.22  | 35  | 5.4 | 5.4 | 5.2 |
|             | eSn   | 47    | 44   |     |     | -1.7 | 100 |       |     |     |     |     |
| CBZ         | Pn    | 01 47 | 05   |     |     | 2.1  | 99  | 4.57  | 138 |     |     |     |
|             | Sn    |       | 53   |     |     | -1.2 | 100 |       |     |     |     |     |
|             | S*    | 48    | 16   |     |     | 2.3  |     |       |     |     |     |     |
|             | Sg    | 24.5  |      |     |     | -4.4 |     |       |     |     |     |     |
| ROX         | Pn    | 01 47 | 10.8 |     |     | -0.4 | 100 | 5.18  | 45  |     | 5.7 | 5.6 |
|             | Sn    | 48    | 08   |     |     | -0.9 | 100 |       |     |     |     |     |
| MSZ         | Pn    | 01 47 | 12   |     |     | -0.6 | 100 | 5.28  | 31  |     | 5.7 | 5.3 |
|             | Sn    | 48    | 14   |     |     | 2.7  | 99  |       |     |     |     |     |
| OMZ         | Pn    | 01 47 | 27   |     |     | 1.2  | 100 | 6.25  | 50  |     | 5.1 | 5.2 |
|             | Sn    | 48    | 36   |     |     | 1.5  | 100 |       |     |     |     |     |
|             | e(S*) | 56.5  |      |     |     | -7.5 |     |       |     |     |     |     |
| GSP         | Pn    | 01 47 | 28   |     |     | -1.8 | 100 | 6.54  | 40  |     |     |     |
|             | P*    | 45    |      |     |     | -2.8 |     |       |     |     |     |     |
| GPZ         | Pn    | 01 47 | 51   |     |     | -0.0 |     | 8.10  | 50  | 5.1 |     |     |
|             | Sn    | 49    | 16   |     |     | -3.0 |     |       |     |     |     |     |
| COB         |       |       |      |     |     |      |     | 10.19 | 40  |     | 5.3 | 4.7 |
| MNG         |       |       |      |     |     |      |     | 11.81 | 47  |     | 5.1 |     |
| GNZ         | Pn    | 01 49 | 19   |     |     | -0.4 |     | 14.58 | 48  |     |     |     |
| AMPLITUDES: |       |       |      |     |     |      |     |       |     |     |     |     |
|             | MNW   | 7.0   | 14   | 20  | CBZ | 3.9  | 3.8 | ROX   |     | 10  | 20  |     |
|             | MSZ   | 24    | 20   | OMZ | 1.8 | 4.2  | GPZ | 1.3   |     |     |     |     |
|             | COB   | 1.1   | 1.0  | MNG | 1.6 |      |     |       |     |     |     |     |

OCT 31 14<sup>h</sup>20<sup>m</sup>57<sup>s</sup>.4 39°.47s 174°.41E 140 km M = 3.5  
 ± 1.2 0.04 0.05 10 S.E. of RES. 0.9



| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W   | S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|------|------|------|-----|---|
| TNZ         | P     | 14 | 21 | 16      |     | -0.8 | 100 | 0.29 | 356 |      |      |      |     |   |
| CNZ         | P     | 14 | 21 | 20.8    |     | 0.2  | 100 | 0.93 | 73  |      |      |      |     |   |
|             | S     |    |    | 39      |     | 0.5  | 100 |      |     |      |      |      |     |   |
| MNG         | P     | 14 | 21 | 26.2    | D   | 0.7  | 100 | 1.41 | 144 |      | 3.3  | 3.9  |     |   |
|             | S     |    |    | 46      |     | -1.0 | 99  |      |     |      |      |      |     |   |
| WEL         | S     | 14 | 21 | 55.5    |     | 0.2  | 100 | 1.84 | 171 | 3.5  |      |      |     |   |
| TRZ         | S     | 14 | 21 | 58      |     | 1.9  |     | 1.87 | 93  |      |      |      | 3.5 |   |
| COB         | P     | 14 | 21 | 32.5    |     | -0.5 | 100 | 2.06 | 218 |      | 3.3* | 3.2* |     |   |
|             | S     |    |    | 22 00.5 |     | 0.5  | 100 |      |     |      |      |      |     |   |
| GNZ         | P     | 14 | 21 | 40      |     | -4.3 |     | 2.93 | 75  |      | 3.4  | 3.6  |     |   |
|             | S     |    |    | 22 17   |     | -3.0 |     |      |     |      |      |      |     |   |
| GPZ         | S     | 14 | 22 | 50      |     | -5.0 |     | 4.42 | 197 | 3.3* |      |      |     |   |
| AMPLITUDES: |       |    |    |         |     |      |     |      |     |      |      |      |     |   |
|             | TNZ   |    |    | 0.2     |     | MNG  |     | 1.5  | 6.5 | WEL  | 0.3  |      |     |   |
|             |       |    |    |         | 0.5 | COB  |     | 0.6  | 1.5 | GNZ  |      | 0.2  | 0.5 |   |
|             | GPZ   |    |    | 0.3     |     |      |     |      |     |      |      |      |     |   |

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Nov 01 08<sup>h</sup>00<sup>m</sup>31<sup>s</sup>.4 38°.36s 175°.67E 194 km M = 3.5  
 ± 1.5 0.08 0.07 10 S.E. of RES. 1.2

| STN         | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W    | S |
|-------------|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|------|---|
| KRP         | P     | 08 | 00 | 58.6  |     | 0.9  | 100 | 0.44 | 347 |     |      |     |      |   |
|             | S     |    |    | 01 18 |     | 0.1  | 100 |      |     |     |      |     |      |   |
| CNZ         | iP    | 08 | 00 | 58.3  |     | -1.3 | 99  | 0.85 | 186 |     |      |     |      |   |
| TUA         | (S)   | 08 | 01 | 26    |     | -0.6 | 100 | 1.25 | 112 |     |      |     | 3.4  |   |
| TNZ         | P     | 08 | 01 | 02.6  | U   | -0.4 | 100 | 1.30 | 230 |     | 3.0* |     |      |   |
| TRZ         | P     | 08 | 01 | 04.5  |     | -0.3 | 100 | 1.49 | 143 |     | 3.2  | 3.7 |      |   |
|             | S     |    |    | 32    |     | 1.5  | 99  |      |     |     |      |     |      |   |
| GNZ         | P     | 08 | 01 | 09.5  |     | 1.1  | 100 | 1.87 | 100 |     | 3.3  | 3.5 |      |   |
|             | S     |    |    | 36    |     | -0.9 | 100 |      |     |     |      |     |      |   |
| MNG         | iP    | 08 | 01 | 10.4  | U   | -2.2 |     | 2.27 | 184 |     | 3.8  | 3.9 |      |   |
|             | S     |    |    | 38    |     | -6.4 |     |      |     |     |      |     |      |   |
| WEL         | S     | 08 | 01 | 54    |     | -5.9 |     | 3.01 | 193 | 3.6 |      |     |      |   |
| COB         | S     | 08 | 02 | 05    |     | -6.4 |     | 3.55 | 219 |     |      |     | 2.5* |   |
| AMPLITUDES: |       |    |    |       |     |      |     |      |     |     |      |     |      |   |
|             | TUA   |    |    | 0.2   |     | TNZ  |     | 0.2  |     | TRZ |      | 0.1 | 0.7  |   |
|             |       |    |    |       | 0.3 | 0.7  | MNG | 1.6  | 2.6 | WEL | 0.1  |     |      |   |
|             | COB   |    |    | 0.2   |     |      |     |      |     |     |      |     |      |   |

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Nov 01 10<sup>h</sup>51<sup>m</sup>21<sup>s</sup>.0 38°.38s 175°.84E 168 km M = 4.1  
 ± 0.9 0.04 0.05 6 S.E. of RES. 1.1

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|-----|---|
| KRP | iP    | 10 | 51 | 44.6  | DE  | -0.1 | 100 | 0.51 | 332 |     |      |     |     |   |
|     | S     |    |    | 52 02 |     | -0.8 | 100 |      |     |     |      |     |     |   |
| CNZ | iP    | 10 | 51 | 47.7  |     | 1.1  | 100 | 0.85 | 195 |     |      |     |     |   |
| WTZ | iP    | 10 | 51 | 46.2  | D   | -1.3 | 99  | 0.99 | 67  |     | 3.8  | 3.8 |     |   |
|     | S     |    |    | 52 09 |     | 1.0  | 100 |      |     |     |      |     |     |   |
| TUA | (P)   | 10 | 51 | 49    |     | 0.4  | 100 | 1.12 | 113 |     |      |     | 4.4 |   |
|     | S     |    |    | 52 09 |     | -0.8 | 100 |      |     |     |      |     |     |   |
| TNZ | eP    | 10 | 51 | 53    |     | 1.8  | 99  | 1.39 | 234 |     | 3.2* |     |     |   |
| TRZ | P     | 10 | 51 | 51.8  |     | 0.5  | 100 | 1.40 | 147 |     | 4.3  | 4.0 |     |   |
|     | S     |    |    | 52 16 |     | 1.4  | 99  |      |     |     |      |     |     |   |
| GNZ | P     | 10 | 51 | 54.5  |     | -0.2 | 100 | 1.74 | 99  |     | 3.9  | 4.2 |     |   |
|     | S     |    |    | 52 21 |     | 0.4  | 100 |      |     |     |      |     |     |   |
| ECZ | iP    | 10 | 51 | 59.9  | U   | -0.5 | 100 | 2.25 | 73  |     | 4.7  | 4.0 |     |   |
|     | S     |    |    | 52 31 |     | 0.2  | 100 |      |     |     |      |     |     |   |

## INSTRUMENTAL DATA

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|             |     |            |     |      |     |      |     |      |      |
|-------------|-----|------------|-----|------|-----|------|-----|------|------|
| MNG         | iP  | 10 52 00.5 | U   | -0.1 | 100 | 2.26 | 187 | 4.5  | 3.8  |
|             | S   | 29         |     | -2.0 | 98  |      |     |      |      |
| WEL         | S   | 10 52 46.5 |     | -1.1 |     | 3.02 | 196 | 4.0  |      |
| COB         | P   | 10 52 18   |     | 0.5  |     | 3.62 | 221 | 3.3* | 3.3* |
|             | S   | 53 00      |     | -1.1 |     |      |     |      |      |
| AMPLITUDES: |     |            |     |      |     |      |     |      |      |
|             | WTZ | 1.8        | 1.9 | TUA  |     | 3.1  | TNZ | 0.3  |      |
|             | TRZ | 1.8        | 1.9 | GNZ  | 1.5 | 4.7  | ECZ | 2.6  | 0.5  |
|             | MNG | 10         | 2.5 | WEL  | 0.4 |      | COB | 0.3  | 1.1  |

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Nov 02 02<sup>h</sup>35<sup>m</sup>01<sup>s</sup>.1 35°.24s 178°.61w 33 km M = 4.9  
 ± 0.9 0.04 0.09 R S.E. of RES. 0.7

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| ECZ         | Pn    | 02 | 35 | 54.5    |     | 4.0  |     | 3.36 | 222 |     | 4.9 | 5.1 |   |   |
|             | Sn    |    |    | 36 33   |     | 5.3  |     |      |     |     |     |     |   |   |
| WIZ         | Pn    | 02 | 36 | 00      |     | -0.5 | 100 | 4.09 | 235 |     |     |     |   |   |
|             | e(Sn) |    |    | 47      |     | 1.7  |     |      |     |     |     |     |   |   |
| GNZ         | Pn    | 02 | 36 | 04      |     | 0.1  | 100 | 4.34 | 217 |     | 4.9 | 4.8 |   |   |
|             | Sn    |    |    | 52      |     | 0.6  | 100 |      |     |     |     |     |   |   |
| WTZ         | Pn    | 02 | 36 | 05      |     | -0.8 | 99  | 4.48 | 231 |     | 4.6 | 4.9 |   |   |
|             | Sn    |    |    | 54      |     | -0.7 | 100 |      |     |     |     |     |   |   |
| TUA         | Pn    | 02 | 36 | 12      |     | 0.2  | 100 | 4.92 | 222 |     | 5.0 | 4.9 |   |   |
|             | Sn    |    |    | 37 05.5 |     | 0.2  | 100 |      |     |     |     |     |   |   |
| KRP         | Pn    | 02 | 36 | 18.0    | UW  | -0.6 | 100 | 5.42 | 239 |     |     |     |   |   |
|             | P*    |    |    | 36      |     | 1.3  |     |      |     |     |     |     |   |   |
|             | S*    |    |    | 37 41   |     | -4.1 |     |      |     |     |     |     |   |   |
| AUC         | Pn    | 02 | 36 | 22      |     | 0.9  | 99  | 5.60 | 251 |     |     |     |   |   |
| ONE         | Pn    | 02 | 36 | 23.5    |     | 0.2  | 100 | 5.76 | 263 |     |     |     |   |   |
| CNZ         | ePn   | 02 | 36 | 28.5    |     | 0.4  |     | 6.12 | 228 |     |     |     |   |   |
| TNZ         | Pn    | 02 | 36 | 38      |     | -0.1 |     | 6.85 | 233 |     | 5.6 |     |   |   |
| MNG         | ePn   | 02 | 36 | 41      |     | -0.8 |     | 7.12 | 219 |     | 4.6 | 4.8 |   |   |
|             | P*    |    |    | 37 00   |     | -3.6 |     |      |     |     |     |     |   |   |
|             | Sn    |    |    | 38 00   |     | 1.9  |     |      |     |     |     |     |   |   |
|             | S*    |    |    | 40      |     | 4.1  |     |      |     |     |     |     |   |   |
| CRZ         |       |    |    |         |     |      |     | 7.21 | 274 |     | 5.4 |     |   |   |
| WEL         |       |    |    |         |     |      |     | 7.97 | 219 | 4.9 |     |     |   |   |
| COB         |       |    |    |         |     |      |     | 8.98 | 227 |     | 4.7 | 4.3 |   |   |
| AMPLITUDES: |       |    |    |         |     |      |     |      |     |     |     |     |   |   |
|             | ECZ   |    |    | 1.4     | 2.6 | GNZ  | 3.5 | 4.2  | WTZ |     | 2.2 | 3.3 |   |   |
|             | TUA   |    |    | 1.2     | 1.2 | TNZ  | 0.6 |      | MNG |     | 1.5 | 3.2 |   |   |
|             | CRZ   |    |    | 0.6     |     | WEL  | 0.4 |      | COB |     | 0.4 | 0.5 |   |   |

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Nov 03 08<sup>h</sup>51<sup>m</sup>50<sup>s</sup>.4 40°.70s 173°.40E 130 km M = 4.0  
 ± 0.4 0.01 0.02 3 S.E. of RES. 0.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|---|---|
| COB | iP    | 08 | 52 | 10.7 | D   | 0.3  | 100 | 0.64 | 232 |     | 4.1* | 3.3* |   |   |
|     | S     |    |    | 26   |     | 0.2  | 100 |      |     |     |      |      |   |   |
| WEL | P     | 08 | 52 | 16.2 | U   | 0.8  | 98  | 1.19 | 120 | 4.4 |      |      |   |   |
|     | S     |    |    | 34.5 |     | 0.0  | 100 |      |     |     |      |      |   |   |
| MNG | iP    | 08 | 52 | 19.9 | U   | 0.1  | 100 | 1.58 | 88  |     | 4.4  | 3.9  |   |   |
|     | S     |    |    | 42   |     | -0.2 | 100 |      |     |     |      |      |   |   |
| TNZ | P     | 08 | 52 | 20.4 |     | -0.6 | 99  | 1.69 | 27  |     | 3.6* | 4.0* |   |   |
|     | S     |    |    | 44   |     | -0.3 | 100 |      |     |     |      |      |   |   |
| KKY | iP    | 08 | 52 | 21.7 | D   | 0.2  | 100 | 1.74 | 173 |     |      |      |   |   |
|     | S     |    |    | 44.5 |     | -0.7 | 99  |      |     |     |      |      |   |   |
| CNZ | P     | 08 | 52 | 27.5 |     | -0.2 | 100 | 2.23 | 48  |     |      |      |   |   |
|     | S     |    |    | 56   |     | 0.1  | 100 |      |     |     |      |      |   |   |

|             |     |          |         |         |      |         |           |
|-------------|-----|----------|---------|---------|------|---------|-----------|
| KAI         |     |          |         |         | 2.36 | 219     | 3.6*      |
| KRP         | eP  | 08 52 39 |         | -2.0    | 3.23 | 32      |           |
|             | S   | 53 16    |         | -3.3    |      |         |           |
| TUA         | S   | 08 53 24 |         | -0.6    | 3.46 | 58      | 4.3       |
| WTZ         |     |          |         |         | 3.89 | 47      | 3.3 3.6   |
| GNZ         |     |          |         |         | 4.12 | 62      | 4.0 4.4   |
| MSZ         |     |          |         |         | 5.67 | 224     | 3.0* 3.5* |
| AMPLITUDES: | COB | 8.0 4.5  | WEL 4.6 |         | MNG  | 14 6.5  |           |
|             | TNZ | 0.8 2.9  | KAI 0.7 |         | TUA  | 0.5     |           |
|             | WTZ | 0.1 0.2  | GNZ     | 0.5 1.7 | MSZ  | 0.3 1.5 |           |

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NOV 03 16<sup>h</sup>56<sup>m</sup>33<sup>s</sup>.6 40°.41S 174°.89E 12 km M = 3.7  
 ± 0.3 0.02 0.02 R S.E. of RES. 1.0

| STN         | PHASE | H   | M       | S       | DIR     | RES     | WT  | DIST | AZ  | W-A     | W   | P   | W | S |
|-------------|-------|-----|---------|---------|---------|---------|-----|------|-----|---------|-----|-----|---|---|
| MNG         | iPg   | 16  | 56      | 45.3    |         | 1.5     | 99  | 0.49 | 115 |         |     |     |   |   |
| WEL         | Pg    | 16  | 56      | 51      |         | -0.5    | 100 | 0.88 | 186 | 3.9     |     |     |   |   |
|             | Sg    |     |         | 57 03   |         | -0.5    | 100 |      |     |         |     |     |   |   |
| CAZ         | Pg    | 16  | 56      | 56      |         | -0.4    | 100 | 1.13 | 116 |         |     |     |   |   |
|             | S*    |     |         | 57 08.5 |         | -0.5    | 100 |      |     |         |     |     |   |   |
|             | Sg    |     |         | 15.5    |         | 3.8     |     |      |     |         |     |     |   |   |
| TNZ         | Pg    | 16  | 56      | 58.5    |         | -1.1    | 100 | 1.29 | 342 |         | 3.8 | 3.9 |   |   |
|             | eSg   |     |         | 57 19   |         | 2.1     |     |      |     |         |     |     |   |   |
| CNZ         | Pg    | 16  | 56      | 58.5    |         | -1.6    | 99  | 1.30 | 23  |         |     |     |   |   |
|             | Sg    |     |         | 57 17.5 |         | -0.3    | 100 |      |     |         |     |     |   |   |
| TRZ         | ePg   | 16  | 57      | 10.5    |         | 2.3     |     | 1.71 | 61  |         | 3.5 | 3.5 |   |   |
|             | eSg   |     |         | 32      |         | 0.7     | 100 |      |     |         |     |     |   |   |
| COB         | P*    | 16  | 57      | 05      |         | -0.0    | 100 | 1.77 | 247 |         | 4.0 | 3.8 |   |   |
|             | e     |     |         | 21      |         |         |     |      |     |         |     |     |   |   |
|             | S*    |     |         | 29.5    |         | 1.0     | 100 |      |     |         |     |     |   |   |
| KRP         | P     | 16  | 57      | 14      |         | 0.4     | 100 | 2.53 | 12  |         |     |     |   |   |
|             | (Pg)  |     |         | 31.5    |         | 6.7     |     |      |     |         |     |     |   |   |
|             | S     |     |         | 45      |         | 1.2     | 99  |      |     |         |     |     |   |   |
|             | Sg    |     |         | 57      |         | -1.9    |     |      |     |         |     |     |   |   |
| WTZ         | eP*   | 16  | 57      | 25      |         | 0.5     |     | 2.92 | 35  |         | 3.1 | 3.7 |   |   |
|             | S     |     |         | 52      |         | -1.0    |     |      |     |         |     |     |   |   |
| GNZ         | S     | 16  | 57      | 53      |         | -1.9    |     | 3.00 | 55  |         |     | 3.7 |   |   |
|             | eSg   |     |         | 58 17   |         | 2.5     |     |      |     |         |     |     |   |   |
| KAI         |       |     |         |         |         |         |     | 3.37 | 230 | 3.4     |     |     |   |   |
| AMPLITUDES: | WEL   | 4.2 |         |         | TNZ     | 1.2 2.3 | TRZ |      |     | 0.4 0.6 |     |     |   |   |
|             | COB   |     | 1.7 4.0 | WTZ     | 0.1 0.3 | GNZ     |     |      |     | 0.8     |     |     |   |   |
|             | KAI   | 0.1 |         |         |         |         |     |      |     |         |     |     |   |   |

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NOV 03 17<sup>h</sup>03<sup>m</sup>03<sup>s</sup>.5 38°.52S 175°.89E 12 km M = 3.1  
 ± 0.2 0.01 0.01 R S.E. of RES. 0.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WNZ | eP*   | 17 | 03 | 07.5 |     | -0.5 | 100 | 0.20 | 124 |     |     |     |   |   |
|     | Pg    |    |    | 09   |     | 0.9  | 98  |      |     |     |     |     |   |   |
|     | Sg    |    |    | 11   |     | -0.1 | 100 |      |     |     |     |     |   |   |
| KRP | Pg    | 17 | 03 | 16.7 |     | -0.2 | 100 | 0.66 | 335 |     |     |     |   |   |
|     | Sg    |    |    | 26   |     | 0.2  | 100 |      |     |     |     |     |   |   |
| WTZ | e(Pg) | 17 | 03 | 24   |     | -0.1 | 100 | 1.02 | 59  |     | 2.7 |     |   |   |
| TNZ | (P*)  | 17 | 03 | 29   |     | 1.2  |     | 1.36 | 240 |     | 3.5 | 3.2 |   |   |
|     | Pg    |    |    | 30.5 |     | -0.4 | 100 |      |     |     |     |     |   |   |
|     | Sg    |    |    | 49.5 |     | 0.2  | 100 |      |     |     |     |     |   |   |

AMPLITUDES: WNZ 0.5 3.3 WTZ 0.2 TNZ 0.3 0.2

FELT: Okaia (40) MM IV

Nov 03 18<sup>h</sup>05<sup>m</sup>30<sup>s</sup>.8 37°.86S 177°.36E 71 km M = 3.6  
 ± 0.8 0.03 0.04 7 S.E. of RES. 0.8

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P    | W | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|------|------|---|---|
| WTZ         | iP    | 18  | 05  | 42.5 | U   | -0.2 | 100 | 0.31 | 246 |     | 3.3  | 3.4  |   |   |
|             | e(S)  |     |     | 50.5 |     | -1.1 |     |      |     |     |      |      |   |   |
| WIZ         | iP    | 18  | 05  | 44.0 | D   | 1.1  | 99  | 0.35 | 338 |     |      |      |   |   |
|             | S     |     |     | 52   |     | -0.0 | 100 |      |     |     |      |      |   |   |
| GNZ         | iP    | 18  | 05  | 48.8 | U   | -0.3 | 100 | 0.94 | 147 |     | 3.8  | 3.7  |   |   |
|             | S     |     | 06  | 02.5 |     | -0.2 | 100 |      |     |     |      |      |   |   |
| ECZ         | P?    | 18  | 05  | 48   |     | -1.2 |     | 0.95 | 81  |     | 3.3  | 3.8  |   |   |
|             | e     |     |     | 53   |     |      |     |      |     |     |      |      |   |   |
|             | e(S)  |     | 06  | 09   |     | 5.9  |     |      |     |     |      |      |   |   |
|             | i     |     |     | 12   |     |      |     |      |     |     |      |      |   |   |
| TUA         | P     | 18  | 05  | 49.5 |     | 0.2  | 100 | 0.96 | 190 |     | 3.6  | 3.8  |   |   |
|             | S     |     | 06  | 03   |     | -0.2 | 100 |      |     |     |      |      |   |   |
| KRP         | P     | 18  | 05  | 54.5 |     | -1.1 | 99  | 1.44 | 267 |     |      |      |   |   |
|             | e     |     |     | 58   |     |      |     |      |     |     |      |      |   |   |
|             | S     |     | 06  | 14   |     | -0.2 | 100 |      |     |     |      |      |   |   |
| TRZ         | eP    | 18  | 05  | 59   |     | -0.6 | 100 | 1.75 | 194 |     | 3.7  | 3.9  |   |   |
|             | e     |     | 06  | 04   |     |      |     |      |     |     |      |      |   |   |
|             | S     |     |     | 22   |     | 0.9  | 100 |      |     |     |      |      |   |   |
|             | e     |     |     | 30.5 |     |      |     |      |     |     |      |      |   |   |
| CNZ         | P     | 18  | 06  | 03.5 |     | 1.1  | 99  | 1.95 | 226 |     |      |      |   |   |
|             | e     |     |     | 35.5 |     |      |     |      |     |     |      |      |   |   |
| TNZ         | P     | 18  | 06  | 15   |     | 2.2  |     | 2.69 | 239 |     | 3.2* |      |   |   |
| MNG         | P     | 18  | 06  | 15.5 |     | -3.4 |     | 3.12 | 207 |     | 3.7  | 3.7  |   |   |
|             | e     |     |     | 25   |     |      |     |      |     |     |      |      |   |   |
|             | S     |     |     | 51   |     | -4.1 |     |      |     |     |      |      |   |   |
|             | e     |     | 07  | 07   |     |      |     |      |     |     |      |      |   |   |
| WEL         | S     | 18  | 07  | 10   |     | -6.4 |     | 3.97 | 209 | 3.6 |      |      |   |   |
|             | e     |     |     | 33   |     |      |     |      |     |     |      |      |   |   |
| COB         | P     | 18  | 06  | 39.5 |     | -3.0 |     | 4.82 | 227 |     | 2.9* | 2.6* |   |   |
| AMPLITUDES: |       | WTZ | 6.0 | 9.0  | GNZ | 5.5  | 7.0 | ECZ  | 0.7 | 2.1 |      |      |   |   |
|             |       | TUA | 1.3 | 1.9  | TRZ | 0.5  | 1.7 | TNZ  | 0.2 |     |      |      |   |   |
|             |       | MNG | 1.1 | 1.3  | WEL | 0.1  |     | COB  | 0.1 | 0.2 |      |      |   |   |

Nov 04 21<sup>h</sup>33<sup>m</sup>51<sup>s</sup>.8 37°.96S 176°.19E 202 km M = 3.9  
 ± 1.0 0.09 0.04 6 S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| KRP | iP    | 21 | 34 | 19.1 | UW  | -0.2 | 100 | 0.52 | 273 |     |     |     |   |   |
|     | S     |    |    | 41.5 |     | 0.9  | 100 |      |     |     |     |     |   |   |
| WTZ | P     | 21 | 34 | 18.8 | D   | -1.0 | 100 | 0.63 | 93  |     | 3.5 | 3.4 |   |   |
|     | S     |    |    | 40   |     | -1.4 | 99  |      |     |     |     |     |   |   |
| TUA | e(P)  | 21 | 34 | 25   |     | 2.1  |     | 1.13 | 139 |     | 3.5 | 3.6 |   |   |
|     | e(S)  |    |    | 49   |     | 2.1  |     |      |     |     |     |     |   |   |
| CNZ | P     | 21 | 34 | 24.8 |     | 0.3  | 100 | 1.34 | 202 |     |     |     |   |   |
| GNZ | P     | 21 | 34 | 26.7 | U   | -0.1 | 100 | 1.59 | 116 |     | 4.0 | 4.1 |   |   |
|     | S     |    |    | 54   |     | 0.1  | 100 |      |     |     |     |     |   |   |
| ECZ | P     | 21 | 34 | 29.4 | U   | -0.1 | 100 | 1.88 | 83  |     | 4.1 | 4.0 |   |   |
|     | S     |    | 35 | 00   |     | 1.2  | 99  |      |     |     |     |     |   |   |
| TNZ | e(P)  | 21 | 34 | 29.5 |     | 0.0  | 100 | 1.88 | 229 |     |     |     |   |   |
| MNG | iP    | 21 | 34 | 36.3 | U   | -2.4 |     | 2.72 | 191 |     | 4.4 | 4.4 |   |   |



|             |     |            |      |         |     |         |      |  |
|-------------|-----|------------|------|---------|-----|---------|------|--|
|             | S   | 35 12      | -3.0 |         |     |         |      |  |
|             | i   | 14         |      |         |     |         |      |  |
| WEL         | S   | 21 35 27   | -4.5 | 3.50    | 198 | 3.9     |      |  |
| COB         | S   | 21 35 40.5 | -4.7 | 4.11    | 219 |         | 3.1* |  |
| AMPLITUDES: | WTZ | 0.8 0.7    | TUA  | 0.3 0.4 | GNZ | 1.6 3.0 |      |  |
|             | ECZ | 0.7 0.6    | MNG  | 5.0 7.0 | WEL | 0.2     |      |  |
|             | COB | 0.6        |      |         |     |         |      |  |

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 NOV 05 14<sup>h</sup>07<sup>m</sup>37<sup>s</sup>.2 43°.61s 171°.52E 12 km M = 3.9  
 ± 0.3 0.02 0.02 R S.E. of RES. 1.1

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| CHR         | Pg    | 14  | 07  | 54   |     | 0.3  | 100 | 0.81 | 85  |     |     |     |   |   |
|             | Sg    |     | 08  | 05.5 |     | 0.7  | 100 |      |     |     |     |     |   |   |
| MJZ         | iPg   | 14  | 07  | 53.6 | USN | -1.0 | 100 | 0.85 | 243 |     |     |     |   |   |
|             | Sg    |     | 08  | 06   |     | -0.1 | 100 |      |     |     |     |     |   |   |
| KAI         | P*    | 14  | 07  | 57   |     | 0.1  | 100 | 1.08 | 356 | 3.6 |     |     |   |   |
|             | eSn   |     | 08  | 11   |     | -1.6 | 99  |      |     |     |     |     |   |   |
|             | eSg   |     |     | 15   |     | 1.1  | 100 |      |     |     |     |     |   |   |
| GSP         | Pg    | 14  | 08  | 00.5 |     | -1.2 | 100 | 1.21 | 244 |     |     |     |   |   |
|             | Sg    |     |     | 20.5 |     | 2.5  | 96  |      |     |     |     |     |   |   |
| OMZ         | P*    | 14  | 08  | 04   |     | -0.5 | 100 | 1.53 | 196 |     | 4.1 | 3.9 |   |   |
|             | iPg   |     |     | 07.7 | U   | -0.5 | 100 |      |     |     |     |     |   |   |
|             | Sg    |     |     | 29   |     | 0.2  | 100 |      |     |     |     |     |   |   |
| KKY         | ePn   | 14  | 08  | 10   |     | 0.1  | 100 | 1.99 | 54  |     |     |     |   |   |
|             | (P*)  |     |     | 15   |     | 2.7  |     |      |     |     |     |     |   |   |
|             | S*    |     |     | 38   |     | -0.5 | 100 |      |     |     |     |     |   |   |
| ROX         | Pg    | 14  | 08  | 26   |     | -0.6 |     | 2.45 | 219 |     | 4.1 | 4.0 |   |   |
|             | S*    |     |     | 53   |     | 0.9  |     |      |     |     |     |     |   |   |
|             | Sg    |     |     | 59   |     | -0.6 |     |      |     |     |     |     |   |   |
| COB         | Pn    | 14  | 08  | 19.5 |     | 0.3  |     | 2.67 | 20  |     | 3.9 | 3.6 |   |   |
|             | eP*   |     |     | 25.5 |     | 1.5  |     |      |     |     |     |     |   |   |
|             | Sn    |     |     | 52   |     | 1.1  |     |      |     |     |     |     |   |   |
|             | S*    |     | 09  | 02.5 |     | 3.4  |     |      |     |     |     |     |   |   |
| MSZ         |       |     |     |      |     |      |     | 2.81 | 246 |     | 4.1 | 4.0 |   |   |
| WEL         |       |     |     |      |     |      |     | 3.34 | 47  | 3.4 |     |     |   |   |
| MNW         |       |     |     |      |     |      |     | 3.53 | 231 |     | 4.2 | 3.9 |   |   |
| MNG         |       |     |     |      |     |      |     | 4.20 | 46  |     | 3.8 | 3.6 |   |   |
| AMPLITUDES: | KAI   | 1.3 |     |      | OMZ | 3.5  | 4.0 | ROX  |     | 1.1 | 2.3 |     |   |   |
|             | COB   | 0.6 | 1.2 |      | MSZ | 2.6  | 3.0 | WEL  | 0.1 |     |     |     |   |   |
|             | MNW   | 1.2 | 1.2 |      | MNG | 0.6  | 0.5 |      |     |     |     |     |   |   |

FELT: Lake Coleridge (100) MM IV

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 NOV 05 15<sup>h</sup>30<sup>m</sup>49<sup>s</sup>.3 41°.86s 171°.80E 12 km M = 3.4  
 ± 0.6 0.04 0.05 R S.E. of RES. 1.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| KAI | eP*   | 15 | 31 | 01.5 |     | -1.5 | 100 | 0.73 | 204 | 3.5 |     |     |   |   |
|     | Pg    |    |    | 03.5 |     | -0.8 | 100 |      |     |     |     |     |   |   |
|     | S*    |    |    | 12   |     | -0.9 | 100 |      |     |     |     |     |   |   |
|     | (Sg)  |    |    | 14.5 |     | 0.3  |     |      |     |     |     |     |   |   |
| COB | iP*   | 15 | 31 | 07.2 | U   | -1.0 | 100 | 1.03 | 43  |     | 3.7 | 3.2 |   |   |
|     | S*    |    |    | 22   |     | -0.1 | 100 |      |     |     |     |     |   |   |
| KKY | P*    | 15 | 31 | 15.5 |     | -0.8 | 100 | 1.51 | 112 |     |     |     |   |   |
|     | S*    |    |    | 36   |     | -0.4 | 100 |      |     |     |     |     |   |   |
| WEL | (Pg)  | 15 | 31 | 34   |     | -1.8 |     | 2.29 | 77  |     |     |     |   |   |

|             |       |          |      |     |      |     |     |     |
|-------------|-------|----------|------|-----|------|-----|-----|-----|
| MJZ         | eP*   | 15 31 31 | 0.4  | 100 | 2.35 | 204 |     |     |
|             | Sn    | 57       | 1.9  | 99  |      |     |     |     |
| GSP         | P*    | 15 31 37 | 1.6  | 99  | 2.63 | 209 |     |     |
| MNG         | P*    | 15 31 42 | -0.4 | 100 | 3.04 | 67  | 3.4 | 3.3 |
|             | S*    | 32 24    | 1.9  | 99  |      |     |     |     |
| OMZ         | e(P*) | 15 31 49 | 2.5  |     | 3.28 | 191 | 3.3 |     |
| AMPLITUDES: | KAI   | 2.5      | COB  | 3.0 | 3.0  | MNG | 0.5 | 0.5 |
|             | OMZ   | 0.1      |      |     |      |     |     |     |

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 NOV 06 05<sup>h</sup>28<sup>m</sup>41<sup>s</sup>.7 39°.12s 174°.88E 225 km M = 4.0  
 ± 1.0 0.04 0.06 7 S.E. of RES. 1.1

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|
| TNZ         | P     | 05 | 29 | 12.5    |     | 1.0  | 100 | 0.39 | 260 |     | 3.2* |      |
| CNZ         | iP    | 05 | 29 | 13.3    |     | 1.4  | 99  | 0.53 | 99  |     |      |      |
|             | S     |    |    | 35.5    |     | 0.2  |     |      |     |     |      |      |
| GSZ         | S     | 05 | 29 | 36.5    |     | 0.9  | 100 | 0.58 | 106 |     |      |      |
| KRP         | P     | 05 | 29 | 16.5    | D   | 0.2  | 100 | 1.30 | 24  |     |      |      |
|             | S     |    |    | 42.5    |     | -0.6 | 100 |      |     |     |      |      |
| MNG         | iP    | 05 | 29 | 19.8    | U   | 1.3  | 99  | 1.57 | 163 |     | 4.0  | 4.4  |
|             | S     |    |    | 46.5    |     | -0.4 | 100 |      |     |     |      |      |
| TRZ         | S     | 05 | 29 | 51      |     | 4.0  |     | 1.57 | 107 |     |      | 4.2  |
| TUA         | P     | 05 | 29 | 21      |     | 0.4  |     | 1.80 | 81  |     | 3.9  | 3.6  |
| WTZ         | iP    | 05 | 29 | 21.5    | D   | -1.0 | 100 | 2.01 | 56  |     | 4.1  |      |
| CAZ         | S     | 05 | 29 | 58      |     | 3.0  |     | 2.06 | 150 |     |      |      |
| WEL         | eP    | 05 | 29 | 25      |     | 0.9  |     | 2.17 | 182 | 3.9 |      |      |
|             | S     |    |    | 57      |     | 0.1  | 100 |      |     |     |      |      |
| GNZ         | P     | 05 | 29 | 27.8    | D   | 0.3  | 100 | 2.50 | 80  |     | 4.3  | 3.6  |
|             | S     |    |    | 30 02   |     | -1.1 | 100 |      |     |     |      |      |
| COB         | iP    | 05 | 29 | 28.3    | U   | 0.1  | 100 | 2.56 | 219 |     | 3.9* | 3.0* |
|             | S     |    |    | 30 02.5 |     | -1.8 | 99  |      |     |     |      |      |
| ECZ         | P     | 05 | 29 | 35      |     | -0.6 |     | 3.22 | 65  |     | 4.1  |      |
| AMPLITUDES: | TNZ   |    |    | 0.3     | MNG | 4.1  | 11  | TRZ  |     |     |      | 1.7  |
|             | TUA   |    |    | 0.4     | 0.2 | WTZ  | 1.2 | WEL  | 0.4 |     |      |      |
|             | GNZ   |    |    | 1.9     | 0.6 | COB  | 1.5 | 0.8  | ECZ |     |      | 0.3  |

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 NOV 07 05<sup>h</sup>59<sup>m</sup>37<sup>s</sup>.3 37°.33s 177°.03E 12 km M = 4.6  
 ± 0.4 0.03 0.03 R S.E. of RES. 1.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WIZ | iPg   | 05 | 59 | 41.5 | D   | -0.9 | 100 | 0.23 | 148 |     |     |     |
| WTZ | iP*   | 05 | 59 | 49.6 | D   | 0.0  | 100 | 0.66 | 183 |     |     |     |
| ECZ | P*    | 05 | 59 | 59.5 |     | -0.4 | 100 | 1.26 | 107 |     | 4.6 | 4.8 |
|     | Pg    | 06 | 00 | 03   |     | 0.2  |     |      |     |     |     |     |
|     | e(Sg) |    |    | 22   |     | 2.2  |     |      |     |     |     |     |
|     | i     |    |    | 33.5 |     |      |     |      |     |     |     |     |
| KRP | iP*   | 06 | 00 | 00.1 | DE  | -1.0 | 100 | 1.32 | 243 |     |     |     |
|     | Pg    |    |    | 04   |     | -0.2 |     |      |     |     |     |     |
|     | Sg    |    |    | 21.5 |     | -0.6 | 100 |      |     |     |     |     |
| TUA | Pn    | 06 | 00 | 02   |     | -0.9 | 100 | 1.48 | 176 |     | 4.7 | 4.8 |
|     | Pg    |    |    | 05.5 |     | -1.7 | 99  |      |     |     |     |     |
|     | Sg    |    |    | 28   |     | 0.8  | 100 |      |     |     |     |     |
| WNZ | P*    | 06 | 00 | 03.5 |     | -0.4 | 100 | 1.49 | 209 |     |     |     |
|     | (Pg)  |    |    | 08.5 |     | 1.0  |     |      |     |     |     |     |
|     | e(Sg) |    |    | 28   |     | 0.4  |     |      |     |     |     |     |
| GNZ | Pn    | 06 | 00 | 03.9 | D   | 0.3  | 100 | 1.53 | 149 |     | 5.0 | 4.9 |
|     | S*    |    |    | 26   |     | 1.3  | 99  |      |     |     |     |     |

|             |      |            |      |         |      |         |     |     |
|-------------|------|------------|------|---------|------|---------|-----|-----|
| AUC         | Pn   | 06 00 08.5 | 0.3  | 100     | 1.86 | 284     |     |     |
|             | Pg   | 16         | 1.0  | 100     |      |         |     |     |
| CNZ         | P*   | 06 00 18   | 2.0  | 98      | 2.20 | 212     |     |     |
|             | Pg   | 29         | 7.2  |         |      |         |     |     |
| TRZ         | Pn   | 06 00 14   | 0.9  | 100     | 2.22 | 184     | 4.6 | 4.4 |
|             | Pg   | 21.5       | -0.8 | 100     |      |         |     |     |
|             | S*   | 49         | 3.4  |         |      |         |     |     |
| ONE         | ePn  | 06 00 19   | 0.0  | 100     | 2.65 | 305     | 4.7 |     |
|             | (P*) | 22         | -1.7 |         |      |         |     |     |
| MNG         |      |            |      |         | 3.50 | 200     | 4.2 | 4.4 |
| WEL         |      |            |      |         | 4.33 | 203     | 3.9 |     |
| CRZ         |      |            |      |         | 4.57 | 308     | 4.6 | 4.4 |
| COB         | Pn   | 06 00 53   | 1.7  |         | 5.02 | 220     | 4.6 |     |
| AMPLITUDES: | ECZ  | 4.6 7.5    | TUA  | 4.7 5.5 | GNZ  | 25 30   |     |     |
|             | TRZ  | 2.4 1.7    | ONE  | 1.5     | MNG  | 1.7 2.5 |     |     |
|             | WEL  | 0.1        | CRZ  | 0.4 0.2 | COB  | 0.6     |     |     |

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Nov 07 07<sup>h</sup>59<sup>m</sup>47<sup>s</sup>.1 37°.31s 177°.07E 12 km M = 3.7  
 ± 0.5 0.03 0.03 R S.E. of RES. 1.3

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT      | DIST | AZ  | W-A     | W P | W S |
|-------------|-------|----|----|---------|-----|------|---------|------|-----|---------|-----|-----|
| WIZ         | iPg   | 07 | 59 | 51.2    | D   | -1.1 | 100     | 0.23 | 156 |         |     |     |
| WTZ         | P*    | 07 | 59 | 59.2    |     | -0.6 | 100     | 0.67 | 185 |         |     |     |
| ECZ         | Pg    | 08 | 00 | 12      |     | -0.2 | 100     | 1.23 | 108 |         | 3.6 | 3.8 |
|             | (S*)  |    |    | 26      |     | 0.2  | 100     |      |     |         |     |     |
|             | e(Sg) |    |    | 43      |     | 14.1 |         |      |     |         |     |     |
| KRP         | P*    | 08 | 00 | 09      |     | -2.5 | 98      | 1.36 | 243 |         |     |     |
|             | Pg    |    |    | 14.5    |     | -0.2 |         |      |     |         |     |     |
|             | S*    |    |    | 30      |     | 0.4  | 100     |      |     |         |     |     |
| TUA         | Pg    | 08 | 00 | 16      |     | -1.4 | 100     | 1.49 | 178 |         | 3.8 | 3.7 |
|             | e     |    |    | 20      |     |      |         |      |     |         |     |     |
|             | Sg    |    |    | 38      |     | 0.5  | 100     |      |     |         |     |     |
|             | e     |    |    | 44      |     |      |         |      |     |         |     |     |
| GNZ         | Pn    | 08 | 00 | 13.5    |     | 0.0  | 100     | 1.53 | 151 |         | 4.0 | 3.8 |
|             | Pg    |    |    | 21      |     | 2.9  |         |      |     |         |     |     |
|             | S*    |    |    | 36      |     | 1.4  | 100     |      |     |         |     |     |
| AUC         | ePn   | 08 | 00 | 19      |     | 0.6  | 100     | 1.89 | 283 |         |     |     |
|             | Pg    |    |    | 27.5    |     | 2.2  | 99      |      |     |         |     |     |
| TRZ         | Pn    | 08 | 00 | 24.5    |     | 1.2  | 100     | 2.24 | 185 |         | 3.7 |     |
|             | ePg   |    |    | 31      |     | -1.5 |         |      |     |         |     |     |
| ONE         | ePn   | 08 | 00 | 28      |     | -1.0 | 100     | 2.66 | 304 |         |     |     |
| MNG         | Pg    | 08 | 00 | 57      |     | -1.4 |         | 3.53 | 200 |         | 3.6 |     |
| AMPLITUDES: | ECZ   |    |    | 0.4 0.8 | TUA |      | 0.6 0.5 | GNZ  |     | 2.6 2.6 |     |     |
|             | TRZ   |    |    | 0.3     | MNG |      | 0.4     |      |     |         |     |     |

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Nov 07 13<sup>h</sup>25<sup>m</sup>10<sup>s</sup>.6 34°.69s 179°.80E 33 km M = 4.0  
 ± 1.2 0.05 0.10 R S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | e(P*) | 13 | 26 | 03   |     | -2.7 |     | 3.17 | 198 |     | 4.0 | 4.1 |
|     | e(Sn) |    |    | 37   |     | 4.4  |     |      |     |     |     |     |
|     | e(S*) |    |    | 43   |     | -4.1 |     |      |     |     |     |     |
| WIZ | e(Sn) | 13 | 26 | 42   |     | 0.6  | 100 | 3.54 | 216 |     |     |     |
| WTZ | Pn    | 13 | 26 | 08   |     | -0.6 | 100 | 4.00 | 214 |     | 3.7 | 4.1 |
|     | Sn    |    |    | 53   |     | 0.5  | 100 |      |     |     |     |     |
| GNZ | Pn    | 13 | 26 | 11.5 |     | 0.1  | 100 | 4.19 | 199 |     | 3.9 | 4.2 |
|     | Sn    |    |    | 58   |     | 0.6  | 100 |      |     |     |     |     |

|             |       |            |      |     |      |     |     |
|-------------|-------|------------|------|-----|------|-----|-----|
| ONE         | e(Pn) | 13 26 17   | 0.4  | 100 | 4.58 | 255 |     |
| TUA         | Pn    | 13 26 18   | 0.7  |     | 4.63 | 207 | 4.1 |
|             | Sn    | 27 06      | -1.7 | 97  |      |     |     |
| KRP         | eSn   | 13 27 09.5 | -0.4 | 100 | 4.72 | 226 |     |
| TRZ         | Sn    | 13 27 27   | 0.5  | 100 | 5.41 | 205 | 4.2 |
| MNG         | Sn    | 13 27 54.5 | -6.4 |     | 6.84 | 209 | 4.0 |
| WEL         | Sn    | 13 28 14   | -7.3 |     | 7.69 | 210 |     |
| COB         | Sn    | 13 28 34   | -6.4 |     | 8.49 | 219 | 3.5 |
| AMPLITUDES: |       | ECZ        | 0.2  | 0.3 | WTZ  | 0.3 | 0.7 |
|             |       | TUA        | 0.2  | TRZ |      | 0.3 | MNG |
|             |       | COB        | 0.1  |     |      |     | 0.5 |

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Nov 07 21<sup>h</sup>24<sup>m</sup>31<sup>s</sup>.6 35°.34s 179°.11W 12 km M = 4.5  
 ± 1.4 0.08 0.13 R S.E. of RES. 1.4

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | Pn    | 21  | 25  | 19   |     | 0.7  | 100 | 3.01 | 218 |     | 4.5 | 4.6 |
|             | e(Sn) |     |     | 57   |     | 3.6  |     |      |     |     |     |     |
| WIZ         | Pn    | 21  | 25  | 27   |     | -0.6 | 100 | 3.70 | 233 |     |     |     |
|             | (P*)  |     |     | 34   |     | -1.9 |     |      |     |     |     |     |
|             | (Pg)  |     |     | 43   |     | -3.4 |     |      |     |     |     |     |
|             | Sn    |     | 26  | 08   |     | -1.9 | 99  |      |     |     |     |     |
|             | (S*)  |     |     | 30   |     | 5.8  |     |      |     |     |     |     |
| GNZ         | Pn    | 21  | 25  | 31.5 |     | -0.5 | 100 | 4.02 | 214 |     | 4.6 | 4.6 |
|             | (Pg)  |     |     | 49   |     | -3.9 |     |      |     |     |     |     |
|             | Sn    |     | 26  | 17.5 |     | -0.1 | 100 |      |     |     |     |     |
| WTZ         | Pn    | 21  | 25  | 31.5 |     | -1.6 | 100 | 4.10 | 229 |     | 4.5 | 4.6 |
|             | Sn    |     | 26  | 18   |     | -1.5 | 100 |      |     |     |     |     |
| TUA         | Pn    | 21  | 25  | 39   |     | -0.6 | 100 | 4.58 | 220 |     | 4.6 | 4.5 |
|             | Sn    |     | 26  | 33   |     | 2.0  | 99  |      |     |     |     |     |
|             | S*    |     |     | 51   |     | 0.5  |     |      |     |     |     |     |
| KRP         | Pn    | 21  | 25  | 45   |     | -0.6 | 100 | 5.02 | 237 |     |     |     |
|             | P*    |     |     | 57   |     | -1.4 |     |      |     |     |     |     |
|             | Sn    |     | 26  | 42   |     | 0.4  | 100 |      |     |     |     |     |
| TRZ         | Sn    | 21  | 26  | 50   |     | 1.4  | 100 | 5.31 | 216 |     |     | 4.6 |
|             | eSg   |     | 27  | 34   |     | 3.5  |     |      |     |     |     |     |
| ONE         | eP*   | 21  | 26  | 09   |     | 5.1  |     | 5.35 | 263 |     |     |     |
| MNG         | ePn   | 21  | 26  | 07   |     | -2.7 |     | 6.79 | 217 |     | 4.4 | 4.4 |
|             | Sn    |     | 27  | 21   |     | -3.0 |     |      |     |     |     |     |
| CRZ         | Pn    | 21  | 26  | 12   |     | 1.9  | 99  | 6.81 | 275 |     | 5.3 |     |
|             | P*    |     |     | 22   |     | -7.0 |     |      |     |     |     |     |
| WEL         |       |     |     |      |     |      |     | 7.65 | 217 | 4.5 |     |     |
| COB         |       |     |     |      |     |      |     | 8.61 | 226 |     | 4.1 | 4.2 |
| AMPLITUDES: |       | ECZ | 0.7 | 1.2  | GNZ | 2.0  | 3.0 | WTZ  | 1.8 | 2.2 |     |     |
|             |       | TUA | 0.6 | 0.6  | TRZ |      | 0.8 | MNG  | 0.9 | 1.4 |     |     |
|             |       | CRZ | 0.6 |      | WEL | 0.2  |     | COB  | 0.1 | 0.4 |     |     |

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Nov 08 13<sup>h</sup>59<sup>m</sup>20<sup>s</sup>.0 35°.33s 178°.63W 12 km M = 4.3  
 ± 0.9 0.06 0.08 R S.E. of RES. 1.2

| STN | PHASE | H  | M  | S    | DIR | RES | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|-----|-----|------|-----|-----|-----|-----|
| ECZ | Pn    | 14 | 00 | 12.5 |     | 2.2 | 98  | 3.28 | 223 |     | 4.4 | 4.5 |
|     | P*    |    |    | 21   |     | 3.9 |     |      |     |     |     |     |
|     | Pg    |    |    | 30   |     | 3.7 |     |      |     |     |     |     |
|     | Sn    |    |    | 48.5 |     | 0.3 | 100 |      |     |     |     |     |
| WIZ | Pn    | 14 | 00 | 20.5 |     | 0.1 | 100 | 4.02 | 236 |     |     |     |
|     | e(Pg) |    |    | 42   |     | 0.6 |     |      |     |     |     |     |



|             |       |            |      |     |      |     |     |     |     |     |
|-------------|-------|------------|------|-----|------|-----|-----|-----|-----|-----|
| GNZ         | Pn    | 14 00 24   | 0.4  | 100 | 4.26 | 218 | 4.3 | 4.3 |     |     |
|             | Sn    | 01 10      | -1.7 | 99  |      |     |     |     |     |     |
| WTZ         | Pn    | 14 00 25   | -0.7 | 100 | 4.41 | 232 | 4.5 | 4.4 |     |     |
|             | eSn   | 01 11      | -4.3 |     |      |     |     |     |     |     |
|             | Sg    | 50         | 1.4  | 99  |      |     |     |     |     |     |
| TUA         | ePn   | 14 00 32   | 0.4  | 100 | 4.84 | 223 | 4.7 | 4.3 |     |     |
|             | eSn   | 01 24      | -1.8 | 99  |      |     |     |     |     |     |
| KRP         | Pn    | 14 00 38   | -0.7 | 100 | 5.36 | 239 |     |     |     |     |
|             | e(P*) | 58         | 5.3  |     |      |     |     |     |     |     |
| TRZ         | Pn    | 14 00 41   | -0.4 | 100 | 5.56 | 219 | 4.2 | 4.3 |     |     |
|             | eSn   | 01 44.5    | 1.5  |     |      |     |     |     |     |     |
| ONE         | ePg   | 14 01 15   | -0.9 | 100 | 5.73 | 264 |     |     |     |     |
| MNG         | Pn    | 14 01 01.5 | -0.1 | 100 | 7.04 | 220 | 3.7 | 4.0 |     |     |
|             | eS*   | 02 58      | 5.3  |     |      |     |     |     |     |     |
| CRZ         | Pn    | 14 01 04   | 0.2  | 100 | 7.20 | 275 | 5.2 |     |     |     |
| WEL         |       |            |      |     | 7.89 | 219 | 4.2 |     |     |     |
| COB         |       |            |      |     | 8.90 | 227 | 4.1 | 4.1 |     |     |
| AMPLITUDES: |       | ECZ        | 0.5  | 0.8 | GNZ  | 0.9 | 1.3 | WTZ | 1.5 | 1.1 |
|             |       | TUA        | 0.7  | 0.3 | TRZ  | 0.2 | 0.4 | MNG | 0.2 | 0.5 |
|             |       | CRZ        | 0.4  |     | WEL  | 0.1 |     | COB | 0.1 | 0.3 |

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Nov 08 20<sup>h</sup>21<sup>m</sup>51<sup>s</sup>.8 39°.17s 174°.67E 12 km M = 3.2  
 ± 0.3 0.01 0.02 R S.E. of RES. 0.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| CNZ | P*    | 20 | 22 | 05.4 |     | 0.7  | 100 | 0.68 | 93  |     |     |     |
|     | S*    |    |    | 14.5 |     | 0.4  | 100 |      |     |     |     |     |
| GSZ | P*    | 20 | 22 | 05.5 |     | 0.1  | 100 | 0.73 | 99  |     |     |     |
|     | S*    |    |    | 14   |     | -1.2 | 97  |      |     |     |     |     |
| KRP | iPn   | 20 | 22 | 16.9 | U   | 0.2  | 100 | 1.41 | 29  |     |     |     |
|     | Sn    |    |    | 35   |     | -0.2 | 100 |      |     |     |     |     |
| MNG | P*    | 20 | 22 | 20   |     | 0.0  |     | 1.58 | 157 | 2.7 | 3.4 |     |
|     | Pg    |    |    | 25   |     | 1.1  |     |      |     |     |     |     |
|     | eSg   |    |    | 45.5 |     | 0.3  | 100 |      |     |     |     |     |
| WEL | eSn   | 20 | 22 | 52   |     | -0.1 | 100 | 2.12 | 178 |     |     |     |
| COB | Pn    | 20 | 22 | 30   |     | -0.4 | 100 | 2.43 | 217 | 3.6 |     |     |

AMPLITUDES: MNG 0.4 2.2 COB 0.4

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Nov 08 20<sup>h</sup>22<sup>m</sup>13<sup>s</sup>.5 39°.75s 177°.16E 33 km M = 3.6  
 ± 0.4 0.02 0.03 R S.E. of RES. 0.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ | P*    | 20 | 22 | 21.5    |     | -0.1 | 100 | 0.32 | 308 |     |     |     |
|     | e(S*) |    |    | 26      |     | -1.4 |     |      |     |     |     |     |
| TUA | iPn   | 20 | 22 | 30.0    | U   | 0.0  | 100 | 0.94 | 360 | 3.4 | 3.9 |     |
|     | Sn    |    |    | 42      |     | -0.2 | 100 |      |     |     |     |     |
| GNZ | S*    | 20 | 22 | 53.5    |     | -1.0 | 99  | 1.30 | 32  |     |     | 3.6 |
| GSZ | Pn    | 20 | 22 | 35.6    |     | 0.7  | 100 | 1.30 | 291 |     |     |     |
|     | Sn    |    |    | 50      |     | -0.8 | 100 |      |     |     |     |     |
| CNZ | Pn    | 20 | 22 | 36      |     | 0.3  | 100 | 1.37 | 293 |     |     |     |
|     | Sn    |    |    | 52      |     | -0.3 | 100 |      |     |     |     |     |
| MNG | Pn    | 20 | 22 | 38      |     | -0.2 | 100 | 1.55 | 236 | 3.5 | 3.6 |     |
|     | Sn    |    |    | 56.5    |     | -0.2 | 100 |      |     |     |     |     |
| WTZ | P*    | 20 | 22 | 47.5    |     | 2.4  | 48  | 1.77 | 356 | 3.3 | 3.4 |     |
|     | e(Sn) |    |    | 23 01.5 |     | -0.6 |     |      |     |     |     |     |
| WEL | Sn    | 20 | 23 | 16.5    |     | -0.2 | 100 | 2.38 | 229 | 3.6 |     |     |
| COB | Sn    | 20 | 23 | 47      |     | 0.2  | 100 | 3.64 | 247 | 4.0 | 3.8 |     |



|             |     |          |      |         |     |           |
|-------------|-----|----------|------|---------|-----|-----------|
| COB         | eP  | 09 12 48 | -5.4 | 4.38    | 226 | 3.3* 2.8* |
|             | e   | 13 01    |      |         |     |           |
|             | (S) | 39       | -4.8 |         |     |           |
|             | e   | 42       |      |         |     |           |
| AMPLITUDES: | TUA | 3.0 2.3  | WNZ  | 0.1 0.3 | GNZ | 2.7 11    |
|             | ECZ | 1.3 1.0  | TRZ  | 0.8 5.8 | MNG | 2.5 3.4   |
|             | WEL | 0.1      | COB  | 0.3 0.3 |     |           |

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Nov 09 20<sup>h</sup>14<sup>m</sup>51<sup>s</sup>.8 35°.14s 178°.79E 12 km M = 5.0  
 ± 1.7 0.08 0.13 R S.E. of RES. 1.4

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ         | ePn   | 20  | 15  | 32   |     | -0.2 | 100 | 2.56 | 184 |     | 5.3 | 5.5 |
|             | P*    |     |     | 34.5 |     | -2.1 |     |      |     |     |     |     |
|             | Sn    |     | 16  | 03.5 |     | 0.9  | 100 |      |     |     |     |     |
| WIZ         | Pn    | 20  | 15  | 31.5 |     | -2.8 | 97  | 2.71 | 208 |     |     |     |
|             | e(P*) |     |     | 41   |     | 1.7  |     |      |     |     |     |     |
| WTZ         | Pn    | 20  | 15  | 38.5 |     | -2.3 | 99  | 3.19 | 207 |     | 4.7 |     |
|             | P*    |     |     | 43.5 |     | -3.9 |     |      |     |     |     |     |
| GNZ         | iPn   | 20  | 15  | 46.0 | U   | 0.2  | 100 | 3.55 | 190 |     | 5.3 | 5.1 |
|             | e(Sn) |     | 16  | 23   |     | -3.5 |     |      |     |     |     |     |
| ONE         | Pn    | 20  | 15  | 48   |     | 0.6  | 100 | 3.67 | 259 | 5.6 |     |     |
|             | e(Sn) |     | 16  | 28   |     | -1.4 |     |      |     |     |     |     |
| KRP         | Pn    | 20  | 15  | 48.7 | DNE | -0.7 | 100 | 3.82 | 222 |     |     |     |
|             | P*    |     |     | 55.5 |     | -2.7 |     |      |     |     |     |     |
|             | e(Sn) |     | 16  | 35   |     | 2.0  |     |      |     |     |     |     |
|             | eS*   |     |     | 50   |     | 2.0  |     |      |     |     |     |     |
| TUA         | Pn    | 20  | 15  | 51   |     | 0.6  | 100 | 3.89 | 199 |     | 5.4 | 5.1 |
|             | P*    |     |     | 58   |     | -1.4 |     |      |     |     |     |     |
|             | Sn    |     | 16  | 35   |     | 0.3  | 100 |      |     |     |     |     |
| TRZ         | Pn    | 20  | 16  | 02.5 |     | 1.3  | 100 | 4.68 | 199 |     | 5.0 | 4.6 |
|             | e(Sn) |     |     | 57   |     | 3.4  |     |      |     |     |     |     |
| CNZ         | Pn    | 20  | 16  | 04   |     | 1.0  | 100 | 4.81 | 212 |     |     |     |
| CRZ         | iPn   | 20  | 16  | 08.0 | USW | 1.4  | 100 | 5.08 | 276 |     | 5.2 |     |
|             | Sn    |     | 17  | 03   |     | -0.3 | 100 |      |     |     |     |     |
| MNG         | Pn    | 20  | 16  | 17   |     | -3.1 |     | 6.07 | 205 |     | 4.8 | 4.8 |
|             | e(Sn) |     | 17  | 25   |     | -1.9 |     |      |     |     |     |     |
|             | e(S*) |     |     | 56   |     | 0.7  |     |      |     |     |     |     |
| WEL         | Sn    | 20  | 17  | 41   |     | -6.2 |     | 6.91 | 206 | 4.7 |     |     |
| COB         | Pn    | 20  | 16  | 39   |     | -2.3 |     | 7.62 | 217 |     | 5.2 | 4.3 |
|             | e(Sn) |     | 18  | 08   |     | 3.7  |     |      |     |     |     |     |
| AMPLITUDES: | ECZ   | 5.7 | 13  |      | WTZ | 5.0  |     | GNZ  |     | 12  | 13  |     |
|             | ONE   | 2.5 |     |      | TUA | 5.6  | 2.8 | TRZ  |     | 2.0 | 1.1 |     |
|             | CRZ   | 0.8 |     |      | MNG | 3.3  | 4.1 | WEL  | 0.4 |     |     |     |
|             | COB   | 1.6 | 0.7 |      |     |      |     |      |     |     |     |     |

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Nov 10 02<sup>h</sup>04<sup>m</sup>13<sup>s</sup>.4 41°.68s 175°.00E 33 km M = 3.5  
 ± 0.3 0.01 0.03 R S.E. of RES. 0.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| BHW | iP*   | 02 | 04 | 20.4 | U   | -0.4 | 100 | 0.28 | 341 |     |     |     |
| WDW | iPn   | 02 | 04 | 22.3 | U   | -0.2 | 100 | 0.40 | 360 |     |     |     |
| WEL | iPn   | 02 | 04 | 22.6 | U   | -0.1 | 100 | 0.42 | 336 | 3.5 |     |     |
|     | Sn    |    |    | 29.5 |     | -0.0 | 100 |      |     |     |     |     |
| WHW | iPn   | 02 | 04 | 22.6 | U   | -0.1 | 100 | 0.42 | 333 |     |     |     |
| MRW | iPn   | 02 | 04 | 23.7 | U   | 0.0  | 100 | 0.49 | 334 |     |     |     |
| CPW | iPn   | 02 | 04 | 24.9 | U   | 0.2  | 100 | 0.57 | 5   |     |     |     |

## INSTRUMENTAL DATA

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|     |       |       |      |   |      |     |      |     |     |     |
|-----|-------|-------|------|---|------|-----|------|-----|-----|-----|
| MNG | iPn   | 02 04 | 32.6 | U | 0.4  | 100 | 1.12 | 19  | 3.5 | 3.6 |
|     | P*    |       | 37   |   | 3.1  |     |      |     |     |     |
|     | e(Sn) |       | 50   |   | 3.8  |     |      |     |     |     |
| KKY | iPn   | 02 04 | 33.1 | D | -0.5 | 99  | 1.22 | 232 |     |     |
|     | Sn    |       | 49   |   | 0.3  | 100 |      |     |     |     |
| COB | Pn    | 02 04 | 42   |   | 0.5  | 99  | 1.80 | 288 | 3.9 | 3.2 |
|     | P*    |       | 46   |   | 0.6  |     |      |     |     |     |
|     | e(Sn) | 05    | 04.5 |   | 1.9  |     |      |     |     |     |
|     | e(S*) |       | 08.5 |   | -0.8 |     |      |     |     |     |
| CNZ | P*    | 02 05 | 01.5 |   | 4.1  |     | 2.51 | 10  |     |     |
|     | e     |       | 08.5 |   |      |     |      |     |     |     |
|     | S*    |       | 37.5 |   | 7.1  |     |      |     |     |     |
| KRP | Pn    | 02 05 | 14   |   | 5.6  |     | 3.77 | 7   |     |     |
|     | P*    |       | 26   |   | 7.1  |     |      |     |     |     |
|     | S*    | 06    | 15   |   | 6.9  |     |      |     |     |     |

AMPLITUDES: WEL 6.6 MNG 5.0 8.0 COB 1.3 1.0

FELT: Wellington (68)

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Nov 10 04<sup>h</sup>15<sup>m</sup>08<sup>s</sup>.7 35°.02s 179°.02E 12 km M = 5.1  
 $\pm 1.2$  0.06 0.08 R S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | Pn    | 04 | 15 | 51   |     | 0.0  | 100 | 2.70 | 188 |     | 5.4 | 5.6 |
|     | P*    |    |    | 54   |     | -1.9 |     |      |     |     |     |     |
|     | Sn    |    | 16 | 24.4 |     | 1.5  | 100 |      |     |     |     |     |
| WIZ | Pn    | 04 | 15 | 51   |     | -2.9 | 98  | 2.92 | 210 |     |     |     |
|     | ePg   |    | 16 | 05   |     | -2.5 |     |      |     |     |     |     |
| WTZ | Pn    | 04 | 15 | 58   |     | -2.4 | 99  | 3.38 | 208 |     | 4.9 |     |
|     | P*    |    | 16 | 03   |     | -4.6 |     |      |     |     |     |     |
| GNZ | Pn    | 04 | 16 | 05   |     | 0.2  | 100 | 3.71 | 192 |     | 5.4 | 5.3 |
|     | P*    |    |    | 15   |     | 1.9  |     |      |     |     |     |     |
|     | Pg    |    |    | 26   |     | 2.4  |     |      |     |     |     |     |
|     | S*    |    | 17 | 01   |     | -0.5 | 100 |      |     |     |     |     |
| ONE | Pn    | 04 | 16 | 08   |     | 0.9  | 100 | 3.88 | 257 | 5.5 |     |     |
|     | Sn    |    |    | 48   |     | -3.3 |     |      |     |     |     |     |
|     | S*    |    | 17 | 06   |     | -0.7 | 100 |      |     |     |     |     |
| AUC | ePn?  | 04 | 16 | 10   |     | 2.5  |     | 3.91 | 241 |     |     |     |
|     | P*    |    |    | 15   |     | -1.4 |     |      |     |     |     |     |
| KRP | Pn    | 04 | 16 | 08.2 | DE  | -1.1 | 100 | 4.04 | 223 |     |     |     |
|     | P*    |    |    | 15.5 |     | -3.3 |     |      |     |     |     |     |
|     | Sn    |    |    | 56   |     | 0.9  | 100 |      |     |     |     |     |
| TUA | Pn    | 04 | 16 | 10.5 |     | 0.8  | 100 | 4.07 | 201 |     | 5.3 | 5.1 |
|     | e(Sn) |    |    | 53   |     | -2.9 |     |      |     |     |     |     |
|     | e(S*) |    | 17 | 09   |     | -3.4 |     |      |     |     |     |     |
| TRZ | Pn    | 04 | 16 | 20   |     | -0.5 | 100 | 4.86 | 201 |     | 5.0 | 4.9 |
|     | P*    |    |    | 38   |     | 5.3  |     |      |     |     |     |     |
|     | Sn    |    | 17 | 15   |     | 0.2  | 100 |      |     |     |     |     |
| CNZ | Pn    | 04 | 16 | 25   |     | 2.4  | 99  | 5.01 | 213 |     |     |     |
| CRZ | Pn    | 04 | 16 | 27   |     | 1.1  | 100 | 5.26 | 275 |     | 5.1 |     |
|     | Sg    |    | 18 | 05.5 |     | -0.2 |     |      |     |     |     |     |
| MNG |       |    |    |      |     |      |     | 6.25 | 206 |     | 4.9 | 4.9 |
| WEL |       |    |    |      |     |      |     | 7.10 | 207 | 4.7 |     |     |
| COB |       |    |    |      |     |      |     | 7.83 | 217 |     | 4.8 | 4.5 |

AMPLITUDES: ECZ 7.3 15 WTZ 6.5 GNZ 14 19  
 ONE 1.7 TUA 4.1 2.6 TRZ 1.8 1.8  
 CRZ 0.6 MNG 3.9 4.3 WEL 0.4  
 COB 0.6 1.0



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|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|-----|-----|-----|
| Nov 10      | 06 <sup>h</sup> 51 <sup>m</sup> 17 <sup>s</sup> .1 | 34°.54s | 179°.02w | 12 km | M = 4.4          |      |     |      |     |     |     |     |     |
|             | ± 1.4                                              | 0.10    | 0.20     | R     | S.E. of RES. 1.0 |      |     |      |     |     |     |     |     |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W   | P   | W S |
| ECZ         | e(Pn)                                              | 06      | 52       | 15    |                  | 1.7  | 99  | 3.72 | 211 |     | 4.4 | 4.5 |     |
|             | eS*                                                |         | 53       | 09    |                  | -1.1 |     |      |     |     |     |     |     |
| WIZ         | e(Pn)                                              | 06      | 52       | 19.5  |                  | -1.6 | 99  | 4.28 | 225 |     |     |     |     |
|             | P*                                                 |         |          | 31    |                  | -0.4 |     |      |     |     |     |     |     |
| WTZ         | Pn                                                 | 06      | 52       | 27    |                  | 0.0  | 100 | 4.72 | 222 |     | 4.3 | 4.3 |     |
|             | Sn                                                 |         | 53       | 20.5  |                  | 0.7  | 100 |      |     |     |     |     |     |
| GNZ         | Pn                                                 | 06      | 52       | 27    |                  | -0.3 | 100 | 4.74 | 209 |     | 4.5 | 4.4 |     |
|             | Sn                                                 |         | 53       | 19.5  |                  | -0.9 | 100 |      |     |     |     |     |     |
| TUA         | ePn                                                | 06      | 52       | 35    |                  | 0.6  |     | 5.26 | 215 |     | 4.8 | 4.5 |     |
|             | eSn                                                |         | 53       | 37    |                  | 4.2  |     |      |     |     |     |     |     |
| KRP         | ePn                                                | 06      | 52       | 38.5  |                  | 0.2  | 100 | 5.55 | 231 |     |     |     |     |
|             | P*                                                 |         |          | 51    |                  | -1.9 |     |      |     |     |     |     |     |
|             | Sn                                                 |         | 53       | 41    |                  | 1.2  |     |      |     |     |     |     |     |
| TRZ         | Sn                                                 | 06      | 53       | 51    |                  | 0.1  | 100 | 6.01 | 212 |     | 4.2 | 4.6 |     |
| CNZ         | e(Pn)                                              | 06      | 52       | 49.5  |                  | -0.1 | 100 | 6.37 | 222 |     |     |     |     |
|             | Sn                                                 |         | 54       | 04.5  |                  | 4.8  |     |      |     |     |     |     |     |
| CRZ         | e(Pn)                                              | 06      | 52       | 59    |                  | 2.8  |     | 6.86 | 269 |     | 4.6 |     |     |
| MNG         |                                                    |         |          |       |                  |      |     | 7.48 | 214 |     | 4.1 | 4.3 |     |
| WEL         |                                                    |         |          |       |                  |      |     | 8.33 | 214 | 4.2 |     |     |     |
| COB         |                                                    |         |          |       |                  |      |     | 9.24 | 223 |     |     | 3.9 |     |
| AMPLITUDES: | ECZ                                                | 0.4     | 0.6      | WTZ   | 1.0              | 0.8  | GNZ | 1.1  | 1.5 |     |     |     |     |
|             | TUA                                                | 0.7     | 0.4      | TRZ   | 0.2              | 0.6  | CRZ | 0.1  |     |     |     |     |     |
|             | MNG                                                | 0.4     | 0.8      | WEL   | 0.1              |      | COB | 0.2  |     |     |     |     |     |

| 77/ 748 |                                                    |         |          |       |                  |      |     |      |     |     |     |     |     |
|---------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|-----|-----|-----|
| Nov 10  | 07 <sup>h</sup> 08 <sup>m</sup> 31 <sup>s</sup> .5 | 35°.47s | 178°.42E | 12 km | M = 4.4          |      |     |      |     |     |     |     |     |
|         | ± 1.0                                              | 0.05    | 0.07     | R     | S.E. of RES. 1.0 |      |     |      |     |     |     |     |     |
| STN     | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W   | P   | W S |
| ECZ     | P*                                                 | 07      | 09       | 11    |                  | 0.4  | 100 | 2.22 | 177 |     | 4.4 | 4.8 |     |
|         | Pg                                                 |         |          | 15    |                  | -1.5 | 99  |      |     |     |     |     |     |
|         | S*                                                 |         |          | 41    |                  | 1.2  | 99  |      |     |     |     |     |     |
| WIZ     | Pn?                                                | 07      | 09       | 09    |                  | 0.8  |     | 2.29 | 205 |     |     |     |     |
|         | eP*                                                |         |          | 15    |                  | 3.4  |     |      |     |     |     |     |     |
|         | Sn                                                 |         |          | 36    |                  | 0.3  | 100 |      |     |     |     |     |     |
| WTZ     | ePn?                                               | 07      | 09       | 14    |                  | -0.7 |     | 2.76 | 204 |     | 4.2 | 4.0 |     |
|         | P*                                                 |         |          | 19    |                  | -0.8 |     |      |     |     |     |     |     |
| GNZ     | Pn                                                 | 07      | 09       | 21.5  |                  | 1.0  | 100 | 3.19 | 186 |     | 4.5 | 4.2 |     |
|         | P*                                                 |         |          | 26.5  |                  | -0.5 | 100 |      |     |     |     |     |     |
|         | (Sn)                                               |         |          | 57    |                  | -0.4 |     |      |     |     |     |     |     |
| ONE     | e(Pg)                                              | 07      | 09       | 36    |                  | -2.6 |     | 3.32 | 264 | 4.6 |     |     |     |
|         | (Sn)                                               |         | 10       | 01    |                  | 0.3  | 100 |      |     |     |     |     |     |
|         | e(S*)                                              |         |          | 16    |                  | 3.3  |     |      |     |     |     |     |     |
| KRP     | Pn                                                 | 07      | 09       | 24    |                  | 0.9  | 100 | 3.37 | 223 |     |     |     |     |
|         | P*                                                 |         |          | 30    |                  | -0.2 | 100 |      |     |     |     |     |     |
| TUA     | eP*                                                | 07      | 09       | 31    |                  | -1.1 |     | 3.48 | 197 |     | 4.5 |     |     |
| TRZ     | Pn                                                 | 07      | 09       | 36    |                  | 0.7  | 100 | 4.27 | 197 |     | 4.2 |     |     |
| CNZ     | P*                                                 | 07      | 09       | 46    |                  | -1.3 | 99  | 4.37 | 211 |     |     |     |     |
| CRZ     | Pn                                                 | 07      | 09       | 43    |                  | 0.1  | 100 | 4.83 | 281 |     | 4.2 |     |     |
| TNZ     |                                                    |         |          |       |                  |      |     | 4.91 | 220 |     | 5.0 |     |     |
| MNG     |                                                    |         |          |       |                  |      |     | 5.64 | 203 |     | 4.1 | 4.0 |     |
| WEL     |                                                    |         |          |       |                  |      |     | 6.48 | 205 | 4.1 |     |     |     |
| COB     |                                                    |         |          |       |                  |      |     | 7.17 | 217 |     | 4.7 |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 0.9 | 2.5 | WTZ | 1.7 | 1.1 | GNZ | 2.0 | 1.6 |
|             | ONE | 0.4 |     | TUA | 0.7 |     | TRZ | 0.3 |     |
|             | CRZ | 0.1 |     | TNZ | 0.3 |     | MNG | 0.7 | 0.6 |
|             | WEL | 0.1 |     | COB | 0.5 |     |     |     |     |

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Nov 11 04<sup>h</sup>23<sup>m</sup>21<sup>s</sup>.2 32°.12s 178°.96E 530 km M = 5.0  
 ± 2.3 0.23 0.64 37 S.E. of RES. 1.7

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|-----|
| ECZ | eP    | 04 | 24 | 54.7 |     | -1.0 | 100 | 5.57 | 183 |     |      | 5.0 |
|     | e     |    | 26 | 03.8 |     |      |     |      |     |     |      |     |
|     | eS    |    |    | 12.0 |     | 1.4  | 100 |      |     |     |      |     |
| WTZ | eP    | 04 | 24 | 59.0 |     | -1.4 | 100 | 6.07 | 195 |     |      |     |
|     | eS    |    | 26 | 17.4 |     | -1.6 | 100 |      |     |     |      |     |
| KRP | eP    | 04 | 25 | 06.0 |     | 2.2  | 99  | 6.43 | 205 |     | 3.3* |     |
| TRZ | eS    | 04 | 26 | 46.5 |     | 0.1  | 100 | 7.62 | 193 |     |      |     |
| MNG | eP    | 04 | 25 | 28.8 |     | 0.0  | 100 | 8.94 | 197 |     |      |     |
|     | eS    |    | 27 | 10.4 |     | -0.1 | 100 |      |     |     |      |     |

AMPLITUDES: ECZ 0.6 KRP 0.4

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Nov 11 08<sup>h</sup>58<sup>m</sup>15<sup>s</sup>.1 42°.60s 173°.39E 63 km M = 3.6  
 ± 0.6 0.04 0.06 12 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|
| KKY | P     | 08 | 58 | 27.3 |     | 1.2  | 100 | 0.29 | 50  |      |      |      |
| CHR | S     | 08 | 58 | 48   |     | -1.6 | 100 | 1.08 | 211 |      |      |      |
| KAI | S     | 08 | 58 | 57.8 |     | -0.9 | 100 | 1.47 | 272 | 3.8* |      |      |
| COB | iP    | 08 | 58 | 42.9 | U   | 1.2  | 100 | 1.59 | 342 |      | 4.4* | 3.5* |
|     | S     |    | 59 | 01.2 |     | -0.4 | 100 |      |     |      |      |      |
| WEL | S     | 08 | 59 | 03.6 |     | 0.1  | 100 | 1.67 | 38  | 3.8  |      |      |
| MNG | eP    | 08 | 58 | 55.0 |     | 0.2  | 100 | 2.53 | 39  |      | 3.3  | 3.7  |
|     | eS    |    | 59 | 22.6 |     | -1.8 | 99  |      |     |      |      |      |
| MJZ | eP    | 08 | 58 | 57.2 |     | 2.2  | 99  | 2.55 | 236 |      |      |      |
|     | S     |    | 59 | 25.2 |     | 0.3  | 100 |      |     |      |      |      |
| OMZ | eP    | 08 | 59 | 02.9 |     | 0.8  | 100 | 3.05 | 215 |      |      |      |
|     | eS    |    |    | 36.0 |     | -1.5 | 100 |      |     |      |      |      |
| KRP | eP    | 08 | 59 | 30.0 |     | 1.2  | 100 | 4.96 | 20  |      | 3.0* | 3.2* |
|     | eS    | 09 | 00 | 24.2 |     | -1.2 | 100 |      |     |      |      |      |

AMPLITUDES: KAI 2.0 COB 10 4.0 WEL 0.8  
 MNG 0.6 2.2 KRP 0.3 0.6

FELT: Motunau (98) MM IV

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Nov 11 09<sup>h</sup>52<sup>m</sup>56<sup>s</sup>.4 36°.87s 178°.77E 111 km M = 3.7  
 ± 1.5 0.26 0.48 20 S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | eP    | 09 | 53 | 17.0 |     | 0.7  | 100 | 0.84 | 192 |     | 3.5 | 3.8 |
|     | i     |    |    | 20.4 | D   |      |     |      |     |     |     |     |
|     | e     |    |    | 25.0 |     |      |     |      |     |     |     |     |
|     | S     |    |    | 31.0 |     | -0.4 | 100 |      |     |     |     |     |
|     | e     |    |    | 34.9 |     |      |     |      |     |     |     |     |
|     | e     |    |    | 39.5 |     |      |     |      |     |     |     |     |
| GNZ | eP    | 09 | 53 | 28.0 |     | -0.2 | 100 | 1.87 | 198 |     | 3.7 | 3.6 |
|     | S     |    |    | 52.0 |     | -0.1 | 100 |      |     |     |     |     |
|     | e     |    |    | 56.2 |     |      |     |      |     |     |     |     |
| TRZ | eP    | 09 | 53 | 45.5 |     | 0.9  | 100 | 3.09 | 209 |     | 4.0 |     |

|             |                                                    |            |          |           |          |
|-------------|----------------------------------------------------|------------|----------|-----------|----------|
| MNG         | eP                                                 | 09 54 03.0 | -1.3 99  | 4.54 214  | 3.8 3.7  |
|             | e(S)                                               | 56.7       | 0.4 100  |           |          |
| AMPLITUDES: | ECZ                                                | 0.9 1.6    | GNZ      | 1.0 1.2   | TRZ 0.3  |
|             | MNG                                                | 0.6 0.6    |          |           |          |
| NOV 11      | 13 <sup>h</sup> 09 <sup>m</sup> 58 <sup>s</sup> .9 | 37°.88s    | 176°.73E | 0 km      | M = 3.7  |
|             | ± 0.5                                              | 0.03       | 0.03     | 6 S.E. of | RES. 0.9 |

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| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST    | AZ  | W-A | WP  | WS  |
|-------------|-------|----|----|------|-----|------|-----|---------|-----|-----|-----|-----|
| WTZ         | iP    | 13 | 10 | 02.9 |     | -0.5 | 100 | 0.22    | 117 |     |     |     |
| WIZ         | P     | 13 | 10 | 07.8 | U   | -1.2 | 99  | 0.50    | 46  |     |     |     |
| WNZ         | ePg   | 13 | 10 | 17.0 |     | -0.1 | 100 | 0.90    | 213 |     | 3.6 |     |
| KRP         | eP*   | 13 | 10 | 18.3 |     | 0.9  | 100 | 0.94    | 267 |     | 3.4 | 3.2 |
|             | e     |    |    | 20.0 |     |      |     |         |     |     |     |     |
|             | eS*   |    |    | 31.0 |     | 0.4  | 100 |         |     |     |     |     |
|             | i     |    |    | 35.2 |     |      |     |         |     |     |     |     |
| TUA         | eP*   | 13 | 10 | 17.6 |     | -0.4 | 100 | 0.98    | 161 |     | 3.9 |     |
| GNZ         | eP*   | 13 | 10 | 23.4 |     | 0.5  | 100 | 1.27    | 127 |     | 3.9 |     |
|             | e     |    |    | 45.1 |     |      |     |         |     |     |     |     |
| ECZ         | P*    | 13 | 10 | 26.4 |     | 0.5  | 100 | 1.45    | 83  |     | 3.9 |     |
|             | Pg    |    |    | 29.8 |     | 1.7  | 98  |         |     |     |     |     |
| TRZ         | eP*   | 13 | 10 | 30.0 |     | 0.2  | 100 | 1.67    | 178 |     | 3.9 |     |
|             | Pg    |    |    | 32.8 |     | 0.1  | 100 |         |     |     |     |     |
| AMPLITUDES: | WNZ   |    |    | 0.2  | KRP |      |     | 2.0 1.0 | TUA |     | 2.0 |     |
|             | GNZ   |    |    | 3.6  | ECZ |      |     | 0.6     | TRZ |     | 0.8 |     |

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|        |                                                    |         |          |           |          |
|--------|----------------------------------------------------|---------|----------|-----------|----------|
| NOV 11 | 14 <sup>h</sup> 28 <sup>m</sup> 26 <sup>s</sup> .0 | 40°.10s | 174°.92E | 12 km     | M = 4.1  |
|        | ± 0.3                                              | 0.02    | 0.02     | R S.E. of | RES. 1.1 |

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST    | AZ  | W-A | WP  | WS  |
|-------------|-------|----|----|---------|-----|------|-----|---------|-----|-----|-----|-----|
| MNG         | iP*   | 14 | 28 | 38.2    | U   | -0.4 | 100 | 0.67    | 141 |     |     |     |
| TNZ         | iP*   | 14 | 28 | 45.6    | U   | 1.3  | 100 | 1.01    | 335 |     |     |     |
| CNZ         | P*    | 14 | 28 | 43.4    |     | -1.2 | 100 | 1.03    | 28  |     |     |     |
| WEL         | P*    | 14 | 28 | 47.0    |     | -0.5 | 100 | 1.19    | 186 | 4.3 |     |     |
|             | S*    |    |    | 29 02.0 |     | -1.4 | 100 |         |     |     |     |     |
| CAZ         | P*    | 14 | 28 | 50.0    |     | 1.0  | 100 | 1.28    | 129 |     |     |     |
|             | Sg    |    |    | 29 10.0 |     | 0.7  | 100 |         |     |     |     |     |
| TRZ         | eP*   | 14 | 28 | 53.0    |     | -0.9 | 100 | 1.57    | 70  |     | 4.0 |     |
|             | Pg    |    |    | 56.0    |     | -1.7 | 99  |         |     |     |     |     |
| COB         | ePn   | 14 | 28 | 58.9    |     | 0.9  | 100 | 1.93    | 239 |     | 4.4 | 4.1 |
|             | P*    |    |    | 29 00.4 |     | 0.1  | 100 |         |     |     |     |     |
|             | Pg    |    |    | 05.9    |     | 0.7  | 100 |         |     |     |     |     |
|             | S*    |    |    | 25.5    |     | -0.2 | 100 |         |     |     |     |     |
| TUA         | ePn   | 14 | 29 | 02.6    |     | 1.6  | 99  | 2.16    | 54  |     | 4.0 | 3.8 |
|             | eSg   |    |    | 38.7    |     | -0.0 | 100 |         |     |     |     |     |
| KRP         | ePn   | 14 | 29 | 01.0    |     | -0.9 | 100 | 2.22    | 13  |     | 4.4 | 4.6 |
|             | e     |    |    | 04.0    |     |      |     |         |     |     |     |     |
|             | iP*   |    |    | 04.6    |     | -0.6 | 100 |         |     |     |     |     |
|             | ePg   |    |    | 07      |     | -4.1 |     |         |     |     |     |     |
|             | e     |    |    | 31.5    |     |      |     |         |     |     |     |     |
|             | eSg   |    |    | 40.6    |     | -0.5 | 100 |         |     |     |     |     |
|             | i     |    |    | 46.1    |     |      |     |         |     |     |     |     |
|             | e     |    |    | 49.5    |     |      |     |         |     |     |     |     |
| GNZ         | eSn   | 14 | 29 | 45.0    |     | 2.0  | 99  | 2.81    | 60  |     | 4.0 | 3.8 |
| AMPLITUDES: | WEL   |    |    | 5.2     | TRZ |      |     | 1.5     | COB |     | 4.0 | 7.0 |
|             | TUA   |    |    | 0.7 0.5 | KRP |      |     | 2.3 3.0 | GNZ |     | 1.0 | 1.0 |

FELT: Wanganui (57) MM IV

Nov 11 17<sup>h</sup>17<sup>m</sup>11<sup>s</sup>.6 37°.83s 176°.77E 0 km 77/ 754  
 ± 0.4 0.02 0.02 4 S.E. of RES. 0.7 M = 4.4

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WTZ | iP    | 17 | 17 | 16.1    | U   | -0.2 | 100 | 0.23 | 131 |     |   |     |     |   |
| WIZ | iP    | 17 | 17 | 20.2    | U   | -0.5 | 100 | 0.45 | 48  |     |   |     |     |   |
| WNZ | ePg   | 17 | 17 | 30.6    |     | -0.3 | 100 | 0.95 | 213 |     |   | 4.2 |     |   |
| KRP | P*    | 17 | 17 | 30.4    |     | -0.2 | 100 | 0.98 | 264 |     |   |     |     |   |
|     | i     |    |    | 31.5    |     |      |     |      |     |     |   |     |     |   |
| TUA | P*    | 17 | 17 | 31.4    |     | 0.1  | 100 | 1.02 | 163 |     |   | 4.4 | 4.2 |   |
|     | e     |    |    | 52.8    |     |      |     |      |     |     |   |     |     |   |
| GNZ | P*    | 17 | 17 | 36.2    | U   | 0.4  | 100 | 1.28 | 130 |     |   |     |     |   |
|     | Pg    |    |    | 37.9    |     | 0.5  | 100 |      |     |     |   |     |     |   |
| ECZ | P*    | 17 | 17 | 39.0    |     | 0.9  | 99  | 1.41 | 85  |     |   |     | 4.6 |   |
|     | Pg    |    |    | 43.4    |     | 3.2  | 0   |      |     |     |   |     |     |   |
| CNZ | Pg    | 17 | 17 | 45.5    |     | 0.2  | 100 | 1.66 | 215 |     |   |     |     |   |
|     | e     |    |    | 52.2    |     |      |     |      |     |     |   |     |     |   |
| TRZ | eP*   | 17 | 17 | 43.5    |     | 0.2  | 100 | 1.72 | 179 |     |   | 4.5 | 4.3 |   |
|     | Pg    |    |    | 46.6    |     | 0.2  | 100 |      |     |     |   |     |     |   |
|     | e     |    |    | 18 16.7 |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 18.9    |     |      |     |      |     |     |   |     |     |   |
| AUC | eP*   | 17 | 17 | 46.5    |     | 0.8  | 99  | 1.86 | 301 |     |   |     |     |   |
| TNZ | eP*   | 17 | 17 | 55.0    |     | 1.6  | 90  | 2.31 | 233 |     |   |     |     |   |
| ONE |       |    |    |         |     |      |     | 2.82 | 316 |     |   | 4.4 |     |   |
| MNG | eP*   | 17 | 18 | 04.3    |     | -0.1 | 100 | 2.96 | 199 |     |   |     |     |   |

AMPLITUDES: WNZ 0.7 TUA 6.0 4.0 ECZ 4.0  
 TRZ 3.0 2.7 ONE 0.6

FELT: Whakatane(27) and Te Teko(34)

Nov 11 17<sup>h</sup>57<sup>m</sup>11<sup>s</sup>.6 37°.80s 176°.80E 0 km 77/ 755  
 ± 0.3 0.02 0.01 3 S.E. of RES. 0.5 M = 4.0

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WTZ | iP    | 17 | 57 | 16.1    |     | -0.2 | 100 | 0.23 | 141 |     |   |     |     |   |
| WIZ | P     | 17 | 57 | 20.0    |     | 0.1  | 100 | 0.41 | 49  |     |   |     |     |   |
| WNZ | eP*   | 17 | 57 | 31.4    |     | 0.5  | 100 | 1.00 | 213 |     |   | 4.0 |     |   |
| KRP | P*    | 17 | 57 | 30.9    |     | -0.2 | 100 | 1.01 | 263 |     |   | 3.9 |     |   |
|     | e     |    |    | 32.0    |     |      |     |      |     |     |   |     |     |   |
|     | iPg   |    |    | 34.0    | U   | 2.1  |     |      |     |     |   |     |     |   |
|     | S*    |    |    | 44.2    |     | -0.8 | 99  |      |     |     |   |     |     |   |
|     | eSg   |    |    | 45.9    |     | 0.4  | 100 |      |     |     |   |     |     |   |
| TUA | P*    | 17 | 57 | 32.1    |     | 0.4  | 100 | 1.04 | 165 |     |   | 3.9 | 3.9 |   |
| GNZ | Pg    | 17 | 57 | 37.3    |     | -0.1 | 100 | 1.28 | 132 |     |   |     | 3.7 |   |
|     | e     |    |    | 58.7    |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 58 00.8 |     |      |     |      |     |     |   |     |     |   |
| CNZ | Pg    | 17 | 57 | 46.0    |     | -0.1 | 100 | 1.71 | 215 |     |   |     |     |   |
|     | e     |    |    | 52.6    |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 52.6    |     |      |     |      |     |     |   |     |     |   |
| TRZ | e     | 17 | 57 | 39.9    |     |      |     | 1.75 | 179 |     |   | 4.1 |     |   |
|     | Pg    |    |    | 46.4    |     | -0.6 | 100 |      |     |     |   |     |     |   |
| TNZ | eP*   | 17 | 57 | 57.0    |     | 3.0  | 0   | 2.35 | 233 |     |   |     |     |   |
| ONE |       |    |    |         |     |      |     | 2.82 | 315 |     |   | 4.1 |     |   |

AMPLITUDES: WNZ 0.4 KRP 5.0 TUA 2.0 2.0  
 GNZ 3.5 TRZ 1.2 ONE 0.3



|                      |                                                    |         |          |      |                  |      |     |      |     | 77/ 756     |
|----------------------|----------------------------------------------------|---------|----------|------|------------------|------|-----|------|-----|-------------|
| Nov 11               | 18 <sup>h</sup> 41 <sup>m</sup> 18 <sup>s</sup> .6 | 37°.80S | 176°.75E | 0 km | M = 3.5          |      |     |      |     |             |
|                      | ± 0.7                                              | 0.03    | 0.05     | 9    | S.E. of RES. 0.8 |      |     |      |     |             |
| STN                  | PHASE                                              | H       | M        | S    | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| WTZ                  | iP                                                 | 18      | 41       | 23.0 | D                | -0.9 | 99  | 0.26 | 133 |             |
| WIZ                  | iP                                                 | 18      | 41       | 27.5 |                  | -0.1 | 100 | 0.45 | 52  |             |
| KRP                  | eP*                                                | 18      | 41       | 37.7 |                  | 0.3  | 100 | 0.96 | 262 | 3.2         |
|                      | iPg                                                |         |          | 41.0 |                  | 2.9  |     |      |     |             |
| TUA                  | eP*                                                | 18      | 41       | 39.0 |                  | 0.1  | 100 | 1.05 | 163 | 3.7 3.5     |
| GNZ                  | eP*                                                | 18      | 41       | 43.6 |                  | 0.4  | 100 | 1.30 | 130 | 3.7 3.3     |
|                      | Pg                                                 |         |          | 46.0 |                  | 1.0  | 99  |      |     |             |
|                      | Sg                                                 |         | 42       | 02.6 |                  | -0.0 | 100 |      |     |             |
|                      | e                                                  |         |          | 05.2 |                  |      |     |      |     |             |
|                      | e                                                  |         |          | 08.8 |                  |      |     |      |     |             |
| AMPLITUDES:          |                                                    | KRP     | 1.2      | TUA  | 1.0              | 0.8  | GNZ | 2.0  | 1.2 |             |
| FELT: Whakatane (27) |                                                    |         |          |      |                  |      |     |      |     |             |

|             |                                                    |         |          |         |                  |      |     |      |     | 77/ 757     |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-------------|
| Nov 12      | 20 <sup>h</sup> 02 <sup>m</sup> 34 <sup>s</sup> .9 | 37°.08S | 176°.45E | 412 km  | M = 4.3          |      |     |      |     |             |
|             | ± 1.1                                              | 0.09    | 0.15     | 9       | S.E. of RES. 0.9 |      |     |      |     |             |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| WTZ         | P                                                  | 20      | 03       | 27.4    | D                | -0.1 | 100 | 1.00 | 155 | 4.5 4.0     |
|             | eS                                                 |         |          | 04 08   |                  | -0.9 | 99  |      |     |             |
| KRP         | P                                                  | 20      | 03       | 29.2    |                  | 1.2  | 99  | 1.11 | 220 | 3.0*        |
| GNZ         | P                                                  | 20      | 03       | 32.4    |                  | -0.0 | 100 | 2.00 | 142 | 4.4 4.3     |
|             | S                                                  |         |          | 04 18.4 |                  | 0.8  | 100 |      |     |             |
| NGZ         | P                                                  | 20      | 03       | 33.6    |                  | -0.1 | 100 | 2.20 | 197 |             |
| TRZ         | P                                                  | 20      | 03       | 35.7    |                  | 0.1  | 100 | 2.48 | 173 | 4.5         |
| MNG         | P                                                  | 20      | 03       | 43.9    |                  | -0.8 | 100 | 3.61 | 192 | 4.4 4.0     |
|             | S                                                  |         |          | 04 40.0 |                  | 0.3  | 100 |      |     |             |
| AMPLITUDES: |                                                    | WTZ     | 2.0      | 0.6     | KRP              | 0.5  | GNZ | 1.2  | 1.5 |             |
|             |                                                    | TRZ     | 0.5      |         | MNG              | 2.0  | 1.1 |      |     |             |

|             |                                                    |         |          |         |                  |      |     |      |     | 77/ 758     |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-------------|
| Nov 13      | 03 <sup>h</sup> 39 <sup>m</sup> 32 <sup>s</sup> .8 | 37°.82S | 176°.86E | 0 km    | M = 3.4          |      |     |      |     |             |
|             | ± 0.3                                              | 0.03    | 0.02     | R       | S.E. of RES. 0.7 |      |     |      |     |             |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| WTZ         | P                                                  | 03      | 39       | 36.7    | U                | -0.0 | 100 | 0.20 | 148 |             |
| WIZ         | P                                                  | 03      | 39       | 40.7    |                  | 0.0  | 100 | 0.39 | 43  |             |
| TUA         | eP*                                                | 03      | 39       | 51.9    |                  | -0.5 | 100 | 1.02 | 167 | 3.7 3.3     |
| KRP         | eP*                                                | 03      | 39       | 52.3    |                  | -0.7 | 99  | 1.05 | 264 | 3.3 3.4     |
|             | e                                                  |         |          | 53.3    |                  |      |     |      |     |             |
|             | Sg                                                 |         |          | 40 08.7 |                  | 0.6  | 100 |      |     |             |
| GNZ         | Pg                                                 | 03      | 39       | 58.4    |                  | 0.7  | 100 | 1.23 | 132 | 3.7 3.2     |
|             | eSg                                                |         |          | 40 15.9 |                  | 1.5  |     |      |     |             |
|             | e                                                  |         |          | 17.3    |                  |      |     |      |     |             |
| AMPLITUDES: |                                                    | TUA     | 1.2      | 0.5     | KRP              | 1.2  | 1.2 | GNZ  | 2.1 | 1.0         |

|        |                                                    |         |          |      |                  |      |     |      |     | 77/ 759     |
|--------|----------------------------------------------------|---------|----------|------|------------------|------|-----|------|-----|-------------|
| Nov 13 | 07 <sup>h</sup> 55 <sup>m</sup> 34 <sup>s</sup> .9 | 37°.76S | 176°.76E | 0 km | M = 3.4          |      |     |      |     |             |
|        | ± 0.4                                              | 0.03    | 0.02     | R    | S.E. of RES. 0.9 |      |     |      |     |             |
| STN    | PHASE                                              | H       | M        | S    | DIR              | RES  | WT  | DIST | AZ  | W-A W P W S |
| WTZ    | P                                                  | 07      | 55       | 39.8 |                  | -0.9 | 100 | 0.29 | 140 |             |
| WIZ    | eP                                                 | 07      | 55       | 43.8 |                  | 0.4  | 100 | 0.41 | 56  |             |

|             |     |       |      |     |      |      |      |     |     |     |     |
|-------------|-----|-------|------|-----|------|------|------|-----|-----|-----|-----|
| KRP         | e   | 07 55 | 55.3 |     |      | 0.98 | 260  |     | 3.3 | 3.3 |     |
|             | Pg  |       | 57.4 |     | 2.7  |      |      |     |     |     |     |
|             | S*  | 56    | 06.9 |     | -0.7 | 100  |      |     |     |     |     |
|             | Sg  |       | 08.9 |     | 1.0  | 100  |      |     |     |     |     |
|             | e   |       | 11.0 |     |      |      |      |     |     |     |     |
| TUA         | eP* | 07 55 | 55.1 |     | -0.7 | 100  | 1.09 | 164 | 3.5 | 3.4 |     |
| GNZ         | Pg  | 07 56 | 02.1 |     | 0.3  | 100  | 1.33 | 132 | 3.7 | 3.3 |     |
|             | Sg  |       | 21.0 |     | 1.3  | 99   |      |     |     |     |     |
| ECZ         | ePg | 07 56 | 03.0 |     | -0.7 | 100  | 1.42 | 88  | 3.4 |     |     |
| TRZ         | ePg | 07 56 | 11.0 |     | -0.1 | 100  | 1.79 | 178 | 3.7 |     |     |
| AMPLITUDES: | KRP |       | 1.4  | 1.1 | TUA  |      | 0.6  | 0.5 | GNZ | 1.7 | 1.1 |
|             | ECZ |       | 0.2  |     | TRZ  |      | 0.4  |     |     |     |     |

Nov 13 07<sup>h</sup>57<sup>m</sup>51<sup>s</sup>.5 37°.81S 176°.78E 0 km M= 3.8  
 ± 0.3 0.01 0.01 3 S.E.of RES. 0.4

| STN         | PHASE | H     | M    | S   | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-------|------|-----|-----|------|-----|------|-----|-----|---------|
| WIZ         | P     | 07 57 | 56.4 |     |     | 0.0  | 100 | 0.24 | 136 |     |         |
| WIZ         | P     | 07 58 | 00.4 |     |     | 0.2  | 100 | 0.43 | 50  |     |         |
| WNZ         | ePg   | 07 58 | 11.2 |     |     | -0.0 | 100 | 0.98 | 213 |     |         |
|             | e     |       | 13.7 |     |     |      |     |      |     |     |         |
| KRP         | eP*   | 07 58 | 11.0 |     |     | 0.3  | 100 | 0.99 | 263 | 3.6 | 3.7     |
|             | e     |       | 12.5 |     |     |      |     |      |     |     |         |
|             | iPg   |       | 14.6 |     |     | 3.1  |     |      |     |     |         |
|             | S*    |       | 24.8 |     |     | 0.4  | 100 |      |     |     |         |
|             | e     |       | 28.0 |     |     |      |     |      |     |     |         |
|             | e     |       | 31.2 |     |     |      |     |      |     |     |         |
| TUA         | eP*   | 07 58 | 11.4 |     |     | -0.2 | 100 | 1.04 | 164 | 3.8 | 3.7     |
| GNZ         | eP*   | 07 58 | 16.6 |     |     | 0.8  | 97  | 1.29 | 131 | 4.1 | 3.5     |
|             | Pg    |       | 17.3 |     |     | -0.2 | 100 |      |     |     |         |
|             | Sg    |       | 38.1 |     |     | 3.2  |     |      |     |     |         |
| ECZ         | ePg   | 07 58 | 19.6 |     |     | -0.3 | 100 | 1.40 | 86  | 3.7 |         |
| TRZ         | eP*   | 07 58 | 24.0 |     |     | 0.4  | 100 | 1.75 | 179 | 4.0 |         |
|             | Pg    |       | 27.0 |     |     | 0.3  | 100 |      |     |     |         |
| AMPLITUDES: | KRP   |       | 2.5  | 3.0 | TUA |      | 1.4 | 1.2  | GNZ | 5.0 | 2.1     |
|             | ECZ   |       | 0.4  |     | TRZ |      | 1.0 |      |     |     |         |

Nov 13 08<sup>h</sup>35<sup>m</sup>24<sup>s</sup>.2 37°.81S 176°.78E 0 km M= 3.6  
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| STN         | PHASE | H     | M       | S   | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-------|---------|-----|-----|------|-----|------|-----|-----|---------|
| WIZ         | P     | 08 35 | 29.0    |     |     | -0.1 | 100 | 0.24 | 137 |     |         |
| WIZ         | P     | 08 35 | 33.1    |     | U   | 0.2  | 100 | 0.43 | 50  |     |         |
| KRP         | eP*   | 08 35 | 43.9    |     |     | 0.5  | 100 | 0.99 | 263 | 3.2 | 3.3     |
|             | iPg   |       | 47.0    |     |     | 2.8  |     |      |     |     |         |
|             | eS*   |       | 57.6    |     |     | 0.4  | 100 |      |     |     |         |
|             | e     |       | 36 00.8 |     |     |      |     |      |     |     |         |
|             | e     |       | 03.9    |     |     |      |     |      |     |     |         |
| TUA         | eP*   | 08 35 | 44.6    |     |     | 0.3  | 100 | 1.04 | 164 | 3.8 | 3.4     |
| GNZ         | P*    | 08 35 | 49.2    |     |     | 0.7  | 99  | 1.29 | 131 | 3.9 | 3.3     |
|             | iPg   |       | 50.6    |     |     | 0.3  | 100 |      |     |     |         |
|             | Sg    |       | 36 10.5 |     |     | 2.9  |     |      |     |     |         |
| ECZ         | ePg   | 08 35 | 52.1    |     |     | -0.5 | 99  | 1.40 | 86  | 3.6 |         |
| TRZ         | eP*   | 08 35 | 56.5    |     |     | 0.2  | 100 | 1.75 | 179 | 3.9 |         |
|             | Pg    |       | 59.5    |     |     | 0.0  | 100 |      |     |     |         |
| AMPLITUDES: | KRP   |       | 1.1     | 1.3 | TUA |      | 1.6 | 0.6  | GNZ | 3.0 | 1.1     |

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|             |                                                    |     |    |      |         |          |     |       |              |         |     |     |         |  |
|-------------|----------------------------------------------------|-----|----|------|---------|----------|-----|-------|--------------|---------|-----|-----|---------|--|
|             |                                                    |     |    |      |         |          |     |       |              |         |     |     | 77/ 763 |  |
| Nov 13      | 14 <sup>h</sup> 50 <sup>m</sup> 40 <sup>s</sup> .2 |     |    |      | 36°.27s | 179°.31E |     | 12 km |              | M = 4.2 |     |     |         |  |
|             | ± 1.2                                              |     |    |      | 0.06    | 0.09     |     | R     | S.E. of RES. |         | 1.0 |     |         |  |
| STN         | PHASE                                              | H   | M  | S    | DIR     | RES      | WT  | DIST  | AZ           | W-A     | W P | W S |         |  |
| ECZ         | eP*                                                | 14  | 51 | 08.8 |         | 1.0      | 100 | 1.55  | 203          |         | 4.4 | 4.2 |         |  |
|             | i                                                  |     |    | 10.2 |         |          |     |       |              |         |     |     |         |  |
|             | iPg                                                |     |    | 11.2 |         | -0.3     | 100 |       |              |         |     |     |         |  |
|             | Sn                                                 |     |    | 26.4 |         | -0.3     | 100 |       |              |         |     |     |         |  |
| WTZ         | ePn                                                | 14  | 51 | 20.7 |         | 0.6      | 100 | 2.53  | 227          |         | 4.1 |     |         |  |
| GNZ         | Pn                                                 | 14  | 51 | 20.7 |         | -0.2     | 100 | 2.58  | 203          |         | 4.1 |     |         |  |
|             | i                                                  |     |    | 21.1 | U       |          |     |       |              |         |     |     |         |  |
|             | Pg                                                 |     |    | 34.2 |         | 1.8      | 98  |       |              |         |     |     |         |  |
|             | eSn                                                |     |    | 51.0 |         | -0.6     | 100 |       |              |         |     |     |         |  |
| TUA         | ePn                                                | 14  | 51 | 27.2 |         | -0.2     | 100 | 3.06  | 213          |         | 4.2 | 4.1 |         |  |
| KRP         | ePn                                                | 14  | 51 | 33.2 |         | 0.6      | 100 | 3.44  | 240          |         |     |     |         |  |
|             | eSn                                                |     | 52 | 12   |         | -0.2     | 100 |       |              |         |     |     |         |  |
| TRZ         | ePn                                                | 14  | 51 | 37.6 |         | -0.3     | 100 | 3.82  | 210          |         |     |     |         |  |
| ONE         |                                                    |     |    |      |         |          |     | 4.04  | 276          | 4.1     |     |     |         |  |
| MNG         | ePn                                                | 14  | 51 | 56   |         | -1.8     | 98  | 5.28  | 213          |         |     |     |         |  |
| AMPLITUDES: |                                                    | ECZ |    | 2.2  | 1.6     | WTZ      | 2.0 | GNZ   |              | 1.7     |     |     |         |  |
|             |                                                    | TUA |    | 0.5  | 0.5     | ONE      | 0.1 |       |              |         |     |     |         |  |

|        |                                                    |    |         |         |          |      |       |      |                  |     |     |         |  |  |
|--------|----------------------------------------------------|----|---------|---------|----------|------|-------|------|------------------|-----|-----|---------|--|--|
|        |                                                    |    |         |         |          |      |       |      |                  |     |     | 77/ 764 |  |  |
| Nov 15 | 05 <sup>h</sup> 29 <sup>m</sup> 48 <sup>s</sup> .7 |    | 37°.92s |         | 177°.16E |      | 64 km |      | M = 3.7          |     |     |         |  |  |
|        | ± 0.7                                              |    | 0.05    |         | 0.04     |      | 7     |      | S.E. of RES. 1.4 |     |     |         |  |  |
| STN    | PHASE                                              | H  | M       | S       | DIR      | RES  | WT    | DIST | AZ               | W-A | W P | W S     |  |  |
| WTZ    | P                                                  | 05 | 29      | 58.4    |          | -0.4 | 100   | 0.14 | 245              |     |     |         |  |  |
|        | S                                                  |    |         | 30 06.3 |          | -0.0 | 100   |      |                  |     |     |         |  |  |
| TUA    | eP                                                 | 05 | 30      | 05.2    |          | -0.7 | 100   | 0.88 | 180              |     | 3.5 | 3.7     |  |  |
| GNZ    | iP                                                 | 05 | 30      | 06.1    | U        | -1.2 | 100   | 0.99 | 137              |     | 3.5 | 3.6     |  |  |
|        | iS                                                 |    |         | 21.0    |          | -0.2 | 100   |      |                  |     |     |         |  |  |
| ECZ    | eP                                                 | 05 | 30      | 08.3    |          | -0.7 | 100   | 1.13 | 79               |     | 3.6 | 3.9     |  |  |

|             |     |       |      |     |      |     |      |     |           |     |     |
|-------------|-----|-------|------|-----|------|-----|------|-----|-----------|-----|-----|
|             | S   |       | 25.7 |     | 1.5  | 100 |      |     |           |     |     |
| KRP         | iP  | 05 30 | 11.0 | U   | -0.1 | 100 | 1.29 | 269 | 3.4*      |     |     |
|             | iS  |       | 28.2 |     | 0.2  | 100 |      |     |           |     |     |
| TRZ         | eP  | 05 30 | 17.7 |     | 1.6  | 100 | 1.66 | 189 | 4.0 3.6   |     |     |
|             | e   |       | 19.8 |     |      |     |      |     |           |     |     |
|             | S   |       | 38.1 |     | 1.4  | 100 |      |     |           |     |     |
|             | e   |       | 45.3 |     |      |     |      |     |           |     |     |
| CNZ         | P   | 05 30 | 18.3 |     | 0.2  | 100 | 1.80 | 224 |           |     |     |
| TNZ         | eP  | 05 30 | 29.7 |     | 1.5  | 100 | 2.52 | 239 | 3.1* 3.0* |     |     |
| MNG         | eP  | 05 30 | 32.0 |     | -2.9 | 96  | 3.00 | 205 | 3.9 3.8   |     |     |
|             | e   |       | 38.2 |     |      |     |      |     |           |     |     |
| WEL         |     |       |      |     |      |     | 3.83 | 208 | 4.0       |     |     |
| AMPLITUDES: | TUA |       | 1.2  | 2.0 | GNZ  |     | 2.5  | 4.5 | ECZ       | 1.0 | 2.0 |
|             | KRP |       | 3.0  |     | TRZ  |     | 1.0  | 1.0 | TNZ       | 0.2 | 0.2 |
|             | MNG |       | 1.7  | 1.9 | WEL  | 0.2 |      |     |           |     |     |

Nov 15 11<sup>h</sup>01<sup>m</sup>02<sup>s</sup>.9 39°.01s 176°.93E 53 km M = 3.6  
 ± 0.5 0.02 0.03 5 S.E. of RES. 0.9

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| TUA         | eP    | 11 | 01 | 11.8 |     | -0.8 | 100 | 0.26 | 41  |     |      |      |
|             | S     |    |    | 19.9 |     | -0.0 | 100 |      |     |     |      |      |
| TRZ         | iP    | 11 | 01 | 14.6 | U   | -0.8 | 100 | 0.55 | 188 |     | 3.8  |      |
|             | S     |    |    | 25.2 |     | 0.6  | 100 |      |     |     |      |      |
| WNZ         | eP    | 11 | 01 | 19.3 |     | 1.6  | 98  | 0.75 | 300 |     | 3.6  | 4.0  |
|             | e     |    |    | 39.7 |     |      |     |      |     |     |      |      |
| GNZ         | P     | 11 | 01 | 20.0 |     | -0.2 | 100 | 0.93 | 67  |     | 3.5  | 3.4  |
|             | e     |    |    | 22.1 |     |      |     |      |     |     |      |      |
|             | iS    |    |    | 33.7 |     | 0.6  | 100 |      |     |     |      |      |
| WTZ         | eP    | 11 | 01 | 21.7 |     | 0.2  | 100 | 1.03 | 3   |     | 3.6  | 3.7  |
|             | eS    |    |    | 35.0 |     | -0.3 | 100 |      |     |     |      |      |
| CNZ         | iP    | 11 | 01 | 22.8 |     | 0.4  | 100 | 1.09 | 259 |     |      |      |
|             | S     |    |    | 36.7 |     | -0.2 | 100 |      |     |     |      |      |
| KRP         | P     | 11 | 01 | 29.0 |     | 0.5  | 100 | 1.54 | 314 |     | 2.7* | 2.7* |
|             | e     |    |    | 43.2 |     |      |     |      |     |     |      |      |
|             | eS    |    |    | 46.6 |     | -1.1 | 99  |      |     |     |      |      |
| MNG         | eP    | 11 | 01 | 33.2 |     | -1.1 | 99  | 1.96 | 214 |     | 3.5  | 3.4  |
| TNZ         | eP    | 11 | 01 | 36.0 |     | 1.2  | 99  | 1.99 | 264 |     | 3.0* | 3.1* |
| AMPLITUDES: | TUA   |    |    | 2.2  | 3.8 | TRZ  |     | 6.0  |     | WNZ | 0.3  | 0.6  |
|             | GNZ   |    |    | 3.0  | 4.0 | WTZ  |     | 3.0  | 4.0 | KRP | 0.5  | 0.6  |
|             | MNG   |    |    | 1.6  | 1.7 | TNZ  |     | 0.2  | 0.3 |     |      |      |

Nov 15 18<sup>h</sup>25<sup>m</sup>19<sup>s</sup>.4 37°.57s 177°.10E 33 km M = 3.6  
 ± 0.9 0.08 0.04 R S.E. of RES. 1.1

| STN         | PHASE | H  | M  | S    | DIR  | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|------|------|-----|------|-----|-----|-----|-----|
| WTZ         | P     | 18 | 25 | 28.1 |      | -0.6 | 100 | 0.42 | 192 |     |     |     |
| ECZ         | eP    | 18 | 25 | 38.8 |      | 0.1  | 100 | 1.16 | 97  |     | 3.6 | 3.6 |
| KRP         | eP    | 18 | 25 | 39.3 |      | -1.2 | 99  | 1.29 | 254 |     | 3.5 | 3.6 |
|             | S     |    |    | 57.2 |      | 0.9  | 100 |      |     |     |     |     |
| GNZ         | eP    | 18 | 25 | 41.6 |      | 1.0  | 100 | 1.30 | 146 |     | 3.7 | 3.5 |
|             | e     |    |    | 46.2 |      |      |     |      |     |     |     |     |
|             | e     |    |    | 49.7 |      |      |     |      |     |     |     |     |
|             | eS    |    |    | 56.2 |      | -0.3 | 100 |      |     |     |     |     |
|             | e     |    |    | 26   | 04.6 |      |     |      |     |     |     |     |
| AMPLITUDES: | ECZ   |    |    | 0.5  | 0.7  | KRP  |     | 1.0  | 1.1 | GNZ | 2.0 | 2.0 |



|                                                                                         |       |     |    |      |     |      |     |      |     | 77/ 767     |
|-----------------------------------------------------------------------------------------|-------|-----|----|------|-----|------|-----|------|-----|-------------|
| Nov 15 22 <sup>h</sup> 01 <sup>m</sup> 01 <sup>s</sup> .3 37°.84s 176°.77E 2 km M = 3.6 |       |     |    |      |     |      |     |      |     |             |
| ± 0.5 0.02 0.02 5 S.E. of RES. 0.6                                                      |       |     |    |      |     |      |     |      |     |             |
| STN                                                                                     | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A W P W S |
| WTZ                                                                                     | iP    | 22  | 01 | 05.0 |     | -0.9 | 99  | 0.22 | 131 |             |
| KRP                                                                                     | P*    | 22  | 01 | 20.1 |     | -0.1 | 100 | 0.98 | 265 | 3.5 3.3     |
|                                                                                         | e     |     |    | 20.6 |     |      |     |      |     |             |
|                                                                                         | e     |     |    | 21.9 |     |      |     |      |     |             |
|                                                                                         | S*    |     |    | 34.0 |     | 0.2  | 100 |      |     |             |
|                                                                                         | e     |     |    | 37.8 |     |      |     |      |     |             |
|                                                                                         | e     |     |    | 41.5 |     |      |     |      |     |             |
| TUA                                                                                     | eP*   | 22  | 01 | 20.1 |     | -0.6 | 99  | 1.02 | 163 | 3.9 3.4     |
|                                                                                         | Sg    |     |    | 36.1 |     | 0.6  | 99  |      |     |             |
| GNZ                                                                                     | P*    | 22  | 01 | 25.4 |     | 0.2  | 100 | 1.27 | 130 | 4.0 3.5     |
|                                                                                         | iPg   |     |    | 27.0 |     | -0.0 | 100 |      |     |             |
|                                                                                         | eSg   |     |    | 46.8 |     | 2.6  |     |      |     |             |
| ECZ                                                                                     | eP*   | 22  | 01 | 27.7 |     | 0.1  | 100 | 1.41 | 85  | 3.9         |
|                                                                                         | ePg   |     |    | 30.4 |     | 0.5  | 100 |      |     |             |
| AMPLITUDES:                                                                             |       | KRP |    | 2.0  | 1.1 | TUA  |     | 2.0  | 0.7 | GNZ 4.5 2.0 |
|                                                                                         |       | ECZ |    | 0.7  |     |      |     |      |     |             |

|                                                                                           |       |     |    |      |     |      |     |      |     | 77/ 768     |
|-------------------------------------------------------------------------------------------|-------|-----|----|------|-----|------|-----|------|-----|-------------|
| Nov 16 01 <sup>h</sup> 23 <sup>m</sup> 54 <sup>s</sup> .2 39°.12s 174°.82E 197 km M = 4.0 |       |     |    |      |     |      |     |      |     |             |
| ± 1.6 0.09 0.10 13 S.E. of RES. 1.7                                                       |       |     |    |      |     |      |     |      |     |             |
| STN                                                                                       | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A W P W S |
| TNZ                                                                                       | e     | 01  | 24 | 50.7 |     |      |     | 0.35 | 258 | 3.0*        |
| CNZ                                                                                       | P     | 01  | 24 | 23.1 |     | 1.7  | 100 | 0.58 | 98  |             |
|                                                                                           | eS    |     |    | 43.0 |     | 0.7  | 100 |      |     |             |
| MNG                                                                                       | P     | 01  | 24 | 29.7 |     | 1.1  | 100 | 1.58 | 161 | 4.4 3.6     |
|                                                                                           | S     |     |    | 54.4 |     | -0.9 | 100 |      |     |             |
| CAZ                                                                                       | eP    | 01  | 24 | 35.3 |     | 1.6  | 100 | 2.09 | 149 |             |
|                                                                                           | eS    |     | 25 | 05   |     | 0.8  | 100 |      |     |             |
| COB                                                                                       | eP    | 01  | 24 | 38.4 |     | -0.3 | 100 | 2.54 | 218 |             |
|                                                                                           | eS    |     | 25 | 11.2 |     | -1.8 | 99  |      |     |             |
| GNZ                                                                                       | P     | 01  | 24 | 38.7 |     | -0.1 | 100 | 2.55 | 80  | 4.3 3.9     |
|                                                                                           | i     |     |    | 39.2 |     |      |     |      |     |             |
|                                                                                           | eS    |     | 25 | 10.7 |     | -2.5 | 99  |      |     |             |
| AMPLITUDES:                                                                               |       | TNZ |    | 0.3  | MNG |      | 10  | 2.0  | GNZ | 1.8 1.3     |

|                                                                                         |       |     |    |      |     |      |     |      |     | 77/ 769     |
|-----------------------------------------------------------------------------------------|-------|-----|----|------|-----|------|-----|------|-----|-------------|
| Nov 16 06 <sup>h</sup> 01 <sup>m</sup> 28 <sup>s</sup> .9 37°.83s 176°.85E 0 km M = 3.5 |       |     |    |      |     |      |     |      |     |             |
| ± 0.3 0.02 0.02 R S.E. of RES. 0.6                                                      |       |     |    |      |     |      |     |      |     |             |
| STN                                                                                     | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A W P W S |
| WTZ                                                                                     | iP    | 06  | 01 | 31.8 |     | -0.8 | 99  | 0.19 | 145 |             |
| TUA                                                                                     | P*    | 06  | 01 | 48.4 |     | 0.1  | 100 | 1.00 | 167 | 3.4 3.4     |
|                                                                                         | eSg   |     | 02 | 02.6 |     | 0.0  | 100 |      |     |             |
| KRP                                                                                     | P*    | 06  | 01 | 49.0 |     | -0.1 | 100 | 1.04 | 265 | 3.3 3.4     |
|                                                                                         | e     |     |    | 51.4 |     |      |     |      |     |             |
|                                                                                         | e     |     |    | 54.9 |     |      |     |      |     |             |
|                                                                                         | S*    |     | 02 | 03.5 |     | -0.0 | 100 |      |     |             |
| GNZ                                                                                     | P*    | 06  | 01 | 53.0 |     | 0.8  | 99  | 1.22 | 132 | 4.1 3.2     |
| ECZ                                                                                     | Pg    | 06  | 01 | 56.0 |     | -0.1 | 100 | 1.35 | 85  | 3.7         |
| AMPLITUDES:                                                                             |       | TUA |    | 0.7  | 0.7 | KRP  |     | 1.2  | 1.3 | GNZ 5.7 1.2 |
|                                                                                         |       | ECZ |    | 0.5  |     |      |     |      |     |             |

NOV 16 07<sup>h</sup>33<sup>m</sup>48<sup>s</sup>.3 40°.06s 176°.75E 12 km M = 3.7  
 ± 0.4 0.02 0.04 R S.E. of RES. 0.8

| STN         | PHASE | H   | M  | S    | DIR     | RES  | WT  | DIST    | AZ  | W-A | W P W S |
|-------------|-------|-----|----|------|---------|------|-----|---------|-----|-----|---------|
| TRZ         | iPg   | 07  | 34 | 00.1 | D       | 1.3  | 99  | 0.51    | 6   |     |         |
| CAZ         | eP*   | 07  | 34 | 05   |         | -0.3 | 100 | 0.94    | 205 |     |         |
|             | eS*   |     |    | 18.5 |         | 0.6  | 100 |         |     |     |         |
| CNZ         | P*    | 07  | 34 | 10.3 |         | -0.8 | 100 | 1.27    | 312 |     |         |
|             | S*    |     |    | 28.2 |         | 0.3  | 100 |         |     |     |         |
| TUA         | eP*   | 07  | 34 | 11.8 |         | 0.3  | 100 | 1.29    | 14  |     | 3.5     |
| WNZ         | ePg   | 07  | 34 | 19.4 |         | 0.4  | 100 | 1.51    | 340 |     | 4.2     |
| GNZ         | Pn    | 07  | 34 | 17.2 |         | -0.1 | 100 | 1.73    | 35  |     | 3.5 3.4 |
| WTZ         | Pn    | 07  | 34 | 21.1 |         | -1.1 | 99  | 2.09    | 5   |     | 3.3 3.5 |
| KRP         | ePn   | 07  | 34 | 25.0 |         | -0.6 | 100 | 2.34    | 336 |     | 4.0 4.0 |
| AMPLITUDES: |       | TUA |    |      | 0.7     | WNZ  |     | 0.4     | GNZ |     | 0.9 1.0 |
|             |       | WTZ |    |      | 0.5 0.7 | KRP  |     | 0.9 0.7 |     |     |         |

FELT: Mount Vernon (60), Waipawa (60) MM IV

NOV 16 07<sup>h</sup>33<sup>m</sup>53<sup>s</sup>.9 40°.20s 176°.10E 12 km M = 3.5  
 ± 0.5 0.04 0.06 R S.E. of RES. 1.3

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|---------|
| CAZ         | ePg   | 07  | 34 | 09      |     | 0.7  | 100 | 0.70 | 173 |     |         |
| TRZ         | Pg    | 07  | 34 | 13.0    |     | 1.7  | 99  | 0.85 | 41  |     |         |
| WEL         | eS*   | 07  | 34 | 39.2    |     | -0.8 | 100 | 1.48 | 223 | 3.5 |         |
| GNZ         | ePn   | 07  | 34 | 26.3    |     | -2.5 | 97  | 2.15 | 44  |     | 3.6     |
|             | eP*   |     |    | 31.8    |     | -0.0 | 100 |      |     |     |         |
| KRP         | ePn   | 07  | 34 | 31.0    |     | -0.1 | 100 | 2.32 | 349 |     |         |
| WTZ         | ePn   | 07  | 34 | 31.2    |     | 0.1  | 100 | 2.32 | 18  |     |         |
| COB         | eP*   | 07  | 34 | 42.2    |     | 0.8  | 100 | 2.72 | 250 |     |         |
|             | S*    |     |    | 35 17.1 |     | 0.2  | 100 |      |     |     |         |
| AMPLITUDES: |       | WEL |    | 0.6     |     | GNZ  |     | 1.0  |     |     |         |

NOV 17 00<sup>h</sup>18<sup>m</sup>57<sup>s</sup>.9 44°.99s 167°.64E 93 km M = 3.8  
 ± 0.9 0.04 0.06 8 S.E. of RES. 0.7

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST    | AZ  | W-A  | W P W S |
|-------------|-------|-----|----|---------|-----|------|-----|---------|-----|------|---------|
| MNW         | iP    | 00  | 19 | 16.2    |     | 0.5  | 100 | 0.79    | 181 | 3.9* |         |
|             | eS    |     |    | 29.0    |     | -0.2 | 100 |         |     |      |         |
| ROX         | P     | 00  | 19 | 22.2    |     | 0.7  | 99  | 1.29    | 113 |      | 3.9 3.9 |
|             | S     |     |    | 39.4    |     | 0.1  | 100 |         |     |      |         |
| OBZ         | eP    | 00  | 19 | 29.8    |     | -0.1 | 100 | 1.94    | 170 |      |         |
|             | eS    |     |    | 53      |     | -0.6 | 100 |         |     |      |         |
| MJZ         | i     | 00  | 19 | 56.3    |     |      |     | 2.26    | 65  |      |         |
|             | eS    |     |    | 20 00.4 |     | -0.7 | 99  |         |     |      |         |
| OMZ         | e     | 00  | 19 | 57.7    |     |      |     | 2.32    | 93  |      | 3.5     |
|             | S     |     |    | 20 03.1 |     | 0.3  | 100 |         |     |      |         |
| AMPLITUDES: |       | MNW |    | 5.0     |     | ROX  |     | 2.5 5.0 | OMZ |      | 0.6     |

NOV 17 09<sup>h</sup>54<sup>m</sup>01<sup>s</sup>.3 39°.01s 175°.05E 213 km M = 4.5  
 ± 0.9 0.04 0.06 7 S.E. of RES. 1.3

| STN | PHASE | H  | M  | S    | DIR | RES | WT | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|-----|----|------|-----|-----|---------|
| CNZ | P     | 09 | 54 | 31.6 |     | 1.8 | 99 | 0.43 | 116 |     |         |

|             |     |         |         |   |      |         |      |         |         |
|-------------|-----|---------|---------|---|------|---------|------|---------|---------|
|             | S   |         | 53.0    |   | 1.2  | 100     |      |         |         |
| TNZ         | iP  | 09 54   | 31.6    |   | 1.3  | 100     | 0.55 | 251     | 3.7*    |
| KRP         | iP  | 09 54   | 33.6    |   | 0.0  | 100     | 1.15 | 20      |         |
|             | S   |         | 58.1    |   | -0.6 | 100     |      |         |         |
| TRZ         | eP  | 09 54   | 37.8    |   | 1.5  | 100     | 1.48 | 112     | 4.5 4.2 |
|             | e   |         | 59.2    |   |      |         |      |         |         |
|             | eS  | 55 05   |         |   | 1.7  | 99      |      |         |         |
| MNG         | iP  | 09 54   | 39.5    | U | 1.9  | 99      | 1.65 | 168     |         |
|             | S   | 55 03.9 |         |   | -1.9 | 99      |      |         |         |
| TUA         | eP  | 09 54   | 38.2    |   | 0.4  | 100     | 1.66 | 84      |         |
|             | eS  | 55 05   |         |   | -1.0 | 100     |      |         |         |
| WTZ         | iP  | 09 54   | 38.8    | D | -0.7 | 100     | 1.84 | 57      | 4.8 4.2 |
|             | S   | 55 07.9 |         |   | -1.1 | 100     |      |         |         |
| CAZ         | S-P |         | 31.5    |   | -0.1 | 100     | 2.10 | 155     |         |
| WEL         | P   | 09 54   | 44.7    |   | 0.6  | 100     | 2.29 | 185     | 4.0     |
|             | S   | 55 16.7 |         |   | -0.4 | 100     |      |         |         |
| GNZ         | iP  | 09 54   | 45.1    | D | 0.3  | 100     | 2.36 | 82      | 4.9 4.4 |
|             | S   | 55 16.8 |         |   | -1.6 | 100     |      |         |         |
| COB         | iP  | 09 54   | 48.2    | U | -0.8 | 100     | 2.74 | 220     |         |
|             | S   | 55 23.9 |         |   | -2.0 | 99      |      |         |         |
| ECZ         | P   | 09 54   | 51.8    |   | -0.9 | 100     | 3.05 | 66      | 4.9 4.4 |
|             | i   |         | 53.0    |   |      |         |      |         |         |
| KAI         | e   | 09 55   | 58.8    |   |      |         | 4.47 | 217     | 3.7*    |
|             | e   |         | 56 06.8 |   |      |         |      |         |         |
| AMPLITUDES: |     |         |         |   |      |         |      |         |         |
|             | TNZ |         | 1.0     |   | TRZ  | 1.8 2.2 | WTZ  | 7.0 2.0 |         |
|             | WEL | 0.5     |         |   | GNZ  | 8.5 4.0 | ECZ  | 2.3 0.7 |         |
|             | KAI | 0.5     |         |   |      |         |      |         |         |

Nov 18 11<sup>h</sup>41<sup>m</sup>57<sup>s</sup>.0 32°.92s 178°.27w 217 km M = 4.6  
 ± 1.9 0.21 0.40 42 S.E. of RES. 1.5

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | eP    | 11 43 | 18.7 |   |     | 0.6  | 100 | 5.43 | 208 |     | 4.6 | 4.5 |
| WTZ | eP    | 11 43 | 28.0 |   |     | -1.9 | 99  | 6.37 | 216 |     | 4.9 | 4.6 |
|     | e     |       | 31.1 |   |     |      |     |      |     |     |     |     |
|     | eS    | 44    | 41.5 |   |     | -0.9 | 100 |      |     |     |     |     |
|     | e     |       | 45.0 |   |     |      |     |      |     |     |     |     |
| GNZ | eP    | 11 43 | 30.3 |   |     | -0.8 | 100 | 6.46 | 207 |     | 4.6 | 4.4 |
|     | eS    | 44    | 45.4 |   |     | 0.8  | 100 |      |     |     |     |     |
| KRP | eP    | 11 43 | 41.2 |   |     | 1.6  | 99  | 7.11 | 224 |     |     |     |
| MNG | P     | 11 44 | 06.2 |   |     | -0.1 | 100 | 9.18 | 211 |     |     |     |
|     | S     | 45    | 47.0 |   |     | -0.4 | 100 |      |     |     |     |     |

AMPLITUDES: ECZ 0.4 0.3 WTZ 1.2 0.7 GNZ 0.7 0.8

Nov 19 16<sup>h</sup>53<sup>m</sup>00<sup>s</sup>.7 36°.43s 177°.72E 12 km M = 4.4  
 ± 1.1 0.05 0.05 R S.E. of RES. 1.5

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | eP    | 16 53 | 26.3 |   |     | 0.6  | 100 | 1.43 | 153 |     | 4.1 | 4.2 |
|     | Sg    |       | 50.0 |   |     | 1.0  | 100 |      |     |     |     |     |
| WTZ | iP*   | 16 53 | 31.9 |   | U   | 1.6  | 100 | 1.66 | 200 |     |     |     |
|     | Pg    |       | 32.7 |   |     | -1.6 | 100 |      |     |     |     |     |
|     | S*    |       | 53.4 |   |     | 1.2  | 100 |      |     |     |     |     |
| GNZ | eP    | 16 53 | 36.3 |   |     | -0.3 | 100 | 2.22 | 174 |     | 4.5 | 4.3 |
|     | S     | 54    | 02.7 |   |     | -0.9 | 100 |      |     |     |     |     |
| KRP | iP*   | 16 53 | 43.1 |   |     | 2.0  | 99  | 2.29 | 229 |     |     |     |
| TUA | eP    | 16 53 | 40.7 |   |     | 1.4  | 100 | 2.42 | 191 |     | 4.4 | 4.5 |



|     |     |       |      |      |     |      |     |     |     |
|-----|-----|-------|------|------|-----|------|-----|-----|-----|
| TRZ | eP  | 16 53 | 50.0 | 0.1  | 100 | 3.20 | 193 | 4.5 | 4.7 |
|     | eP* |       | 57.8 | 1.3  | 100 |      |     |     |     |
|     | S   | 54    | 27.2 | 0.2  | 100 |      |     |     |     |
|     | e   |       | 32.1 |      |     |      |     |     |     |
| CNZ | P*  | 16 53 | 56.5 | -1.0 | 100 | 3.26 | 211 |     |     |
|     | S*  | 54 42 |      | 1.9  | 99  |      |     |     |     |
| TNZ | P*  | 16 54 | 06.6 | -0.5 | 100 | 3.82 | 223 |     |     |
| MNG | eP  | 16 54 | 06.3 | -1.9 | 99  | 4.54 | 202 |     |     |
|     | P*  |       | 17.0 | -2.4 | 99  |      |     |     |     |
|     | S   |       | 58.0 | -1.2 | 100 |      |     |     |     |
|     | S*  | 55    | 16.4 | -2.1 | 99  |      |     |     |     |
| WEL | S   | 16 55 | 18.1 | -1.1 | 100 | 5.37 | 204 | 4.6 |     |
| COB | eP  | 16 54 | 29.0 | -0.1 | 100 | 6.07 | 218 |     | 4.3 |
|     | S   | 55    | 37.6 | 1.6  | 100 |      |     |     |     |
|     | e   |       | 44.1 |      |     |      |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 1.0 | 1.7 | GNZ | 3.6 | 4.0 | TUA | 1.0 | 1.3 |
|             | TRZ | 1.0 | 2.0 | WEL | 0.3 |     | COB |     | 0.8 |

NOV 20 03<sup>h</sup>11<sup>m</sup>04<sup>s</sup>.2 37°.84s 177°.19E 140 km M = 4.2  
 ± 0.8 0.04 0.05 5 S.E. of RES. 1.3

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W    | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|------|---|
| WTZ | iP    | 03 | 11 | 22.7    | U   | -0.8 | 100 | 0.22 | 228 |     |   |     |      |   |
|     | S     |    |    | 36.0    |     | -2.3 | 98  |      |     |     |   |     |      |   |
| TUA | eP    | 03 | 11 | 28.8    |     | 1.0  | 100 | 0.97 | 182 |     |   | 3.8 | 4.2  |   |
|     | S     |    |    | 47.8    |     | 1.7  | 99  |      |     |     |   |     |      |   |
| GNZ | iP    | 03 | 11 | 29.1    | U   | 0.6  | 100 | 1.03 | 141 |     |   |     |      |   |
|     | S     |    |    | 47.0    |     | -0.1 | 100 |      |     |     |   |     |      |   |
| ECZ | iP    | 03 | 11 | 28.4    | U   | -0.5 | 100 | 1.08 | 83  |     |   | 4.6 | 4.3  |   |
|     | e     |    |    | 38.2    |     |      |     |      |     |     |   |     |      |   |
| KRP | iP    | 03 | 11 | 31.6    | D   | 0.3  | 100 | 1.31 | 266 |     |   |     | 3.1* |   |
|     | S     |    |    | 53.1    |     | 1.1  | 100 |      |     |     |   |     |      |   |
| CNZ | eP    | 03 | 11 | 39.4    |     | 1.8  | 99  | 1.87 | 223 |     |   |     |      |   |
| MNG | P     | 03 | 11 | 52.3    |     | -0.7 | 100 | 3.08 | 205 |     |   | 4.0 | 4.2  |   |
|     | S     |    |    | 12 30.9 |     | 0.7  | 100 |      |     |     |   |     |      |   |
| WEL | S     | 03 | 12 | 49.0    |     | -1.0 | 100 | 3.92 | 208 | 4.3 |   |     |      |   |
| COB | eP    | 03 | 12 | 14      |     | -0.9 | 100 | 4.74 | 225 |     |   |     | 3.2* |   |
|     | eS    |    |    | 13 08.2 |     | -1.2 | 100 |      |     |     |   |     |      |   |
| CRZ | (P)   | 03 | 12 | 18.8    |     | 0.5  | 100 | 4.99 | 312 |     |   |     | 3.3* |   |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TUA | 1.1 | 2.5 | ECZ | 5.5 | 2.8 | KRP | 1.3 |
|             | MNG | 1.8 | 4.0 | WEL | 0.4 |     | COB | 0.8 |
|             | CRZ | 0.2 |     |     |     |     |     |     |

NOV 21 03<sup>h</sup>23<sup>m</sup>27<sup>s</sup>.4 36°.95s 177°.57E 212 km M = 5.3  
 ± 1.0 0.05 0.08 9 S.E. of RES. 1.3

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W    | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|------|------|---|
| ECZ | P     | 03 | 23 | 58.6    |     | -0.4 | 100 | 1.08 | 134 |     |   |      |      |   |
|     | e     |    |    | 24 15.2 |     |      |     |      |     |     |   |      |      |   |
| WTZ | iP    | 03 | 23 | 58.9    | D   | -0.6 | 100 | 1.13 | 204 |     |   |      |      |   |
| GNZ | iP    | 03 | 24 | 05.0    | U   | 0.6  | 100 | 1.73 | 168 |     |   |      |      |   |
| GBZ | iP    | 03 | 24 | 03.7    | D   | -1.8 | 99  | 1.84 | 293 |     |   |      |      |   |
| KRP | iP    | 03 | 24 | 07.3    | D   | 1.3  | 100 | 1.89 | 238 |     |   | 4.7* | 3.8* |   |
|     | S     |    |    | 36.0    |     | 0.2  | 100 |      |     |     |   |      |      |   |
| TUA | P     | 03 | 24 | 06.0    |     | 0.0  | 100 | 1.89 | 190 |     |   | 5.3  | 5.5  |   |
|     | e     |    |    | 42.4    |     |      |     |      |     |     |   |      |      |   |
| WNZ | P     | 03 | 24 | 08.3    |     | 0.8  | 100 | 2.04 | 214 |     |   | 5.2  | 5.3  |   |



|     |    |            |   |      |     |      |     |     |  |
|-----|----|------------|---|------|-----|------|-----|-----|--|
| CNZ | P  | 03 24 16.8 |   | 1.5  | 100 | 2.75 | 215 |     |  |
| TNZ | P  | 03 24 25.0 |   | 2.6  | 97  | 3.37 | 227 |     |  |
| MNG | iP | 03 24 30.0 | D | -0.4 | 100 | 4.01 | 203 |     |  |
| CAZ | iP | 03 24 32.2 | D | 0.9  | 100 | 4.09 | 194 |     |  |
| CRZ | eP | 03 24 39.2 |   | 0.1  | 100 | 4.71 | 301 |     |  |
| WEL | P  | 03 24 40.0 |   | -0.8 | 100 | 4.85 | 206 | 5.4 |  |
|     | S  | 25 36.4    |   | -1.4 | 100 |      |     |     |  |
| COB | P  | 03 24 49.4 |   | -1.0 | 100 | 5.60 | 221 |     |  |

AMPLITUDES: GBZ 13 2.0 KRP 33 4.3 TUA 11 16  
WZN 1.0 1.0 WEL 3.7

FELT: Patoka (52) MM III

Nov 21 09<sup>h</sup>52<sup>m</sup>37<sup>s</sup>.3 31°.75s 178°.98w 349 km M = 6.1  
± 1.6 0.11 0.21 36 S.E. of RES. 1.6

| STN         | PHASE | H     | M       | S | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-------------|-------|-------|---------|---|-----|------|-----|-------|-----|------|------|------|
| ECZ         | eP    | 09 54 | 14.2    |   |     | 2.3  | 99  | 6.28  | 198 |      | 6.0  |      |
|             | S     | 55    | 25.4    |   |     | -0.8 | 100 |       |     |      |      |      |
|             | e     |       | 31.2    |   |     |      |     |       |     |      |      |      |
| GBZ         | iP    | 09 54 | 14.4    |   | D   | 0.8  | 100 | 6.41  | 224 |      |      |      |
| ONE         | P     | 09 54 | 19.0    |   |     | 0.3  | 100 | 6.85  | 232 | 4.3* |      |      |
| WTZ         | eP    | 09 54 | 19.3    |   |     | -1.8 | 100 | 7.06  | 207 |      |      |      |
| GNZ         | eP    | 09 54 | 22.5    |   |     | -1.6 | 100 | 7.31  | 199 |      |      |      |
|             | eS    | 55    | 48      |   |     | -0.0 | 100 |       |     |      |      |      |
| CRZ         | P     | 09 54 | 24.0    |   |     | -2.3 | 99  | 7.50  | 247 |      | 3.8* | 3.8* |
| KRP         | P     | 09 54 | 28.1    |   |     | 0.1  | 100 | 7.64  | 215 |      | 4.9* | 4.3* |
|             | eS    | 55    | 56      |   |     | 0.9  | 100 |       |     |      |      |      |
| TUA         | eP    | 09 54 | 29      |   |     | -0.0 | 100 | 7.73  | 203 |      | 5.9  | 6.2  |
|             | eS    | 55    | 56.2    |   |     | -0.7 | 100 |       |     |      |      |      |
| WZN         | eP    | 09 54 | 34.0    |   |     | 2.1  | 99  | 7.96  | 209 |      | 6.3  | 6.1  |
| CNZ         | P     | 09 54 | 40.5    |   |     | 0.2  | 100 | 8.68  | 209 |      |      |      |
| TNZ         | eP    | 09 54 | 48.8    |   |     | 2.3  | 99  | 9.19  | 214 |      | 4.4* | 4.3* |
| MNG         | e     | 09 54 | 50.1    |   |     |      |     | 9.93  | 205 |      |      |      |
|             | iP    |       | 54.1    |   |     | -1.1 | 100 |       |     |      |      |      |
|             | e     |       | 56 34.2 |   |     |      |     |       |     |      |      |      |
| CAZ         | eP    | 09 54 | 54.0    |   |     | -1.3 | 100 | 9.93  | 202 |      |      |      |
|             | e     |       | 56.7    |   |     |      |     |       |     |      |      |      |
| WEL         |       |       |         |   |     |      |     | 10.77 | 206 | 5.9  |      |      |
| AMPLITUDES: | ECZ   | 7.5   |         |   |     | GBZ  | 10  |       | ONE | 1.7  |      |      |
|             | CRZ   | 0.4   | 0.5     |   |     | KRP  | 16  | 4.0   | TUA |      | 4.0  | 8.0  |
|             | WZN   | 1.1   | 0.7     |   |     | TNZ  | 1.0 | 1.1   | WEL | 2.5  |      |      |

Nov 21 11<sup>h</sup>17<sup>m</sup>44<sup>s</sup>.8 39°.93s 176°.73E 12 km M = 3.4  
± 0.4 0.03 0.04 R S.E. of RES. 1.1

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| CAZ | eP*   | 11 18 | 05   |   |     | 1.2  | 100 | 1.04 | 201 |     |     |     |
| TUA | P*    | 11 18 | 05.8 |   |     | -0.1 | 100 | 1.17 | 16  |     | 3.5 | 3.4 |
|     | e     |       | 32.0 |   |     |      |     |      |     |     |     |     |
| CNZ | P*    | 11 18 | 07.0 |   |     | 1.1  | 100 | 1.17 | 308 |     |     |     |
|     | S*    |       | 22.0 |   |     | 0.5  | 100 |      |     |     |     |     |
| MNG | eP*   | 11 18 | 05.4 |   |     | -0.7 | 100 | 1.18 | 234 |     | 3.2 | 3.5 |
|     | e     |       | 13.2 |   |     |      |     |      |     |     |     |     |
| GNZ | ePn   | 11 18 | 12.1 |   |     | -0.4 | 100 | 1.63 | 38  |     | 3.5 | 3.3 |
|     | e     |       | 25.0 |   |     |      |     |      |     |     |     |     |
|     | eSn   |       | 34.2 |   |     | 0.9  | 100 |      |     |     |     |     |

|     |     |            |      |     |      |     |     |     |
|-----|-----|------------|------|-----|------|-----|-----|-----|
| WTZ | Pn  | 11 18 16.1 | -0.9 | 100 | 1.95 | 6   | 3.3 | 3.3 |
| TNZ | eP* | 11 18 20.6 | 1.1  | 100 | 1.96 | 291 | 3.6 | 3.5 |
| WEL | eSn | 11 18 41.9 | -0.7 | 100 | 2.02 | 227 | 3.3 |     |
| KRP | ePg | 11 18 27.9 | -1.6 | 99  | 2.20 | 335 | 3.7 |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TUA | 0.7 | 0.7 | MNG | 2.0 | 5.0 | GNZ | 0.9 | 0.9 |
|             | WTZ | 0.5 | 0.5 | TNZ | 0.3 | 0.4 | WEL | 0.2 |     |
|             | KRP | 0.5 |     |     |     |     |     |     |     |

FELT: Patoka (52), Waipawa (60) MM IV

Nov 21 23<sup>h</sup>05<sup>m</sup>05<sup>s</sup>.5 29°.65s 177°.25W 456 km M = 6.1  
 ± 2.2 0.15 0.32 44 S.E. of RES. 2.0

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S |
|-------------|-------|-----|-----|------|-----|------|-----|-------|-----|------|------|-----|
| ECZ         | eP    | 23  | 07  | 11.0 |     | 0.3  | 100 | 8.76  | 202 |      | 5.8  | 6.3 |
|             | i     |     |     | 16.2 |     |      |     |       |     |      |      |     |
|             | S     |     | 08  | 51.4 |     | 1.7  | 100 |       |     |      |      |     |
| GBZ         | P     | 23  | 07  | 13.7 |     | 0.9  | 100 | 8.96  | 221 |      |      |     |
| ONE         | eP    | 23  | 07  | 17.3 |     | 0.3  | 100 | 9.34  | 227 | 4.2* |      |     |
| WTZ         | eP    | 23  | 07  | 18.2 |     | -1.7 | 100 | 9.60  | 208 |      |      |     |
|             | S     |     | 09  | 05.0 |     | -1.6 | 100 |       |     |      |      |     |
| CRZ         | eP    | 23  | 07  | 20.0 |     | -2.0 | 100 | 9.79  | 238 |      | 4.6* |     |
| GNZ         | eP    | 23  | 07  | 21.9 |     | -0.1 | 100 | 9.79  | 202 |      | 6.0  |     |
|             | eS    |     | 09  | 07.8 |     | -2.6 | 99  |       |     |      |      |     |
| KRP         | eP    | 23  | 07  | 26.9 |     | 0.4  | 100 | 10.21 | 214 |      | 4.5* |     |
|             | i     |     |     | 30.1 |     |      |     |       |     |      |      |     |
|             | eS    |     | 09  | 21   |     | 2.3  | 99  |       |     |      |      |     |
| TUA         | e     | 23  | 09  | 13.0 |     |      |     | 10.25 | 205 |      | 5.9  | 6.3 |
| WNZ         | eP    | 23  | 07  | 33.8 |     | 3.8  | 98  | 10.52 | 210 |      | 6.2  | 6.3 |
| TRZ         | eP    | 23  | 07  | 35.3 |     | -0.2 | 100 | 11.02 | 205 |      |      |     |
|             | i     |     |     | 40.4 |     |      |     |       |     |      |      |     |
| MNG         | eP    | 23  | 07  | 50.2 |     | -0.8 | 100 | 12.46 | 207 |      |      |     |
|             | i     |     |     | 52.7 |     |      |     |       |     |      |      |     |
| WEL         |       |     |     |      |     |      |     | 13.31 | 207 | 6.2  |      |     |
| AMPLITUDES: | ECZ   | 2.5 | 7.0 | ONE  | 1.0 |      |     | CRZ   | 2.0 |      |      |     |
|             | GNZ   | 7.0 |     | KRP  | 4.5 |      |     | TUA   | 2.0 | 5.0  |      |     |
|             | WNZ   | 0.5 | 0.6 | WEL  | 3.6 |      |     |       |     |      |      |     |

FELT: Kelburn (68) MM III

Nov 22 00<sup>h</sup>05<sup>m</sup>02<sup>s</sup>.5 41°.68s 171°.88E 12 km M = 4.1  
 ± 0.5 0.03 0.04 R S.E. of RES. 1.0

| STN         | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| COB         | P*    | 00 | 05 | 19.1 |     | 0.5  | 100 | 0.87 | 48  |     | 4.1 | 4.2 |
|             | S*    |    |    | 31.4 |     | 1.0  | 100 |      |     |     |     |     |
| KAI         | eP*   | 00 | 05 | 19.5 |     | 0.2  | 100 | 0.92 | 202 |     |     |     |
| KKY         | P     | 00 | 05 | 29.0 |     | -0.0 | 100 | 1.54 | 119 |     |     |     |
|             | eS*   |    |    | 51.4 |     | 1.1  | 100 |      |     |     |     |     |
| WEL         | S*    | 00 | 06 | 09.2 |     | -1.1 | 100 | 2.20 | 81  | 3.8 |     |     |
| MJZ         | eP    | 00 | 05 | 42.0 |     | -0.5 | 100 | 2.53 | 204 |     |     |     |
|             | e     |    | 06 | 11.1 |     |      |     |      |     |     |     |     |
|             | S     |    |    | 12.8 |     | 0.1  | 100 |      |     |     |     |     |
| MNG         | eP    | 00 | 05 | 48.6 |     | 0.7  | 100 | 2.92 | 70  |     | 4.4 | 4.2 |
|             | P*    |    |    | 51.9 |     | -1.6 | 99  |      |     |     |     |     |
| KRP         | ePn   | 00 | 06 | 14.9 |     | 2.8  |     | 4.69 | 38  |     | 3.8 |     |
| AMPLITUDES: | COB   | 10 | 40 | WEL  | 0.5 |      |     | MNG  | 6.0 | 4.0 |     |     |

KRP 0.4

FELT: Murchison (80), Granity (79)

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 NOV 22 02<sup>h</sup>55<sup>m</sup>19<sup>s</sup>.0 35°.79s 178°.40E 240 km M = 5.1  
 ± 1.3 0.07 0.12 12 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|------|-----|---|
| ECZ | P     | 02 | 56 | 01.0    |     | 0.8  | 100 | 1.91 | 177 |     |   | 5.2  | 5.2 |   |
|     | S     |    |    | 30.9    |     | -0.9 | 100 |      |     |     |   |      |     |   |
| GBZ | P     | 02 | 56 | 03.5    |     | -1.4 | 100 | 2.40 | 259 |     |   |      |     |   |
| WTZ | iP    | 02 | 56 | 05.9    | D   | 0.2  | 100 | 2.47 | 207 |     |   |      |     |   |
|     | S     |    |    | 39.6    |     | -2.0 | 99  |      |     |     |   |      |     |   |
| GNZ | iP    | 02 | 56 | 10.0    | D   | 0.1  | 100 | 2.87 | 186 |     |   |      |     |   |
|     | eS    |    |    | 48      |     | -1.3 | 100 |      |     |     |   |      |     |   |
| KRP | iP    | 02 | 56 | 14.5    | D   | 1.6  | 100 | 3.13 | 226 |     |   |      |     |   |
|     | i     |    |    | 39.0    |     |      |     |      |     |     |   |      |     |   |
|     | eS    |    |    | 56.2    |     | 1.5  | 100 |      |     |     |   |      |     |   |
| TUA | P     | 02 | 56 | 13.4    |     | 0.1  | 100 | 3.18 | 198 |     |   | 5.2  | 5.0 |   |
| WNZ | eP    | 02 | 56 | 16.0    |     | 0.4  | 100 | 3.38 | 212 |     |   | 5.0  |     |   |
| TRZ | eP    | 02 | 56 | 22.1    |     | -0.4 | 100 | 3.96 | 198 |     |   | 5.1  | 5.2 |   |
|     | eS    |    |    | 57 14.0 |     | 2.3  | 99  |      |     |     |   |      |     |   |
| CRZ | eP    | 02 | 56 | 33.0    |     | -0.7 | 100 | 4.89 | 284 |     |   | 3.9* |     |   |
| MNG | P     | 02 | 56 | 37.8    |     | -1.6 | 100 | 5.35 | 205 |     |   |      |     |   |
|     | i     |    |    | 38.1    |     |      |     |      |     |     |   |      |     |   |
|     | i     |    |    | 57 33.0 |     |      |     |      |     |     |   |      |     |   |
|     | S     |    |    | 39.8    |     | -2.3 | 99  |      |     |     |   |      |     |   |

WEL 6.18 206 5.0

AMPLITUDES: ECZ 6.5 7.5 GBZ 1.3 TUA 3.7 2.5  
 WNZ 0.3 TRZ 2.0 5.0 CRZ 0.7  
 WEL 0.9

77/ 783  
 NOV 22 13<sup>h</sup>13<sup>m</sup>47<sup>s</sup>.0 41°.79s 174°.53E 33 km M = 3.7  
 ± 0.4 0.03 0.03 R S.E. of RES. 0.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WEL | P     | 13 | 13 | 57.5    |     | -0.3 | 100 | 0.53 | 20  | 4.0 |   |     |     |   |
|     | iS    |    |    | 14 05.2 |     | -0.6 | 100 |      |     |     |   |     |     |   |
| KKY | P     | 13 | 14 | 02.6    |     | -0.0 | 100 | 0.88 | 224 |     |   |     |     |   |
| MNG | iP    | 13 | 14 | 08.9    | D   | -0.4 | 100 | 1.38 | 32  |     |   |     |     |   |
|     | S     |    |    | 26      |     | 0.0  | 100 |      |     |     |   |     |     |   |
| COB | P     | 13 | 14 | 11.2    |     | -0.1 | 100 | 1.52 | 297 |     |   | 3.8 | 3.4 |   |
|     | P*    |    |    | 13.4    |     | -0.9 | 99  |      |     |     |   |     |     |   |
|     | S     |    |    | 30.0    |     | 0.5  | 100 |      |     |     |   |     |     |   |
| CNZ | eP    | 13 | 14 | 28.5    |     | 1.1  | 99  | 2.70 | 17  |     |   |     |     |   |
|     | P*    |    |    | 37.0    |     | 2.7  |     |      |     |     |   |     |     |   |
|     | e     |    |    | 42.8    |     |      |     |      |     |     |   |     |     |   |
|     | e     |    |    | 47.3    |     |      |     |      |     |     |   |     |     |   |
| KRP | eP    | 13 | 14 | 45.3    |     | 1.0  | 99  | 3.94 | 12  |     |   |     |     |   |
| GNZ | eS    | 13 | 15 | 32.0    |     | -0.2 | 100 | 4.13 | 42  |     |   |     | 3.7 |   |

AMPLITUDES: WEL 13 COB 1.6 2.2 GNZ 0.4

77/ 784  
 NOV 23 01<sup>h</sup>48<sup>m</sup>50<sup>s</sup>.5 37°.10s 175°.10E 12 km  
 ± R R R R S.E. of RES. ND

| STN | PHASE | H  | M  | S    | DIR | RES | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|------|-----|-----|-----|------|-----|-----|---|---|---|---|
| AUC | P     | 01 | 48 | 57.7 |     | 0.0 | 100 | 0.35 | 313 |     |   |   |   |   |



(S) 49 03 0.3

FELT: Auckland (16). Magnitude less than two and a half.

77/ 785

Nov 25 05<sup>h</sup>10<sup>m</sup>31<sup>s</sup>.6 37°.81s 176°.33E 12 km M = 3.6

± 0.5 0.03 0.03 R S.E. of RES. 1.5

| STN         | PHASE | H   | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ         | iP*!  | 05  | 10 | 42.0 |     | -0.2 | 100 | 0.55 | 109 |     |     | 3.4 |
|             | eS*   |     |    | 50   |     | 0.2  | 100 |      |     |     |     |     |
| KRP         | iPg   | 05  | 10 | 45.0 | UW  | 0.4  | 100 | 0.63 | 259 |     | 3.5 | 3.9 |
|             | eSg   |     |    | 55   |     | 1.8  | 99  |      |     |     |     |     |
| TUA         | ePg   | 05  | 10 | 55   |     | -0.7 | 100 | 1.19 | 147 |     | 3.6 |     |
| NGZ         | ePg   | 05  | 11 | 00   |     | -1.6 | 100 | 1.48 | 202 |     |     |     |
| GNZ         | ePg   | 05  | 11 | 06   |     | 2.5  | 98  | 1.57 | 122 |     | 3.6 |     |
| GBZ         | Pg    | 05  | 11 | 05.8 |     | -0.7 | 100 | 1.73 | 337 |     |     |     |
|             | eSg   |     |    | 29.5 |     | -0.4 | 100 |      |     |     |     |     |
| MNG         | ePg   | 05  | 11 | 28.5 |     | -1.3 | 100 | 2.88 | 193 |     | 3.5 |     |
| AMPLITUDES: |       | WTZ |    |      | 4.5 | KRP  |     | 7.2  | 16  | TUA |     | 0.5 |
|             |       | GNZ |    | 0.9  |     | GBZ  |     | 0.6  | 0.9 | MNG |     | 0.3 |

FELT: Te Puke (26).

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Nov 25 12<sup>h</sup>05<sup>m</sup>10<sup>s</sup>.8 36°.70s 177°.69E 12 km M = 4.5

± 0.7 0.03 0.05 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | ePn   | 12 | 05 | 32   |     | -0.7 | 100 | 1.21 | 146 |     | 4.4 | 4.7 |
|     | ePg   |    |    | 36   |     | 0.7  | 100 |      |     |     |     |     |
|     | eSg   |    |    | 52.5 |     | 0.9  | 100 |      |     |     |     |     |
| WTZ | iPn   | 12 | 05 | 36.3 | D   | 0.9  | 100 | 1.40 | 203 |     | 4.2 | 4.6 |
|     | eS*   |    |    | 55   |     | 0.6  | 100 |      |     |     |     |     |
| GBZ | iPn   | 12 | 05 | 41.0 | D   | -0.5 | 100 | 1.84 | 284 |     |     |     |
|     | e     |    |    | 56   |     |      |     |      |     |     |     |     |
| GNZ | iPn   | 12 | 05 | 41.8 | U   | -1.2 | 100 | 1.96 | 172 |     | 4.4 | 4.6 |
|     | e     |    |    | 55   |     |      |     |      |     |     |     |     |
|     | eSn   |    | 06 | 08   |     | 0.7  | 100 |      |     |     |     |     |
| KRP | iPn   | 12 | 05 | 46.1 | DNE | 1.0  | 100 | 2.11 | 234 |     | 4.3 | 4.4 |
|     | eSn   |    | 06 | 10   |     | -0.8 | 100 |      |     |     |     |     |
|     | e     |    |    | 28   |     |      |     |      |     |     |     |     |
| TUA | ePn   | 12 | 05 | 44   |     | -1.6 | 100 | 2.15 | 191 |     | 4.1 | 4.7 |
|     | eP*   |    |    | 48.5 |     | -0.1 | 100 |      |     |     |     |     |
|     | eS*   |    | 06 | 16.5 |     | -0.4 | 100 |      |     |     |     |     |
| ONE | ePn   | 12 | 05 | 54   |     | -1.1 | 100 | 2.84 | 288 | 4.4 |     |     |
|     | eP*   |    | 06 | 02   |     | 1.5  | 100 |      |     |     |     |     |
| TRZ | Pn    | 12 | 05 | 53.8 |     | -2.5 | 99  | 2.93 | 193 |     | 4.2 | 4.5 |
|     | eP*   |    | 06 | 02   |     | 0.0  | 100 |      |     |     |     |     |
|     | eSn   |    |    | 33   |     | 2.4  | 99  |      |     |     |     |     |
|     | eS*   |    |    | 38   |     | -2.3 | 99  |      |     |     |     |     |
| NGZ | ePn   | 12 | 05 | 56   |     | -0.9 | 100 | 2.98 | 213 |     |     |     |
| TNZ | Pn    | 12 | 06 | 08.0 |     | 2.4  | 99  | 3.61 | 225 |     | 4.9 |     |
| MNG | ePn   | 12 | 06 | 10.5 |     | -4.2 |     | 4.28 | 203 |     | 4.4 | 4.6 |
|     | eP*   |    |    | 20   |     | -5.0 |     |      |     |     |     |     |
|     | eSn   |    | 07 | 00   |     | -3.0 |     |      |     |     |     |     |
|     | e     |    |    | 10   |     |      |     |      |     |     |     |     |
| CAZ | ePn   | 12 | 06 | 11   |     | -4.7 |     | 4.36 | 195 |     |     |     |
|     | eSn   |    | 07 | 08   |     | 3.2  |     |      |     |     |     |     |
| CRZ | Pn    | 12 | 06 | 17.9 |     | -2.2 |     | 4.67 | 298 |     | 4.7 |     |



|             |                                                    |            |          |         |              |         |     |     |         |  |  |  |  |
|-------------|----------------------------------------------------|------------|----------|---------|--------------|---------|-----|-----|---------|--|--|--|--|
| WEL         | eSn                                                | 12 07 20   |          | -3.1    |              | 5.12    | 206 |     |         |  |  |  |  |
| AMPLITUDES: | ECZ                                                | 3.5 7.3    | WTZ      | 7.2 14  | GBZ          | 10      |     |     |         |  |  |  |  |
|             | GNZ                                                | 4.5 11     | KRP      | 1.2 1.1 | TUA          | 0.8 3.7 |     |     |         |  |  |  |  |
|             | ONE                                                | 0.5        | TRZ      | 0.7 2.0 | TNZ          | 0.4     |     |     |         |  |  |  |  |
|             | MNG                                                | 2.0 4.5    | CRZ      | 0.4     |              |         |     |     |         |  |  |  |  |
| 77/ 787     |                                                    |            |          |         |              |         |     |     |         |  |  |  |  |
| Nov 26      | 02 <sup>h</sup> 11 <sup>m</sup> 37 <sup>s</sup> .4 | 36°.69s    | 179°.62w | 144 km  | M = 4.0      |         |     |     |         |  |  |  |  |
|             | ± 1.4                                              | 0.11       | 0.12     | 18      | S.E. of RES. | 1.4     |     |     |         |  |  |  |  |
| STN         | PHASE                                              | H M S      | DIR      | RES     | WT           | DIST    | AZ  | W-A | W P W S |  |  |  |  |
| ECZ         | eP                                                 | 02 12 10   |          | 0.2     | 100          | 1.77    | 235 |     | 3.6 4.1 |  |  |  |  |
|             | e                                                  | 44.5       |          |         |              |         |     |     |         |  |  |  |  |
| GNZ         | eP                                                 | 02 12 21   |          | -0.4    | 100          | 2.70    | 223 |     | 3.9 4.0 |  |  |  |  |
|             | eS                                                 | 56         |          | 1.1     | 100          |         |     |     |         |  |  |  |  |
| WTZ         | P                                                  | 02 12 24.4 |          | -0.9    | 100          | 3.00    | 243 |     | 4.4 4.3 |  |  |  |  |
|             | eS                                                 | 59.5       |          | -2.2    | 99           |         |     |     |         |  |  |  |  |
| TUA         | P                                                  | 02 12 30.8 |          | 1.3     | 100          | 3.32    | 229 |     | 4.2 4.2 |  |  |  |  |
|             | eS                                                 | 13 09      |          | -0.2    | 100          |         |     |     |         |  |  |  |  |
| KRP         | P                                                  | 02 12 37.8 |          | -1.3    | 100          | 4.06    | 251 |     | 3.1*    |  |  |  |  |
|             | eS                                                 | 13 29      |          | 2.5     | 98           |         |     |     |         |  |  |  |  |
| NGZ         | eP                                                 | 02 12 46   |          | 0.8     | 100          | 4.52    | 235 |     |         |  |  |  |  |
|             | eS                                                 | 13 37      |          | -0.4    | 100          |         |     |     |         |  |  |  |  |
| MNG         | eP                                                 | 02 12 58   |          | -0.1    | 100          | 5.49    | 223 |     | 3.7 3.7 |  |  |  |  |
|             | eS                                                 | 14 00      |          | -0.6    | 100          |         |     |     |         |  |  |  |  |
| AMPLITUDES: | ECZ                                                | 0.3 0.9    | GNZ      | 0.7 1.4 | WTZ          | 1.9 1.7 |     |     |         |  |  |  |  |
|             | TUA                                                | 0.4 0.4    | KRP      | 0.5     | MNG          | 0.3 0.4 |     |     |         |  |  |  |  |

|             |                                                    |            |          |         |              |         |     |     |         |  |  |  |
|-------------|----------------------------------------------------|------------|----------|---------|--------------|---------|-----|-----|---------|--|--|--|
| 77/ 788     |                                                    |            |          |         |              |         |     |     |         |  |  |  |
| Nov 26      | 12 <sup>h</sup> 00 <sup>m</sup> 15 <sup>s</sup> .3 | 40°.07s    | 177°.29E | 12 km   | M = 3.8      |         |     |     |         |  |  |  |
|             | ± 0.9                                              | 0.04       | 0.08     | R       | S.E. of RES. | 2.0     |     |     |         |  |  |  |
| STN         | PHASE                                              | H M S      | DIR      | RES     | WT           | DIST    | AZ  | W-A | W P W S |  |  |  |
| TRZ         | iP*                                                | 12 00 27.8 | D        | 0.6     | 100          | 0.63    | 325 |     | 3.8 3.9 |  |  |  |
|             | eS*                                                | 34.5       |          | -1.2    | 100          |         |     |     |         |  |  |  |
| CAZ         | iPg                                                | 12 00 40.1 | D        | 1.1     | 100          | 1.17    | 224 |     |         |  |  |  |
|             | eS*                                                | 49         |          | -3.0    | 99           |         |     |     |         |  |  |  |
|             | e                                                  | 01 18      |          |         |              |         |     |     |         |  |  |  |
| TUA         | iP*                                                | 12 00 37.3 | U        | -0.7    | 100          | 1.26    | 355 |     | 4.2 3.6 |  |  |  |
|             | eS*                                                | 51         |          | -3.8    | 98           |         |     |     |         |  |  |  |
| MNG         | iPn                                                | 12 00 42.0 | U        | 0.8     | 100          | 1.48    | 248 |     | 3.7 3.8 |  |  |  |
|             | e                                                  | 50.2       |          |         |              |         |     |     |         |  |  |  |
| GNZ         | iPn                                                | 12 00 42.8 | DS       | 1.1     | 100          | 1.53    | 22  |     | 3.7 3.6 |  |  |  |
|             | Sn                                                 | 01 02.0    |          | 0.5     | 100          |         |     |     |         |  |  |  |
| NGZ         | Pn                                                 | 12 00 41.1 |          | -1.1    | 100          | 1.57    | 304 |     |         |  |  |  |
| WTZ         | Pn                                                 | 12 00 47.7 |          | -1.7    | 100          | 2.09    | 353 |     | 3.5 3.6 |  |  |  |
|             | e                                                  | 01 09      |          |         |              |         |     |     |         |  |  |  |
| WEL         | eSn                                                | 12 01 18   |          | -1.3    | 100          | 2.28    | 237 | 3.8 |         |  |  |  |
| TNZ         | eP*                                                | 12 01 01   |          | 3.3     | 99           | 2.41    | 290 |     | 3.6     |  |  |  |
|             | eSn                                                | 25.5       |          | 2.8     | 99           |         |     |     |         |  |  |  |
| KRP         | ePg                                                | 12 01 08.5 |          | 1.8     | 100          | 2.54    | 327 |     | 3.5     |  |  |  |
| ECZ         | Pn                                                 | 12 00 57.0 |          | 1.1     | 100          | 2.56    | 23  |     | 4.3     |  |  |  |
| COB         | Pn                                                 | 12 01 10.0 |          | -0.2    | 100          | 3.62    | 252 |     | 4.2 3.7 |  |  |  |
|             | ePg                                                | 30         |          | 1.5     | 100          |         |     |     |         |  |  |  |
|             | eSn                                                | 50         |          | -1.7    | 100          |         |     |     |         |  |  |  |
| AMPLITUDES: | TRZ                                                | 7.0 12     | TUA      | 3.6 1.0 | MNG          | 3.8 7.0 |     |     |         |  |  |  |
|             | GNZ                                                | 1.6 2.0    | WTZ      | 0.7 0.8 | WEL          | 0.4     |     |     |         |  |  |  |
|             | TNZ                                                | 0.3        | KRP      | 0.3     | ECZ          | 0.6     |     |     |         |  |  |  |

COB      0.7 0.8

Nov 26 18<sup>h</sup>16<sup>m</sup>27<sup>s</sup>.2 45°.62s 167°.30E 12 km M = 4.1  
 ± 0.9 0.03 0.08 R S.E. of RES. 0.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| MNW | P*    | 18 | 16 | 33.1 |     | 0.1  | 100 | 0.27 | 125 |     |     |     |
| OBZ | eSn   | 18 | 17 | 11   |     | 0.8  | 100 | 1.40 | 156 |     |     |     |
| ROX | Pn    | 18 | 16 | 51.7 |     | -0.5 | 100 | 1.43 | 85  |     | 4.1 | 4.1 |
|     | P*    |    |    | 52.2 |     | -0.5 | 100 |      |     |     |     |     |
|     | eSn   |    | 17 | 10   |     | -0.9 | 100 |      |     |     |     |     |
| GSP | ePn   | 18 | 17 | 05.5 |     | -0.5 | 100 | 2.44 | 53  |     |     |     |
|     | eP*   |    |    | 11   |     | 1.0  | 99  |      |     |     |     |     |
|     | eSn   |    |    | 36   |     | 0.7  | 100 |      |     |     |     |     |
| MJZ | ePn   | 18 | 17 | 10   |     | -0.7 | 100 | 2.79 | 55  |     |     |     |
|     | eS*   |    |    | 53   |     | 0.6  | 100 |      |     |     |     |     |

AMPLITUDES: ROX 3.8 9.5

Nov 28 03<sup>h</sup>12<sup>m</sup>20<sup>s</sup>.9 40°.30s 176°.55E 12 km M = 3.7  
 ± 0.5 0.02 0.04 R S.E. of RES. 1.4

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| CAZ | P*    | 03 | 12 | 32.3  |     | -1.0 | 100 | 0.66 | 202 |     |     |     |
|     | e     |    |    | 38    |     |      |     |      |     |     |     |     |
|     | eSg   |    |    | 44    |     | 0.7  | 100 |      |     |     |     |     |
| TRZ | iP*   | 03 | 12 | 34.1  | D   | -1.2 | 100 | 0.77 | 16  |     | 3.6 | 3.8 |
|     | eS*   |    |    | 47    |     | 1.3  | 100 |      |     |     |     |     |
| MNG | iP*   | 03 | 12 | 36.5  | D   | -0.5 | 100 | 0.87 | 248 |     | 3.8 | 3.9 |
|     | eS*   |    |    | 47    |     | -1.8 | 99  |      |     |     |     |     |
| TUA | ePg   | 03 | 12 | 52.5  |     | 0.0  | 100 | 1.56 | 18  |     | 3.3 | 3.5 |
|     | eSg   |    |    | 13 13 |     | -0.5 | 100 |      |     |     |     |     |
| WEL | eP*   | 03 | 12 | 52    |     | 1.3  | 100 | 1.67 | 233 | 3.4 |     |     |
|     | e     |    |    | 13 07 |     |      |     |      |     |     |     |     |
|     | eS*   |    |    | 14    |     | 1.2  | 100 |      |     |     |     |     |
| GNZ | eP*   | 03 | 12 | 56    |     | -0.4 | 100 | 2.01 | 35  |     |     |     |
|     | e     |    |    | 13 52 |     |      |     |      |     |     |     |     |
| TNZ | ePn   | 03 | 12 | 54    |     | 0.2  | 100 | 2.01 | 303 |     | 3.7 | 3.7 |
|     | ePg   |    |    | 13 00 |     | -1.5 | 100 |      |     |     |     |     |
|     | eSg   |    |    | 28    |     | -0.6 | 100 |      |     |     |     |     |
| WTZ | P*    | 03 | 13 | 04.0  |     | 2.0  | 99  | 2.33 | 9   |     | 3.7 |     |
|     | e     |    |    | 11    |     |      |     |      |     |     |     |     |
| KRP | Pn    | 03 | 12 | 58.5  |     | -2.0 | 99  | 2.49 | 341 |     | 4.0 | 4.1 |
|     | eP*   |    |    | 13 05 |     | 0.3  | 100 |      |     |     |     |     |
|     | eS*   |    |    | 39    |     | 1.6  | 100 |      |     |     |     |     |
| COB | eP*   | 03 | 13 | 12    |     | -1.4 | 100 | 3.01 | 253 |     | 4.0 | 3.8 |
|     | eS*   |    |    | 55    |     | 2.3  | 99  |      |     |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TRZ | 2.5 | 5.5 | MNG | 14  | 25  | TUA | 0.3 | 0.5 |
|             | WEL | 0.3 |     | TNZ | 0.4 | 0.6 | WTZ | 0.9 |     |
|             | KRP | 0.8 | 0.7 | COB | 0.7 | 1.5 |     |     |     |

Nov 28 16<sup>h</sup>01<sup>m</sup>01<sup>s</sup>.8 37°.81s 177°.24E 132 km 77/ 791  
 ± 1.1 0.05 0.06 8 S.E. of RES. 1.6 M = 3.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP    | 16 | 01 | 19.7 | U   | -0.6 | 100 | 0.26 | 229 |     |     |     |
|     | e     |    |    | 30.2 |     |      |     |      |     |     |     |     |

|             |      |       |       |     |      |  |      |     |      |     |      |      |
|-------------|------|-------|-------|-----|------|--|------|-----|------|-----|------|------|
|             | S    |       |       |     | 32.7 |  | -1.6 | 100 |      |     |      |      |
| TUA         | e(P) | 16 01 | 30    |     |      |  | 5.0  |     | 1.00 | 184 | 3.4  | 3.6  |
|             | eS   |       | 45    |     |      |  | 2.2  | 99  |      |     |      |      |
| GNZ         | iP   | 16 01 | 26.3  | U   |      |  | 1.0  | 100 | 1.03 | 144 |      |      |
|             | eS   |       | 41    |     |      |  | -2.4 | 99  |      |     |      |      |
| ECZ         | iP   | 16 01 | 25.2  | U   |      |  | -0.2 | 100 | 1.04 | 84  | 4.1  | 3.7  |
|             | eS   |       | 45    |     |      |  | 1.5  | 100 |      |     |      |      |
| KRP         | iP   | 16 01 | 29.8  | U   |      |  | 1.1  | 100 | 1.35 | 265 | 2.9* | 2.6* |
|             | eS   |       | 50    |     |      |  | 0.8  | 100 |      |     |      |      |
| NGZ         | eP   | 16 01 | 36    |     |      |  | 1.3  | 100 | 1.87 | 222 |      |      |
|             | e(S) |       | 02 04 |     |      |  | 4.3  |     |      |     |      |      |
| GBZ         | iP   | 16 01 | 36.1  | U   |      |  | -1.7 | 100 | 2.12 | 318 |      |      |
| MNG         | eP   | 16 01 | 51    |     |      |  | 0.0  | 100 | 3.12 | 205 | 3.2  | 3.4  |
|             | eS   |       | 02 28 |     |      |  | -0.3 | 100 |      |     |      |      |
| WEL         | eS   | 16 02 | 47    |     |      |  | -1.3 | 100 | 3.97 | 208 |      |      |
| AMPLITUDES: |      |       |       |     |      |  |      |     |      |     |      |      |
|             | WTZ  |       | 2.3   | 4.5 | TUA  |  | 0.5  | 0.8 | ECZ  |     | 2.2  | 0.8  |
|             | KRP  |       | 0.8   | 0.4 | GBZ  |  | 0.9  |     | MNG  |     | 0.3  | 0.6  |

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Nov 29 03<sup>h</sup>12<sup>m</sup>21<sup>s</sup>.1 40°.29s 176°.53E 12 km M = 3.7  
 ± 0.5 0.02 0.04 R S.E. of RES. 1.5

| STN         | PHASE | H     | M     | S   | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-------|-------|-----|-----|------|-----|------|-----|-----|-----|-----|
| CAZ         | P*    | 03 12 | 32.3  |     |     | -1.2 | 100 | 0.66 | 201 |     |     |     |
|             | e     |       | 38    |     |     |      |     |      |     |     |     |     |
|             | eSg   |       | 44    |     |     | 0.5  | 100 |      |     |     |     |     |
| TRZ         | iP*   | 03 12 | 34.1  |     | D   | -1.2 | 100 | 0.76 | 17  |     | 3.6 | 3.7 |
|             | eS*   |       | 47    |     |     | 1.2  | 100 |      |     |     |     |     |
| MNG         | iP*   | 03 12 | 36.5  |     | D   | -0.6 | 100 | 0.87 | 247 |     | 3.8 | 3.9 |
|             | eS*   |       | 47    |     |     | -1.8 | 100 |      |     |     |     |     |
| NGZ         | iPn   | 03 12 | 47.2  |     | D   | 2.7  | 99  | 1.31 | 327 |     |     |     |
|             | eSn   |       | 13 00 |     |     | -2.0 | 99  |      |     |     |     |     |
| TUA         | ePg   | 03 12 | 52.5  |     |     | -0.1 | 100 | 1.56 | 18  |     | 3.3 | 3.5 |
|             | eSg   |       | 13 13 |     |     | -0.6 | 100 |      |     |     |     |     |
| WEL         | eP*   | 03 12 | 52    |     |     | 1.2  | 100 | 1.67 | 233 | 3.4 |     |     |
|             | e     |       | 13 07 |     |     |      |     |      |     |     |     |     |
|             | eS*   |       | 14    |     |     | 1.1  | 100 |      |     |     |     |     |
| TNZ         | ePn   | 03 12 | 54    |     |     | 0.2  | 100 | 2.00 | 303 |     | 3.7 | 3.7 |
|             | ePg   |       | 13 00 |     |     | -1.4 | 100 |      |     |     |     |     |
|             | eSg   |       | 28    |     |     | -0.3 | 100 |      |     |     |     |     |
| GNZ         | eP*   | 03 12 | 56    |     |     | -0.5 | 100 | 2.01 | 36  |     |     |     |
|             | e     |       | 13 52 |     |     |      |     |      |     |     |     |     |
| WTZ         | P*    | 03 13 | 04.0  |     |     | 2.0  | 99  | 2.33 | 9   |     | 3.7 |     |
|             | e     |       | 11    |     |     |      |     |      |     |     |     |     |
| KRP         | Pn    | 03 12 | 58.5  |     |     | -2.0 | 99  | 2.48 | 341 |     | 4.0 | 4.1 |
|             | eP*   |       | 13 05 |     |     | 0.3  | 100 |      |     |     |     |     |
|             | eS*   |       | 39    |     |     | 1.7  | 100 |      |     |     |     |     |
| COB         | eP*   | 03 13 | 12    |     |     | -1.4 | 100 | 3.00 | 253 |     | 4.0 | 3.8 |
|             | eS*   |       | 55    |     |     | 2.3  | 99  |      |     |     |     |     |
| AMPLITUDES: |       |       |       |     |     |      |     |      |     |     |     |     |
|             | TRZ   |       | 2.5   | 5.5 | MNG |      | 14  | 25   | TUA |     | 0.3 | 0.5 |
|             | WEL   | 0.3   |       |     | TNZ |      | 0.4 | 0.6  | WTZ |     | 0.9 |     |
|             | KRP   |       | 0.8   | 0.7 | COB |      | 0.7 | 1.5  |     |     |     |     |

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Nov 29 05<sup>h</sup>51<sup>m</sup>15<sup>s</sup>.4 37°.62s 176°.88E 158 km M = 4.2  
 ± 0.8 0.03 0.05 5 S.E. of RES. 1.1

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | P     | 05 51 | 36.2 |   |     | -1.0 | 100 | 0.37 | 166 |     | 4.0 | 3.7 |

|             |     |       |         |     |      |         |      |     |           |
|-------------|-----|-------|---------|-----|------|---------|------|-----|-----------|
|             | eS  |       | 53      |     | -0.9 | 100     |      |     |           |
| KRP         | iP  | 05 51 | 42.7    | D   | 0.8  | 100     | 1.11 | 254 | 3.0* 2.6* |
|             | eS  |       | 52 03   |     | 0.7  | 100     |      |     |           |
| TUA         | eP  | 05 51 | 44      |     | 1.2  | 100     | 1.21 | 170 | 4.1 4.4   |
|             | eS  |       | 52 04   |     | 0.1  | 100     |      |     |           |
|             | e   |       | 10      |     |      |         |      |     |           |
| ECZ         | eP? | 05 51 | 43.5    |     | -0.4 | 100     | 1.32 | 94  | 4.2 4.1   |
|             | e   |       | 47.3    |     |      |         |      |     |           |
|             | eS  |       | 52 06   |     | -0.1 | 100     |      |     |           |
| GBZ         | iP  | 05 51 | 47.7    | U   | -1.2 | 100     | 1.80 | 321 |           |
| NGZ         | P   | 05 51 | 51.5    |     | 1.9  | 99      | 1.84 | 212 |           |
| TRZ         | P   | 05 51 | 51.8    |     | 1.3  | 100     | 1.93 | 181 | 4.2 4.5   |
|             | eS  |       | 52 17.5 |     | 0.0  | 100     |      |     |           |
|             | e   |       | 20      |     |      |         |      |     |           |
|             | e   |       | 32      |     |      |         |      |     |           |
| MNG         | P   | 05 52 | 05.7    |     | -0.4 | 100     | 3.19 | 200 | 4.2 4.2   |
|             | eS  |       | 44.0    |     | -0.8 | 100     |      |     |           |
| CAZ         | P   | 05 52 | 07.4    |     | -0.3 | 100     | 3.32 | 189 |           |
|             | eS  |       | 48.5    |     | 0.5  | 100     |      |     |           |
| WEL         | e   | 05 52 | 37      |     |      |         | 4.00 | 203 | 4.4       |
|             | eS  |       | 53 02   |     | -1.9 | 99      |      |     |           |
| AMPLITUDES: |     |       |         |     |      |         |      |     |           |
|             | WTZ |       | 5.6 3.0 | KRP |      | 1.1 0.5 | TUA  |     | 1.5 3.0   |
|             | ECZ |       | 1.7 1.5 | GBZ |      | 4.2     | TRZ  |     | 1.0 3.7   |
|             | MNG |       | 2.8 4.0 | WEL |      | 0.6     |      |     |           |

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 NOV 29 14<sup>h</sup>35<sup>m</sup>21<sup>s</sup>.3 49°.79S 164°.86E 33 km M = 4.4  
 ± 2.8 0.29 0.64 R S.E. of RES. 2.2

| STN         | PHASE | H     | M           | S   | DIR | RES     | WT  | DIST  | AZ | W-A     | W P W S |
|-------------|-------|-------|-------------|-----|-----|---------|-----|-------|----|---------|---------|
| OBZ         | P     | 14 36 | 13.3        |     |     | -0.9    | 100 | 3.61  | 38 |         |         |
|             | eS    |       | 53          |     |     | -1.1    | 100 |       |    |         |         |
| MNW         | eP    | 14 36 | 23.5        |     |     | -1.7    | 100 | 4.42  | 26 | 4.3     | 4.5 4.4 |
|             | eS    |       | 37 14       |     |     | 0.4     | 100 |       |    |         |         |
| ROX         | P     | 14 36 | 36.2        |     |     | -0.5    | 100 | 5.26  | 37 |         | 4.5 4.3 |
|             | eS    |       | 37 34       |     |     | 0.2     | 100 |       |    |         |         |
| OMZ         | e(P)  | 14 36 | 57          |     |     | 6.7     |     | 6.26  | 43 |         | 4.3 4.1 |
|             | e(S)  |       | 38 11       |     |     | 13.3    |     |       |    |         |         |
| GSP         | e(P)  | 14 37 | 04          |     |     | 8.1     |     | 6.67  | 34 |         |         |
|             | eS    |       | 38 08       |     |     | 0.4     | 100 |       |    |         |         |
| MJZ         | eP    | 14 37 | 05          |     |     | 5.1     | 92  | 6.97  | 36 |         |         |
|             | e(S)  |       | 38 07       |     |     | -7.6    |     |       |    |         |         |
| COB         | eP    | 14 37 | 44          |     |     | -1.6    | 100 | 10.31 | 35 |         | 4.7     |
| AMPLITUDES: |       |       |             |     |     |         |     |       |    |         |         |
|             | MNW   |       | 0.5 1.6 2.5 | ROX |     | 0.6 1.1 | OMZ |       |    | 0.3 0.4 |         |
|             | COB   |       | 0.3         |     |     |         |     |       |    |         |         |

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 NOV 29 17<sup>h</sup>27<sup>m</sup>45<sup>s</sup>.5 38°.77S 175°.03E 251 km M = 4.1  
 ± 1.2 0.05 0.09 9 S.E. of RES. 1.2

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|---------|
| NGZ | iP    | 17 28 | 20.2 |   | D   | 1.3  | 99  | 0.61 | 133 |     |         |
|     | eS    |       | 45   |   |     | 0.0  | 100 |      |     |     |         |
| KRP | iP    | 17 28 | 20.7 |   | DSE | 0.3  | 100 | 0.93 | 26  |     | 3.5*    |
|     | eS    |       | 47   |   |     | -0.6 | 100 |      |     |     |         |
| TRZ | eS    | 17 28 | 56   |   |     | 0.6  | 100 | 1.60 | 120 |     | 4.1     |
| WTZ | iP    | 17 28 | 25.0 |   | U   | -0.9 | 100 | 1.73 | 64  |     | 3.8     |
| MNG | eP    | 17 28 | 28.5 |   |     | 1.2  | 100 | 1.88 | 169 |     | 4.1 4.4 |
|     | e     |       | 53   |   |     |      |     |      |     |     |         |



|     |    |    |      |      |      |      |     |      |     |  |  |      |      |
|-----|----|----|------|------|------|------|-----|------|-----|--|--|------|------|
|     | S  |    | 58.8 |      | -0.8 | 100  |     |      |     |  |  |      |      |
| WEL | eS | 17 | 29   | 09.5 |      | -1.0 | 100 | 2.53 | 184 |  |  |      |      |
| COB | eP | 17 | 28   | 36   |      | -1.5 | 99  | 2.92 | 217 |  |  | 3.6* | 2.8* |
|     | eS |    | 29   | 19   |      | 1.1  | 100 |      |     |  |  |      |      |

|             |     |     |     |     |     |     |  |  |  |  |  |  |  |
|-------------|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|--|
| AMPLITUDES: | KRP | 2.1 | TRZ | 1.2 | WTZ | 0.7 |  |  |  |  |  |  |  |
|             | MNG | 3.5 | 8.7 | COB | 0.7 | 0.4 |  |  |  |  |  |  |  |

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Nov 30 03<sup>h</sup>23<sup>m</sup>52<sup>s</sup>.0 38°.05S 176°.52E 12 km M = 3.7  
 ± 0.7 0.06 0.06 R S.E. of RES. 2.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WTZ | iP*   | 03 | 23 | 59.0 | D   | -0.6 | 100 | 0.37 | 79  |     |   | 3.2 | 3.2 |   |
|     | e     |    | 24 | 14   |     |      |     |      |     |     |   |     |     |   |
| WNZ | P*    | 03 | 24 | 02.3 |     | -2.3 | 100 | 0.67 | 210 |     |   | 3.5 |     |   |
| KRP | iP*   | 03 | 24 | 05.8 | DE  | -0.9 | 100 | 0.79 | 279 |     |   | 3.8 |     |   |
|     | Pg    |    |    | 08.2 |     | 0.0  | 100 |      |     |     |   |     |     |   |
|     | eSg   |    |    | 20   |     | 1.1  | 100 |      |     |     |   |     |     |   |
| TUA | iP*   | 03 | 24 | 06.9 | U   | -1.7 | 100 | 0.90 | 147 |     |   | 3.8 |     |   |
| GNZ | iPn   | 03 | 24 | 18.0 | U   | 2.5  | 99  | 1.31 | 117 |     |   | 4.1 | 3.6 |   |
|     | e     |    |    | 44   |     |      |     |      |     |     |   |     |     |   |
| NGZ | ePn   | 03 | 24 | 13   |     | -2.8 | 99  | 1.33 | 212 |     |   |     |     |   |
| TRZ | ePn   | 03 | 24 | 19   |     | 0.8  | 100 | 1.51 | 171 |     |   | 3.9 |     |   |
| ECZ | e(Pg) | 03 | 24 | 30   |     | 4.7  |     | 1.64 | 78  |     |   | 4.0 |     |   |
| GBZ | ePg   | 03 | 24 | 32   |     | -0.8 | 100 | 2.02 | 335 |     |   |     |     |   |
| TNZ | ePn   | 03 | 24 | 27   |     | 1.8  | 100 | 2.02 | 235 |     |   |     |     |   |
| MNG | ePn   | 03 | 24 | 37   |     | 2.8  | 99  | 2.69 | 197 |     |   | 3.8 |     |   |

|             |     |     |     |     |     |     |     |     |  |  |  |  |  |  |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|--|
| AMPLITUDES: | WTZ | 8.6 | 7.3 | WNZ | 0.4 | KRP | 7.2 |     |  |  |  |  |  |  |
|             | TUA | 2.0 |     | GNZ | 4.5 | 2.0 | TRZ | 1.0 |  |  |  |  |  |  |
|             | ECZ | 0.6 |     | GBZ | 0.8 |     | MNG | 0.9 |  |  |  |  |  |  |

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Nov 30 05<sup>h</sup>48<sup>m</sup>18<sup>s</sup>.9 37°.96S 176°.52E 176 km M = 3.7  
 ± 1.6 0.06 0.06 10 S.E. of RES. 1.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P    | W    | S    |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|------|------|------|
| WTZ | iP    | 05 | 48 | 41.9 | D   | -1.0 | 100 | 0.37 | 94  |     |   | 3.6  | 3.0  |      |
|     | eS    |    | 49 | 00   |     | -1.3 | 100 |      |     |     |   |      |      |      |
| KRP | iP    | 05 | 48 | 44.6 | UW  | -0.2 | 100 | 0.77 | 272 |     |   | 3.1* | 2.4* |      |
|     | S     |    | 49 | 05.8 |     | 1.0  | 100 |      |     |     |   |      |      |      |
| GNZ | iP    | 05 | 48 | 50.0 | D   | 0.5  | 100 | 1.37 | 120 |     |   | 3.7  | 3.8  |      |
|     | S     |    | 49 | 13.3 |     | 0.2  | 100 |      |     |     |   |      |      |      |
| NGZ | eP    | 05 | 48 | 52   |     | 2.1  | 98  | 1.41 | 210 |     |   |      |      |      |
|     | e     |    | 49 | 21   |     |      |     |      |     |     |   |      |      |      |
| MNG | iPn   | 05 | 49 | 05.0 | U   | -0.2 | 100 | 2.77 | 197 |     |   | 4.0  | 3.7  |      |
|     | eS    |    |    | 41   |     | 0.2  | 100 |      |     |     |   |      |      |      |
| WEL | eS    | 05 | 49 | 59   |     | 0.2  | 100 | 3.59 | 202 | 4.0 |   |      |      |      |
| COB | eS    | 05 | 50 | 13   |     | -1.7 | 99  | 4.28 | 222 |     |   |      |      | 2.9* |

|             |     |     |     |     |     |     |     |     |     |  |  |  |  |  |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|--|
| AMPLITUDES: | WTZ | 1.7 | 0.5 | KRP | 1.2 | 0.3 | GNZ | 1.1 | 2.3 |  |  |  |  |  |
|             | MNG | 2.3 | 1.5 | WEL | 0.2 |     | COB |     | 0.4 |  |  |  |  |  |

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Nov 30 11<sup>h</sup>00<sup>m</sup>53<sup>s</sup>.3 39°.58S 177°.26E 12 km M = 3.9  
 ± 0.7 0.03 0.05 R S.E. of RES. 1.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| TRZ | iP*   | 11 | 01 | 01.7 |     | 1.4  | 100 | 0.34 | 275 |     |   |     |     |   |
| TUA | iP*   | 11 | 01 | 07.1 | U   | -0.7 | 100 | 0.78 | 354 |     |   | 3.6 | 3.9 |   |
|     | S*    |    |    | 17.7 |     | -0.6 | 100 |      |     |     |   |     |     |   |

|             |       |            |     |      |     |      |     |     |     |
|-------------|-------|------------|-----|------|-----|------|-----|-----|-----|
| GNZ         | P*    | 11 01 12.8 |     | -0.6 | 100 | 1.11 | 32  | 3.8 | 3.8 |
|             | e     | 19.6       |     |      |     |      |     |     |     |
|             | eSg   | 33         |     | 2.2  | 99  |      |     |     |     |
| WNZ         | ePn   | 11 01 15   |     | -1.7 | 100 | 1.31 | 316 | 4.1 | 4.1 |
|             | e     | 49         |     |      |     |      |     |     |     |
| NGZ         | iPn   | 11 01 17.2 | U   | 0.1  | 100 | 1.34 | 287 |     |     |
|             | eSn   | 36         |     | 1.1  | 100 |      |     |     |     |
| CAZ         | eSn   | 11 01 40   |     | 0.4  | 100 | 1.54 | 211 |     |     |
| WTZ         | iPn   | 11 01 18.6 | U   | -2.2 | 99  | 1.61 | 352 | 3.7 | 3.8 |
|             | e(Sg) | 52         |     | 4.3  |     |      |     |     |     |
| MNG         | iPn   | 11 01 21.2 | U   | -1.0 | 100 | 1.71 | 232 | 3.9 | 3.8 |
|             | ePg   | 30         |     | 2.0  | 99  |      |     |     |     |
|             | e     | 02 00      |     |      |     |      |     |     |     |
| KRP         | ePn   | 11 01 27   |     | -1.0 | 100 | 2.14 | 320 | 3.9 |     |
|             | eP*   | 32         |     | 1.1  | 100 |      |     |     |     |
| TNZ         | eP*   | 11 01 35.5 |     | 2.3  | 99  | 2.27 | 279 | 4.2 | 4.1 |
|             | eSg   | 02 09      |     | -0.8 | 100 |      |     |     |     |
| WEL         | eSn   | 11 02 02   |     | -2.0 | 99  | 2.56 | 227 | 3.8 |     |
| AMPLITUDES: |       |            |     |      |     |      |     |     |     |
|             | TUA   | 2.2        | 4.8 | GNZ  | 4.5 | 6.0  | WNZ | 0.5 | 0.7 |
|             | WTZ   | 2.0        | 2.0 | MNG  | 4.5 | 4.7  | KRP | 1.0 |     |
|             | TNZ   | 0.5        | 0.4 | WEL  | 0.3 |      |     |     |     |

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Nov 30 19<sup>h</sup>00<sup>m</sup>38<sup>s</sup>.0 33°.35s 179°.63w 438 km M = 4.9  
 ± 1.7 0.15 0.33 19 S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|-----|
| ECZ | eP    | 19 | 02 | 00   |     | 1.4  | 100 | 4.59 | 198 |     | 4.7  | 5.0 |
|     | eS    |    | 03 | 03   |     | 1.0  | 100 |      |     |     |      |     |
| GBZ | eP    | 19 | 02 | 00   |     | -2.0 | 100 | 4.94 | 233 |     |      |     |
| WTZ | P     | 19 | 02 | 05.6 |     | -0.8 | 100 | 5.39 | 210 |     | 5.3  | 4.9 |
|     | eS    |    | 03 | 15   |     | -1.0 | 100 |      |     |     |      |     |
| GNZ | eP    | 19 | 02 | 07   |     | -1.8 | 100 | 5.62 | 199 |     | 4.9  | 5.1 |
|     | e     |    | 10 |      |     |      |     |      |     |     |      |     |
|     | eS    |    | 03 | 19   |     | -1.3 | 100 |      |     |     |      |     |
| KRP | P     | 19 | 02 | 13.0 |     | -0.1 | 100 | 6.03 | 219 |     | 3.7* |     |
| TUA | eS    | 19 | 03 | 29   |     | 0.7  | 100 | 6.05 | 205 |     |      | 5.1 |
| TRZ | iP    | 19 | 02 | 23.0 | D   | 1.4  | 100 | 6.83 | 204 |     | 5.0  | 4.7 |
|     | eS    |    | 03 | 44   |     | 0.6  | 100 |      |     |     |      |     |
| NGZ | eP    | 19 | 02 | 23.8 |     | 0.4  | 100 | 6.98 | 212 |     |      |     |
|     | eS    |    | 03 | 50   |     | 3.4  | 98  |      |     |     |      |     |
| TNZ | eP    | 19 | 02 | 32   |     | 2.1  | 100 | 7.58 | 218 |     |      |     |
| MNG | P     | 19 | 02 | 37.0 |     | -0.3 | 100 | 8.25 | 207 |     | 4.9  | 4.9 |
|     | eS    |    | 04 | 08   |     | -3.6 | 98  |      |     |     |      |     |
| WEL | eS    | 19 | 04 | 29   |     | 0.1  | 100 | 9.10 | 208 | 4.8 |      |     |

|             |     |     |     |     |     |     |     |     |  |  |  |  |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|--|
| AMPLITUDES: |     |     |     |     |     |     |     |     |  |  |  |  |
|             | ECZ | 0.5 | 0.9 | GBZ | 0.3 | WTZ | 3.6 | 1.5 |  |  |  |  |
|             | GNZ | 1.6 | 3.6 | KRP | 1.2 | TUA |     | 0.8 |  |  |  |  |
|             | TRZ | 0.5 | 0.6 | MNG | 1.8 | 2.3 | WEL | 0.3 |  |  |  |  |

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Nov 30 21<sup>h</sup>32<sup>m</sup>35<sup>s</sup>.3 38°.69s 175°.97E 140 km M = 3.6  
 ± 0.9 0.03 0.04 7 S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| NGZ | iP    | 21 | 32 | 57.7 | U   | 1.8  | 96  | 0.57 | 209 |     |      |      |
| KRP | iP    | 21 | 32 | 57.9 | D   | 0.1  | 100 | 0.84 | 336 |     | 3.1* | 2.3* |
|     | eS    |    | 33 | 15   |     | -0.1 | 100 |      |     |     |      |      |
| TUA | P     | 21 | 32 | 59.0 |     | 0.3  | 100 | 0.94 | 98  |     | 3.7  | 3.6  |
|     | eS    |    | 33 | 17   |     | 0.4  | 100 |      |     |     |      |      |

|             |     |            |     |          |          |         |
|-------------|-----|------------|-----|----------|----------|---------|
| WTZ         | iP  | 21 32 58.7 | D   | -1.1 99  | 1.06 49  | 3.2 3.3 |
|             | eS  | 33 18      |     | -0.6 100 |          |         |
| GNZ         | iP  | 21 33 06.0 | U   | 0.4 100  | 1.61 89  | 3.5 3.7 |
|             | e   | 22         |     |          |          |         |
|             | S   | 28.8       |     | 0.0 100  |          |         |
| MNG         | iP  | 21 33 09.9 | U   | 0.1 100  | 1.97 191 | 3.9 3.7 |
|             | eS  | 35.5       |     | -0.5 100 |          |         |
| WEL         | eS  | 21 33 53   |     | -0.7 100 | 2.75 199 | 3.9     |
| AMPLITUDES: |     |            |     |          |          |         |
|             | KRP | 1.5 0.3    | TUA | 0.9 0.8  | WTZ      | 0.6 0.8 |
|             | GNZ | 0.7 2.0    | MNG | 3.3 2.5  | WEL      | 0.3     |

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Nov 30 22<sup>h</sup>34<sup>m</sup>21<sup>s</sup>.5 37°.29S 177°.77E 152 km M = 4.0  
 ± 1.2 0.05 0.08 8 S.E. of RES. 1.5

| STN         | PHASE | H     | M    | S | DIR | RES      | WT       | DIST | AZ      | W-A | W P       | W S |
|-------------|-------|-------|------|---|-----|----------|----------|------|---------|-----|-----------|-----|
| ECZ         | P     | 22 34 | 44.0 |   |     | -0.6 100 | 0.74 123 |      |         |     | 3.7       |     |
| WTZ         | P     | 22 34 | 45.4 |   |     | -0.6 100 | 0.94 222 |      |         |     | 3.8 4.0   |     |
|             | eS    | 35    | 03.0 |   |     | -1.9 99  |          |      |         |     |           |     |
| GNZ         | P     | 22 34 | 51.0 |   |     | 0.9 100  | 1.37 172 |      |         |     | 4.0 4.0   |     |
|             | eS    | 35    | 12   |   |     | -0.1 100 |          |      |         |     |           |     |
| TUA         | eS    | 22 35 | 17   |   |     | 0.6 100  | 1.59 198 |      |         |     | 4.1       |     |
| KRP         | iP    | 22 34 | 57.0 |   | DNE | 1.3 100  | 1.88 250 |      |         |     | 3.6* 2.7* |     |
|             | eS    | 35    | 22   |   |     | 0.0 100  |          |      |         |     |           |     |
| GBZ         | P     | 22 34 | 58.0 |   |     | -0.6 100 | 2.13 299 |      |         |     |           |     |
| TRZ         | eS    | 22 35 | 34   |   |     | 1.4 100  | 2.38 198 |      |         |     | 4.3       |     |
| NGZ         | P     | 22 35 | 05.8 |   |     | 1.9 99   | 2.55 221 |      |         |     |           |     |
|             | eS    | 38    |      |   |     | 1.8 99   |          |      |         |     |           |     |
| MNG         | eP    | 22 35 | 18.5 |   |     | -1.2 100 | 3.78 208 |      |         |     | 3.9 4.1   |     |
|             | e     | 57    |      |   |     |          |          |      |         |     |           |     |
|             | eS    | 36    | 02   |   |     | -2.4 99  |          |      |         |     |           |     |
| WEL         | eS    | 22 36 | 23   |   |     | -1.3 100 | 4.63 209 | 4.3  |         |     |           |     |
| AMPLITUDES: |       |       |      |   |     |          |          |      |         |     |           |     |
|             | ECZ   | 0.9   |      |   |     | WTZ      | 2.5 4.5  | GNZ  | 2.5 4.3 |     |           |     |
|             | TUA   | 1.1   |      |   |     | KRP      | 3.3 0.4  | GBZ  | 0.9     |     |           |     |
|             | TRZ   | 1.7   |      |   |     | MNG      | 1.0 2.0  | WEL  | 0.3     |     |           |     |

77/ 802

Nov 30 23<sup>h</sup>00<sup>m</sup>08<sup>s</sup>.6 40°.40S 176°.25E 12 km M = 3.4  
 ± 0.6 0.03 0.05 R S.E. of RES. 1.7

| STN | PHASE | H     | M     | S | DIR | RES      | WT       | DIST | AZ | W-A | W P     | W S |
|-----|-------|-------|-------|---|-----|----------|----------|------|----|-----|---------|-----|
| CAZ | P*    | 23 00 | 18.3  |   |     | -0.0 100 | 0.50 182 |      |    |     |         |     |
|     | eSg   |       | 28    |   |     | 2.1 99   |          |      |    |     |         |     |
| MNG | iP*   | 23 00 | 19.8  |   |     | -0.6 100 | 0.63 249 |      |    |     | 3.3 3.2 |     |
|     | eS*   |       | 29.5  |   |     | 0.4 100  |          |      |    |     |         |     |
| TRZ | P*    | 23 00 | 24.1  |   |     | -1.9 100 | 0.95 27  |      |    |     | 3.2 3.4 |     |
|     | eSg   | 41    |       |   |     | 0.2 100  |          |      |    |     |         |     |
| NGZ | iPn   | 23 00 | 30.8  |   | D   | -1.2 100 | 1.31 338 |      |    |     |         |     |
|     | eSn   |       | 50    |   |     | 0.5 100  |          |      |    |     |         |     |
| WEL | ePn   | 23 00 | 31    |   |     | -2.6 99  | 1.43 231 | 3.2  |    |     |         |     |
|     | eSn   |       | 50    |   |     | -2.4 99  |          |      |    |     |         |     |
| TNZ | ePn   | 23 00 | 42    |   |     | 2.2 99   | 1.89 309 |      |    |     | 3.4     |     |
|     | eSg   |       | 01 12 |   |     | -0.2 100 |          |      |    |     |         |     |
| KRP | ePn   | 23 00 | 51    |   |     | 2.3 99   | 2.54 347 |      |    |     | 3.7 3.9 |     |
|     | e     |       | 55.2  |   |     |          |          |      |    |     |         |     |
|     | e(Sg) |       | 01 31 |   |     | -3.0     |          |      |    |     |         |     |
| COB | eP*   | 23 00 | 57    |   |     | 0.1 100  | 2.76 254 |      |    |     | 3.7 3.3 |     |
|     | eS*   |       | 01 34 |   |     | 0.9 100  |          |      |    |     |         |     |



AMPLITUDES: MNG 8.5 9.5 TRZ 0.8 1.5 WEL 0.3  
 TNZ 0.3 KRP 0.3 0.4 COB 0.4 0.5

77/ 803

DEC 01 00<sup>h</sup>00<sup>m</sup>20<sup>s</sup>.4 32°.45s 178°.41w 336 km M = 5.1  
 ± 1.0 0.05 0.09 22 S.E. of RES. 1.2

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST  | AZ  | W-A  | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|-------|-----|------|------|------|
| ECZ | eP    | 00 | 01 | 49.5 |     | 0.5  | 100 | 5.80  | 205 |      | 5.3  | 5.5  |
|     | e(S)  |    | 03 | 06   |     | 7.4  |     |       |     |      |      |      |
|     | e     |    |    | 29   |     |      |     |       |     |      |      |      |
| GBZ | eP    | 00 | 01 | 54   |     | -0.9 | 100 | 6.30  | 232 |      |      |      |
| WTZ | P     | 00 | 01 | 58.8 |     | -0.6 | 100 | 6.69  | 213 |      | 5.3  | 5.1  |
|     | eS    |    | 03 | 17   |     | -0.2 | 100 |       |     |      |      |      |
| GNZ | eP    | 00 | 01 | 59.6 |     | -1.5 | 99  | 6.83  | 204 |      | 5.2  | 5.2  |
|     | e     |    | 02 | 02.7 |     |      |     |       |     |      |      |      |
|     | e     |    | 03 | 12   |     |      |     |       |     |      |      |      |
|     | eS    |    |    | 20   |     | -0.4 | 100 |       |     |      |      |      |
| ONE | eP    | 00 | 02 | 00   |     | -1.4 | 100 | 6.86  | 239 | 3.8* |      |      |
| TUA | eP    | 00 | 02 | 07   |     | 0.2  | 100 | 7.31  | 208 |      | 5.4  | 5.2  |
|     | eS    |    | 03 | 32   |     | 1.5  | 99  |       |     |      |      |      |
| KRP | P     | 00 | 02 | 09.7 |     | 2.0  | 99  | 7.38  | 221 |      | 3.6* | 3.3* |
|     | e(S)  |    | 03 | 39   |     | 7.0  |     |       |     |      |      |      |
| CRZ | eP    | 00 | 02 | 13   |     | 1.3  | 100 | 7.71  | 253 |      | 4.4* | 3.8* |
|     | eS    |    | 03 | 39   |     | -0.2 | 100 |       |     |      |      |      |
| TRZ | eP    | 00 | 02 | 16   |     | 0.0  | 100 | 8.07  | 207 |      | 5.2  | 5.0  |
|     | eS    |    | 03 | 49   |     | 1.9  | 99  |       |     |      |      |      |
| NGZ | eP    | 00 | 02 | 19   |     | 0.4  | 100 | 8.29  | 214 |      |      |      |
|     | eS    |    | 03 | 50   |     | -1.8 | 99  |       |     |      |      |      |
| MNG | eP    | 00 | 02 | 33   |     | -0.5 | 100 | 9.52  | 209 |      | 4.5  | 4.9  |
|     | eS    |    | 04 | 18   |     | -0.5 | 100 |       |     |      |      |      |
| WEL | eS    | 00 | 04 | 37   |     | -0.2 | 100 | 10.38 | 210 | 5.1  |      |      |

AMPLITUDES: ECZ 1.5 2.3 GBZ 2.1 WTZ 3.0 2.2  
 GNZ 2.3 4.0 ONE 0.6 TUA 1.2 0.8  
 KRP 0.9 0.5 CRZ 1.5 0.4 TRZ 0.7 0.8  
 MNG 0.7 2.0 WEL 0.4

77/ 804

DEC 01 07<sup>h</sup>40<sup>m</sup>30<sup>s</sup>.5 37°.93s 176°.87E 6 km M = 3.4  
 ± 0.4 0.02 0.03 8 S.E. of RES. 1.0

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iPg!  | 07 | 40 | 31.8 |     | -1.1 | 100 | 0.11 | 118 |     |     |     |
| TUA | Pg    | 07 | 40 | 47.9 |     | -0.9 | 100 | 0.90 | 166 |     | 3.5 | 3.4 |
|     | eSg   |    | 41 | 01.8 |     | 0.8  | 100 |      |     |     |     |     |
| KRP | Pg    | 07 | 40 | 51.8 |     | 0.0  | 100 | 1.05 | 270 |     | 3.0 |     |
|     | e(Sg) |    | 41 | 12   |     | 6.1  |     |      |     |     |     |     |
| GNZ | Pg    | 07 | 40 | 53.1 |     | -0.8 | 100 | 1.15 | 128 |     | 3.8 | 3.4 |
|     | eSg   |    | 41 | 10   |     | 0.6  | 100 |      |     |     |     |     |
| ECZ | ePg   | 07 | 40 | 57   |     | -0.8 | 100 | 1.35 | 80  |     | 3.6 | 3.5 |
|     | eSg   |    | 41 | 17.5 |     | 1.4  | 99  |      |     |     |     |     |
| NGZ | ePg   | 07 | 41 | 04   |     | 1.4  | 99  | 1.59 | 218 |     |     |     |
| TRZ | Pg    | 07 | 41 | 03.0 |     | -0.2 | 100 | 1.62 | 181 |     | 3.4 |     |
| GBZ | ePg   | 07 | 41 | 12   |     | 0.3  | 100 | 2.04 | 327 |     |     |     |
| MNG | eP*   | 07 | 41 | 21   |     | -0.6 | 100 | 2.89 | 201 |     | 3.2 |     |

AMPLITUDES: TUA 1.0 0.9 KRP 0.6 GNZ 3.2 2.0  
 ECZ 0.4 0.4 TRZ 0.3 GBZ 0.3  
 MNG 0.3



77/ 805  
 DEC 02 06<sup>h</sup>37<sup>m</sup>16<sup>s</sup>.1 39°.16S 174°.94E 218 km M = 4.0  
 ± 0.8 0.03 0.05 5 S.E. of RES. 0.8

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|
| NGZ | P     | 06 | 37 | 46.1    |     | 0.6  | 100 | 0.52 | 93  |     |      |      |
|     | eS    |    |    | 38 07.5 |     | -0.7 | 100 |      |     |     |      |      |
| KRP | iP    | 06 | 37 | 50.1    | D   | -0.0 | 100 | 1.32 | 21  |     | 3.2* | 2.5* |
|     | eS    |    |    | 38 17   |     | 0.5  | 100 |      |     |     |      |      |
| TRZ | eS    | 06 | 38 | 20      |     | 0.7  | 100 | 1.51 | 106 |     |      | 3.9  |
| MNG | iP!   | 06 | 37 | 52.7    |     | 1.0  | 99  | 1.51 | 164 |     | 4.1  | 4.2  |
|     | e     |    |    | 38 12.5 |     |      |     |      |     |     |      |      |
|     | S     |    |    | 19.0    |     | -0.3 | 100 |      |     |     |      |      |
| TUA | eS    | 06 | 38 | 24      |     | 0.8  | 100 | 1.75 | 79  |     |      | 4.0  |
| WTZ | iP    | 06 | 37 | 54.9    | D   | -1.3 | 99  | 1.99 | 54  |     | 3.8  | 4.0  |
|     | S     |    |    | 38 26.7 |     | -0.3 | 100 |      |     |     |      |      |
| WEL | eS    | 06 | 38 | 29      |     | -0.6 | 100 | 2.13 | 184 | 4.0 |      |      |
| GNZ | iP    | 06 | 38 | 01.3    | U   | 0.3  | 100 | 2.46 | 79  |     | 3.9  | 3.9  |
|     | S     |    |    | 35.2    |     | -0.6 | 100 |      |     |     |      |      |

AMPLITUDES: KRP 1.1 0.3 TRZ 1.0 MNG 5.5 7.6  
 TUA 0.5 WTZ 0.7 1.2 WEL 0.6  
 GNZ 0.8 1.3

77/ 806  
 DEC 03 18<sup>h</sup>11<sup>m</sup>15<sup>s</sup>.7 40°.29S 176°.47E 12 km M = 3.6  
 ± 0.6 0.03 0.05 R S.E. of RES. 1.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| CAZ | eP*   | 18 | 11 | 28      |     | 0.2  | 100 | 0.64 | 197 |     |     |     |
| TRZ | P*    | 18 | 11 | 28.1    |     | -2.2 | 99  | 0.78 | 20  |     | 3.5 | 4.0 |
|     | eS*   |    |    | 40      |     | -0.9 | 100 |      |     |     |     |     |
| MNG | P*    | 18 | 11 | 29.8    |     | -1.1 | 100 | 0.82 | 246 |     | 3.3 | 3.5 |
|     | Pg    |    |    | 30.3    |     | -2.1 | 99  |      |     |     |     |     |
|     | eS*   |    |    | 43      |     | 1.0  | 100 |      |     |     |     |     |
| NGZ | Pn    | 18 | 11 | 37.3    |     | -1.5 | 100 | 1.29 | 329 |     |     |     |
|     | P*    |    |    | 38.0    |     | -0.8 | 100 |      |     |     |     |     |
|     | eSg   |    |    | 12 00   |     | 0.8  | 100 |      |     |     |     |     |
| WEL | ePg   | 18 | 11 | 48      |     | -0.7 | 100 | 1.63 | 232 | 3.3 |     |     |
|     | eSg   |    |    | 12 10.5 |     | -0.2 | 100 |      |     |     |     |     |
| WNZ | ePn   | 18 | 11 | 45.5    |     | 1.3  | 100 | 1.68 | 350 |     | 4.0 |     |
| GNZ | eP*   | 18 | 11 | 54      |     | 2.3  | 99  | 2.03 | 37  |     | 3.5 | 3.4 |
|     | e     |    |    | 12 36   |     |      |     |      |     |     |     |     |
| WTZ | eP*   | 18 | 11 | 57.5    |     | 0.7  | 100 | 2.34 | 10  |     | 3.3 |     |
| KRP | ePn   | 18 | 11 | 57      |     | 2.1  | 99  | 2.47 | 343 |     | 3.7 | 3.9 |
|     | eSg   |    |    | 12 38   |     | -1.0 | 100 |      |     |     |     |     |
| COB | eP*   | 18 | 12 | 09      |     | 1.8  | 100 | 2.95 | 253 |     | 3.8 | 3.3 |
|     | ePg   |    |    | 14      |     | -1.4 | 100 |      |     |     |     |     |
|     | eS*   |    |    | 47.5    |     | 1.7  | 100 |      |     |     |     |     |

AMPLITUDES: TRZ 2.0 9.0 MNG 6.0 10 WEL 0.3  
 WNZ 0.2 GNZ 0.6 0.7 WTZ 0.4  
 KRP 0.4 0.4 COB 0.4 0.5

77/ 807  
 DEC 03 22<sup>h</sup>22<sup>m</sup>54<sup>s</sup>.1 37°.79S 176°.76E 0 km M = 3.4  
 ± 1.1 0.04 0.04 8 S.E. of RES. 1.3

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iPg!  | 22 | 22 | 58.9 |     | -0.7 | 100 | 0.27 | 137 |     |     |     |

|     |     |    |    |      |      |     |      |     |     |     |
|-----|-----|----|----|------|------|-----|------|-----|-----|-----|
| KRP | eP* | 22 | 23 | 13.5 | 0.4  | 100 | 0.98 | 261 | 3.1 | 3.1 |
|     | eSg |    |    | 28   | 1.0  | 100 |      |     |     |     |
| TUA | eP* | 22 | 23 | 14.5 | -0.2 | 100 | 1.07 | 163 | 3.6 | 3.6 |
|     | eS* |    |    | 30.5 | 1.1  | 100 |      |     |     |     |
| GNZ | Pn  | 22 | 23 | 19.7 | 0.5  | 100 | 1.31 | 131 | 4.0 | 3.3 |
|     | e   |    |    | 44   |      |     |      |     |     |     |
| ECZ | ePn | 22 | 23 | 22.5 | 1.8  | 99  | 1.42 | 87  | 3.6 |     |
| GBZ | ePn | 22 | 23 | 26   | -0.8 | 100 | 1.87 | 326 |     |     |
| MNG | eP* | 22 | 23 | 46   | -1.6 | 99  | 3.00 | 199 | 3.3 |     |
|     | ePg |    |    | 55   | 0.3  | 100 |      |     |     |     |

|             |     |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | KRP | 0.8 | 0.8 | TUA | 0.8 | 0.8 | GNZ | 4.0 | 1.2 |
|             | ECZ | 0.3 |     | GBZ | 0.3 |     | MNG | 0.3 |     |

77/ 808

DEC 03 22<sup>h</sup>23<sup>m</sup>34<sup>s</sup>.1 37°.81s 176°.84E 10 km M = 3.3  
 ± 0.7 0.06 0.04 15 S.E. of RES. 1.5

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WTZ | iPg   | 22 | 23 | 37.1  | U   | -1.7 | 99  | 0.22 | 147 |     |   |     |     |   |
| TUA | eSg   | 22 | 24 | 08.5  |     | -0.4 | 100 | 1.03 | 166 |     |   |     | 3.3 |   |
| KRP | ePg   | 22 | 23 | 55    |     | -0.1 | 100 | 1.04 | 263 |     |   | 3.0 | 3.2 |   |
|     | eSg   |    |    | 24 10 |     | 0.8  | 100 |      |     |     |   |     |     |   |
| GNZ | ePg   | 22 | 24 | 01    |     | 1.6  | 99  | 1.25 | 132 |     |   | 3.8 | 3.2 |   |
| ECZ | ePg   | 22 | 24 | 02    |     | 0.5  | 100 | 1.36 | 86  |     |   | 3.5 |     |   |
| GBZ | eS*   | 22 | 24 | 33    |     | -0.6 | 100 | 1.93 | 325 |     |   |     |     |   |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TUA | 0.5 | KRP | 0.6 | 0.8 | GNZ | 3.0 | 1.2 |
|             | ECZ | 0.3 | GBZ | 0.4 |     |     |     |     |

77/ 809

DEC 04 01<sup>h</sup>44<sup>m</sup>52<sup>s</sup>.0 37°.89s 176°.86E 5 km M = 4.1  
 ± 0.6 0.03 0.04 4 S.E. of RES. 1.2

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| WTZ | iPg!  | 01 | 44 | 54.7  |     | -0.2 | 100 | 0.14 | 134 |     |   |     |     |   |
| TUA | P*    | 01 | 45 | 10.0  |     | -0.1 | 100 | 0.94 | 166 |     |   | 4.3 |     |   |
| WNZ | eP*   | 01 | 45 | 10    |     | -0.1 | 100 | 0.95 | 219 |     |   | 4.1 | 3.9 |   |
|     | e     |    |    | 37    |     |      |     |      |     |     |   |     |     |   |
| KRP | P*    | 01 | 45 | 09.0  |     | -2.8 | 95  | 1.04 | 268 |     |   | 4.0 | 4.0 |   |
|     | eSg   |    |    | 27    |     | -0.3 | 100 |      |     |     |   |     |     |   |
| GNZ | Pn    | 01 | 45 | 15.0  |     | 0.3  | 100 | 1.19 | 130 |     |   | 4.4 | 3.8 |   |
|     | e     |    |    | 39    |     |      |     |      |     |     |   |     |     |   |
| ECZ | Pn    | 01 | 45 | 16.7  |     | -0.2 | 100 | 1.35 | 82  |     |   | 4.4 |     |   |
| NGZ | Pn    | 01 | 45 | 21.5  |     | 0.8  | 100 | 1.62 | 217 |     |   |     |     |   |
| TRZ | Pn    | 01 | 45 | 21.8  |     | 0.6  | 100 | 1.66 | 181 |     |   | 4.3 | 3.8 |   |
|     | Pg    |    |    | 25.0  |     | -0.6 | 100 |      |     |     |   |     |     |   |
|     | e     |    |    | 55    |     |      |     |      |     |     |   |     |     |   |
| GBZ | ePn   | 01 | 45 | 24    |     | -1.8 | 99  | 2.00 | 326 |     |   |     |     |   |
|     | eS*   |    |    | 55    |     | 0.3  | 100 |      |     |     |   |     |     |   |
| ONE | ePg   | 01 | 45 | 50.5  |     | -0.3 | 100 | 2.91 | 316 | 4.3 |   |     |     |   |
|     | eSg   |    |    | 46 32 |     | 2.0  | 99  |      |     |     |   |     |     |   |
| MNG | ePn   | 01 | 45 | 39.7  |     | 1.2  | 100 | 2.93 | 201 |     |   | 4.2 |     |   |
|     | eP*   |    |    | 45    |     | 1.1  | 100 |      |     |     |   |     |     |   |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | TUA | 6.5 | WNZ | 0.6 | 0.5 | KRP | 5.5 | 5.0 |
|             | GNZ | 13  | 4.7 | ECZ | 2.6 | TRZ | 2.3 | 1.1 |
|             | GBZ | 2.3 | 3.3 | ONE | 0.4 | MNG | 2.7 |     |

|             |                                                    |         |          |         |                  |      |     |      |     |     | 77/ 810 |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-----|---------|
| DEC 04      | 01 <sup>h</sup> 50 <sup>m</sup> 33 <sup>s</sup> .5 | 37°.83s | 176°.87E | 5 km    | M = 3.3          |      |     |      |     |     |         |
|             | ± 1.3                                              | 0.06    | 0.06     | 10      | S.E. of RES. 1.8 |      |     |      |     |     |         |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |
| WTZ         | iPg!                                               | 01      | 50       | 35.9    |                  | -1.3 | 100 | 0.18 | 148 |     |         |
| TUA         | iP*                                                | 01      | 50       | 51.7    | D                | -0.7 | 100 | 1.00 | 167 |     | 3.6 3.3 |
|             | eSg                                                |         |          | 51 09   |                  | 1.8  | 100 |      |     |     |         |
| KRP         | P*                                                 | 01      | 50       | 51.4    |                  | -1.9 | 99  | 1.05 | 265 |     | 3.2 3.2 |
|             | e(S*)                                              |         |          | 51 05   |                  | -2.7 |     |      |     |     |         |
|             | eSg                                                |         |          | 10      |                  | 0.9  | 100 |      |     |     |         |
| GNZ         | Pn                                                 | 01      | 50       | 57.8    |                  | 1.3  | 100 | 1.22 | 132 |     | 3.3 3.0 |
|             | e(Sg)                                              |         |          | 51 19.5 |                  | 4.9  |     |      |     |     |         |
| ECZ         | ePn                                                | 01      | 50       | 57      |                  | -1.1 | 100 | 1.34 | 85  |     | 3.5     |
| NGZ         | ePg                                                | 01      | 51       | 06      |                  | -1.2 | 100 | 1.67 | 216 |     |         |
| TRZ         | eP*                                                | 01      | 51       | 06      |                  | 1.3  | 100 | 1.72 | 181 |     | 3.6     |
| GBZ         | P*                                                 | 01      | 51       | 10.7    |                  | 2.0  | 99  | 1.95 | 325 |     |         |
| MNG         | eP*                                                | 01      | 51       | 25      |                  | -1.2 | 100 | 2.99 | 201 |     | 3.4     |
| AMPLITUDES: |                                                    | TUA     | 1.2      | 0.6     | KRP              | 0.8  | 0.7 | GNZ  | 1.0 | 0.7 |         |
|             |                                                    | ECZ     | 0.3      |         | TRZ              | 0.4  |     | GBZ  | 0.4 |     |         |
|             |                                                    | MNG     | 0.4      |         |                  |      |     |      |     |     |         |

|             |                                                    |         |          |       |                  |      |     |      |     |     | 77/ 811 |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|
| DEC 04      | 09 <sup>h</sup> 30 <sup>m</sup> 09 <sup>s</sup> .7 | 37°.90s | 176°.72E | 0 km  | M = 3.5          |      |     |      |     |     |         |
|             | ± 0.6                                              | 0.03    | 0.03     | 6     | S.E. of RES. 1.4 |      |     |      |     |     |         |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |
| WTZ         | iPg!                                               | 09      | 30       | 12.9  |                  | -1.4 | 100 | 0.23 | 113 |     |         |
| KRP         | P*                                                 | 09      | 30       | 27.7  |                  | -0.2 | 100 | 0.94 | 268 |     | 3.3 3.2 |
|             | eS*                                                |         |          | 42    |                  | 1.0  | 100 |      |     |     |         |
| TUA         | iP*                                                | 09      | 30       | 28.3  | D                | -0.3 | 100 | 0.97 | 160 |     | 3.7 3.4 |
|             | eSg                                                |         |          | 44    |                  | 1.5  | 100 |      |     |     |         |
| GNZ         | Pn                                                 | 09      | 30       | 34.2  |                  | 0.1  | 100 | 1.27 | 126 |     | 3.6 3.6 |
|             | e(Sg)                                              |         |          | 57    |                  | 4.5  |     |      |     |     |         |
| ECZ         | ePn                                                | 09      | 30       | 36    |                  | -0.7 | 100 | 1.46 | 83  |     | 3.6 3.5 |
|             | eSg                                                |         |          | 31 00 |                  | 1.1  | 100 |      |     |     |         |
| NGZ         | ePg                                                | 09      | 30       | 43    |                  | 2.0  | 99  | 1.55 | 214 |     |         |
| TRZ         | ePg                                                | 09      | 30       | 43    |                  | -0.2 | 100 | 1.66 | 177 |     | 3.8     |
| GBZ         | eP*                                                | 09      | 30       | 45.5  |                  | 0.3  | 100 | 1.94 | 329 |     |         |
|             | eSg                                                |         |          | 31 15 |                  | -0.2 | 100 |      |     |     |         |
| MNG         | eP*                                                | 09      | 31       | 00.5  |                  | -0.7 | 100 | 2.89 | 199 |     | 3.6     |
|             | ePg                                                |         |          | 05    |                  | -3.0 | 96  |      |     |     |         |
| AMPLITUDES: |                                                    | KRP     | 1.6      | 1.0   | TUA              | 1.5  | 0.7 | GNZ  | 1.8 | 2.3 |         |
|             |                                                    | ECZ     | 0.3      | 0.3   | TRZ              | 0.6  |     | GBZ  | 0.5 | 0.6 |         |
|             |                                                    | MNG     | 0.6      |       |                  |      |     |      |     |     |         |

|        |                                                    |         |          |       |                  |      |     |      |     |     | 77/ 812 |
|--------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|
| DEC 04 | 16 <sup>h</sup> 30 <sup>m</sup> 37 <sup>s</sup> .5 | 37°.83s | 176°.83E | 0 km  | M = 4.0          |      |     |      |     |     |         |
|        | ± 0.7                                              | 0.03    | 0.04     | 6     | S.E. of RES. 1.3 |      |     |      |     |     |         |
| STN    | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |
| WTZ    | iPg!                                               | 16      | 30       | 41.3  |                  | -0.2 | 100 | 0.20 | 142 |     |         |
| WNZ    | eP*                                                | 16      | 30       | 57    |                  | 0.3  | 100 | 0.99 | 216 |     | 4.1 3.9 |
|        | e                                                  |         |          | 31 24 |                  |      |     |      |     |     |         |
| TUA    | P*                                                 | 16      | 30       | 56.7  |                  | -0.3 | 100 | 1.01 | 166 |     | 4.1     |
| KRP    | P*                                                 | 16      | 30       | 56.3  |                  | -1.1 | 100 | 1.03 | 264 |     | 4.1 4.0 |
|        | eSg                                                |         |          | 31 11 |                  | -1.2 | 100 |      |     |     |         |
| GNZ    | Pn                                                 | 16      | 31       | 02.0  |                  | 0.5  | 100 | 1.24 | 131 |     | 4.2 3.8 |

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| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| TRZ         | iP*   | 05  | 21 | 19.7    | U   | 1.8  | 99  | 0.73 | 359 |     |     |     |
| CAZ         | iP*   | 05  | 21 | 18.4    | U   | -0.3 | 100 | 0.77 | 216 |     |     |     |
|             | e     |     |    | 25      |     |      |     |      |     |     |     |     |
|             | e     |     |    | 34      |     |      |     |      |     |     |     |     |
| MNG         | iP*   | 05  | 21 | 21.9    | D   | -2.0 | 98  | 1.08 | 251 |     | 4.3 | 4.3 |
|             | eSg   |     |    | 42      |     | 1.0  | 100 |      |     |     |     |     |
| NGZ         | Pn    | 05  | 21 | 29.0    |     | -0.5 | 100 | 1.44 | 319 |     |     |     |
|             | eSn   |     |    | 47.5    |     | -0.8 | 100 |      |     |     |     |     |
| TUA         | ePn   | 05  | 21 | 30      |     | -0.1 | 100 | 1.49 | 10  |     | 4.1 | 4.3 |
|             | e     |     |    | 22 05   |     |      |     |      |     |     |     |     |
| WNZ         | eP*   | 05  | 21 | 36      |     | 0.8  | 100 | 1.74 | 341 |     | 4.6 | 4.5 |
|             | eSg   |     |    | 22 02.5 |     | -0.5 | 100 |      |     |     |     |     |
| WEL         | eP*   | 05  | 21 | 38      |     | 0.8  | 100 | 1.86 | 237 | 3.9 |     |     |
|             | eS*   |     |    | 22 02   |     | 0.2  | 100 |      |     |     |     |     |
| GNZ         | ePn   | 05  | 21 | 35      |     | -0.4 | 100 | 1.88 | 30  |     | 4.2 | 4.1 |
|             | e     |     |    | 46.1    |     |      |     |      |     |     |     |     |
|             | eS*   |     |    | 22 03   |     | 0.7  | 100 |      |     |     |     |     |
|             | e     |     |    | 25      |     |      |     |      |     |     |     |     |
| WTZ         | ePn   | 05  | 21 | 40      |     | -1.1 | 100 | 2.29 | 3   |     | 4.1 |     |
|             | ePg   |     |    | 49.8    |     | -0.9 | 100 |      |     |     |     |     |
| KRP         | ePn   | 05  | 21 | 44      |     | -0.7 | 100 | 2.56 | 336 |     | 4.5 | 4.9 |
|             | P*    |     |    | 50      |     | 0.9  | 100 |      |     |     |     |     |
|             | e(Sg) |     |    | 22 27   |     | -3.5 |     |      |     |     |     |     |
| AMPLITUDES: | MNG   |     |    | 30      | 41  | TUA  |     | 2.0  | 3.0 | WNZ | 0.8 | 1.0 |
|             | WEL   | 1.0 |    |         |     | GNZ  |     | 3.9  | 4.5 | WTZ | 2.5 |     |
|             | KRP   |     |    | 2.3     | 4.5 |      |     |      |     |     |     |     |

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| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| WTZ | iP*   | 04 | 16 | 47.7    | U   | 0.1  | 100 | 0.40 | 128 |     | 3.2 | 3.3 |
|     | eS*   |    |    | 53      |     | -0.2 | 100 |      |     |     |     |     |
| KRP | iP*   | 04 | 16 | 55.8    | UW  | 0.6  | 100 | 0.85 | 257 |     | 3.3 | 3.7 |
|     | eS*   |    |    | 17 06.5 |     | -0.2 | 100 |      |     |     |     |     |
| TUA | ePg   | 04 | 17 | 01      |     | -2.0 | 99  | 1.16 | 158 |     | 3.5 |     |



|             |     |            |      |         |      |     |     |     |
|-------------|-----|------------|------|---------|------|-----|-----|-----|
| GNZ         | iPg | 04 17 08.0 | -0.9 | 100     | 1.45 | 129 | 3.7 | 3.3 |
|             | eSg | 30         | 1.5  | 99      |      |     |     |     |
| MNG         | eP* | 04 17 33   | 1.0  | 100     | 3.01 | 196 | 3.3 |     |
| AMPLITUDES: | WTZ | 6.7 8.5    | KRP  | 2.0 4.6 | TUA  | 0.5 |     |     |
|             | GNZ | 1.4 0.8    | MNG  | 0.2     |      |     |     |     |

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DEC 06 04<sup>h</sup>32<sup>m</sup>19<sup>s</sup>.4 37°.06s 177°.28E 234 km M = 4.1  
 ± 2.0 0.15 0.14 10 S.E. of RES. 1.4

| STN         | PHASE | H       | M   | S       | DIR | RES     | WT  | DIST | AZ  | W-A | W    | P   | W   | S |
|-------------|-------|---------|-----|---------|-----|---------|-----|------|-----|-----|------|-----|-----|---|
| WTZ         | P     | 04      | 32  | 50.8    |     | -1.7    | 99  | 0.95 | 194 |     | 4.0  | 3.6 |     |   |
|             | e     |         |     | 51.9    |     |         |     |      |     |     |      |     |     |   |
|             | S     |         | 33  | 18.7    |     | 0.4     | 100 |      |     |     |      |     |     |   |
| ECZ         | eS    | 04      | 33  | 21.5    |     | 0.5     | 100 | 1.20 | 122 |     |      |     | 3.9 |   |
| KRP         | iP    | 04      | 32  | 58.1    | U   | 0.7     | 100 | 1.63 | 238 |     | 3.1* |     |     |   |
| GNZ         | iP    | 04      | 32  | 57.8    | D   | -0.2    | 100 | 1.69 | 160 |     | 4.4  | 4.1 |     |   |
|             | eS    |         | 33  | 27      |     | -0.8    | 100 |      |     |     |      |     |     |   |
| TRZ         | eP    | 04      | 33  | 08      |     | 2.0     | 99  | 2.52 | 188 |     | 4.4  | 4.1 |     |   |
|             | e(S)  |         |     | 47.5    |     | 5.4     |     |      |     |     |      |     |     |   |
| MNG         | P     | 04      | 33  | 19.6    |     | -1.2    | 100 | 3.82 | 201 |     | 4.5  | 3.7 |     |   |
|             | (S)   |         |     | 34 02.6 |     | -5.9    |     |      |     |     |      |     |     |   |
| CAZ         | P     | 04      | 33  | 23.2    |     | 1.1     | 100 | 3.92 | 192 |     |      |     |     |   |
| WEL         | P     | 04      | 33  | 30.3    |     | -0.7    | 100 | 4.65 | 204 |     |      |     |     |   |
| AMPLITUDES: | WTZ   | 1.6 0.7 | ECZ | 0.5     | KRP | 0.8     |     |      |     |     |      |     |     |   |
|             | GNZ   | 3.3 2.5 | TRZ | 0.7 0.8 | MNG | 3.5 0.8 |     |      |     |     |      |     |     |   |

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DEC 06 08<sup>h</sup>20<sup>m</sup>37<sup>s</sup>.0 36°.99s 177°.11E 224 km M = 4.0  
 ± 1.7 0.10 0.14 13 S.E. of RES. 1.7

| STN         | PHASE | H       | M   | S       | DIR | RES     | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-------------|-------|---------|-----|---------|-----|---------|-----|------|-----|-----|------|-----|---|---|
| WTZ         | P     | 08      | 21  | 07.8    |     | -1.6    | 100 | 1.00 | 186 |     | 4.0  | 3.5 |   |   |
|             | S     |         |     | 33.7    |     | -0.9    | 100 |      |     |     |      |     |   |   |
| ECZ         | eP    | 08      | 21  | 13.5    |     | 1.7     | 100 | 1.34 | 122 |     | 3.6  | 3.8 |   |   |
|             | eS    |         |     | 40.5    |     | 1.7     | 100 |      |     |     |      |     |   |   |
| KRP         | iP    | 08      | 21  | 14.2    | D   | 0.5     | 100 | 1.57 | 233 |     | 3.1* |     |   |   |
| GNZ         | iP    | 08      | 21  | 14.6    | D   | -1.2    | 100 | 1.80 | 157 |     | 4.4  | 4.2 |   |   |
|             | e     |         |     | 38      |     |         |     |      |     |     |      |     |   |   |
|             | eS    |         |     | 43.5    |     | -2.2    | 99  |      |     |     |      |     |   |   |
| NGZ         | eP    | 08      | 21  | 24      |     | 1.3     | 100 | 2.49 | 208 |     |      |     |   |   |
| TRZ         | P     | 08      | 21  | 23.1    |     | -0.5    | 100 | 2.57 | 185 |     | 4.4  | 4.3 |   |   |
|             | eS    |         |     | 22 01   |     | 1.4     | 100 |      |     |     |      |     |   |   |
| MNG         | P     | 08      | 21  | 36.9    |     | -1.4    | 100 | 3.84 | 199 |     | 4.3  | 3.8 |   |   |
|             | eS    |         |     | 22 27   |     | 1.1     | 100 |      |     |     |      |     |   |   |
| AMPLITUDES: | WTZ   | 2.0 0.7 | ECZ | 0.3 0.4 | KRP | 0.9     |     |      |     |     |      |     |   |   |
|             | GNZ   | 3.6 3.5 | TRZ | 0.8 1.4 | MNG | 2.2 1.0 |     |      |     |     |      |     |   |   |

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DEC 06 17<sup>h</sup>19<sup>m</sup>10<sup>s</sup>.6 40°.23s 176°.39E 12 km M = 3.7  
 ± 0.4 0.02 0.04 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| CAZ | P*    | 17 | 19 | 23.3 |     | -0.1 | 100 | 0.68 | 190 |     |     |     |   |   |
|     | e     |    |    | 39   |     |      |     |      |     |     |     |     |   |   |
| TRZ | iP*   | 17 | 19 | 24.0 | U   | -0.6 | 100 | 0.76 | 27  |     | 3.6 | 3.9 |   |   |
|     | e     |    |    | 30.2 |     |      |     |      |     |     |     |     |   |   |
|     | Sg    |    |    | 38   |     | 1.8  | 99  |      |     |     |     |     |   |   |
| MNG | iP*   | 17 | 19 | 25.7 | D   | 0.4  | 100 | 0.79 | 240 |     | 3.7 | 3.7 |   |   |

|             |      |       |       |     |      |     |      |     |     |     |     |
|-------------|------|-------|-------|-----|------|-----|------|-----|-----|-----|-----|
|             | iPg  |       | 26.0  |     | -0.7 | 100 |      |     |     |     |     |
|             | eS*  |       | 37    |     | 1.0  | 100 |      |     |     |     |     |
| NGZ         | ePg  | 17 19 | 34.3  |     | -0.7 | 100 | 1.21 | 330 |     |     |     |
|             | e    |       | 55.5  |     |      |     |      |     |     |     |     |
| TUA         | eP*  | 17 19 | 39    |     | 1.0  | 100 | 1.54 | 23  | 3.5 | 3.9 |     |
|             | e    |       | 20 09 |     |      |     |      |     |     |     |     |
| WEL         | eP*  | 17 19 | 40    |     | 0.6  | 100 | 1.62 | 229 | 3.5 |     |     |
|             | eSg  |       | 20 05 |     | -0.3 | 100 |      |     |     |     |     |
| GNZ         | ePg  | 17 19 | 49    |     | -2.6 | 95  | 2.02 | 39  | 3.7 | 3.7 |     |
|             | e    |       | 20 29 |     |      |     |      |     |     |     |     |
| WTZ         | ePn? | 17 19 | 47.5  |     | 0.1  | 100 | 2.29 | 12  | 3.4 | 3.5 |     |
|             | P*   |       | 50.7  |     | -0.1 | 100 |      |     |     |     |     |
|             | eSg  |       | 20 29 |     | 1.2  | 100 |      |     |     |     |     |
| KRP         | eP*  | 17 19 | 53    |     | 0.4  | 100 | 2.39 | 344 | 4.1 | 4.1 |     |
|             | eSg  |       | 20 30 |     | -1.3 | 100 |      |     |     |     |     |
| AMPLITUDES: | TRZ  |       | 3.0   | 7.5 | MNG  |     | 15   | 20  | TUA | 0.4 | 1.3 |
|             | WEL  | 0.5   |       |     | GNZ  |     | 1.1  | 1.5 | WTZ | 0.5 | 0.6 |
|             | KRP  |       | 1.0   | 0.8 |      |     |      |     |     |     |     |

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DEC 07 01<sup>h</sup>15<sup>m</sup>42<sup>s</sup>.2 40°.25s 176°.50E 12 km M = 3.7  
 ± 0.6 0.03 0.06 R S.E. of RES. 1.5

| STN         | PHASE | H  | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|----|-----|------|-----|------|-----|------|-----|-----|---------|
| CAZ         | P*    | 01 | 15  | 53.2 |     | -1.8 | 100 | 0.68 | 198 |     |         |
| TRZ         | P*    | 01 | 15  | 54.7 |     | -1.3 | 100 | 0.74 | 20  |     |         |
|             | e     |    | 16  | 00.3 |     |      |     |      |     |     |         |
|             | eS*   |    |     | 07   |     | 1.0  | 100 |      |     |     |         |
| MNG         | P*    | 01 | 15  | 57.8 |     | -0.2 | 100 | 0.85 | 244 | 3.7 | 3.9     |
|             | Pg    |    |     | 58.0 |     | -1.7 | 100 |      |     |     |         |
|             | eS*   |    | 16  | 10   |     | 0.4  | 100 |      |     |     |         |
| NGZ         | P*    | 01 | 16  | 04.1 |     | -0.9 | 100 | 1.27 | 327 |     |         |
|             | eS*   |    |     | 22   |     | 0.2  | 100 |      |     |     |         |
| TUA         | Sg-Pn |    |     | 29.5 |     | 4.3  |     | 1.53 | 19  | 3.6 | 3.8     |
| WEL         | Pn    | 01 | 16  | 12.5 |     | 2.0  | 99  | 1.67 | 231 | 3.6 |         |
|             | e     |    |     | 28.5 |     |      |     |      |     |     |         |
|             | eS*   |    |     | 36   |     | 2.0  | 99  |      |     |     |         |
| GNZ         | ePg   | 01 | 16  | 22   |     | -0.5 | 100 | 1.99 | 37  | 3.6 | 3.2     |
|             | e     |    | 17  | 02   |     |      |     |      |     |     |         |
| WTZ         | ePn   | 01 | 16  | 21   |     | 2.0  | 99  | 2.29 | 10  | 3.8 | 3.7     |
|             | ePg   |    |     | 28   |     | -0.6 | 100 |      |     |     |         |
|             | eSg   |    | 17  | 02   |     | 2.4  | 99  |      |     |     |         |
| KRP         | Pn    | 01 | 16  | 19.2 |     | -1.8 | 100 | 2.44 | 342 | 4.3 | 4.1     |
|             | eP*   |    |     | 25   |     | -0.0 | 100 |      |     |     |         |
|             | eSg   |    | 17  | 03   |     | -1.5 | 100 |      |     |     |         |
| AMPLITUDES: | MNG   |    | 13  | 22   | TUA |      | 0.5 | 0.9  | WEL | 0.6 |         |
|             | GNZ   |    | 0.8 | 0.5  | WTZ |      | 1.2 | 0.8  | KRP |     | 1.4     |
|             |       |    |     |      |     |      |     |      |     |     | 0.8     |

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DEC 08 18<sup>h</sup>15<sup>m</sup>18<sup>s</sup>.6 32°.56s 179°.84E 467 km M = 5.6  
 ± 1.6 0.11 0.20 17 S.E. of RES. 1.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|---------|
| GBZ | iP    | 18 | 16 | 45.1 | D   | -0.8 | 100 | 5.13 | 223 |      |         |
| ECZ | eP    | 18 | 16 | 50   |     | 3.0  | 99  | 5.24 | 191 | 5.5  | 5.6     |
|     | eS    |    | 17 | 57   |     | 0.3  | 100 |      |     |      |         |
| ONE | eP    | 18 | 16 | 50   |     | -0.1 | 100 | 5.56 | 233 | 3.6* |         |
|     | eS    |    | 18 | 04   |     | 1.6  | 100 |      |     |      |         |
| WTZ | iP    | 18 | 16 | 53.3 | D   | -0.2 | 100 | 5.90 | 202 | 5.5  | 5.6     |





|             |                                                    |     |         |         |          |         |       |         |          |     |         |  |
|-------------|----------------------------------------------------|-----|---------|---------|----------|---------|-------|---------|----------|-----|---------|--|
|             |                                                    |     |         |         |          |         |       |         |          |     | 77/ 822 |  |
| DEC 11      | 05 <sup>h</sup> 32 <sup>m</sup> 02 <sup>s</sup> .6 |     | 42°.49s |         | 173°.85E |         | 12 km |         | M = 3.9  |     |         |  |
|             | ± 1.5                                              |     | 0.07    |         | 0.06     |         | R     | S.E. of | RES. 1.4 |     |         |  |
| STN         | PHASE                                              | H   | M       | S       | DIR      | RES     | WT    | DIST    | AZ       | W-A | W P W S |  |
| KKY         | iPg                                                | 05  | 32      | 08.1    | D        | 2.0     | 98    | 0.13    | 301      |     |         |  |
| WEL         | Pg                                                 | 05  | 32      | 30.5    |          | -0.2    | 100   | 1.39    | 30       | 3.9 |         |  |
|             | Sg                                                 |     |         | 49      |          | -0.4    | 100   |         |          |     |         |  |
| COB         | iPg                                                | 05  | 32      | 34.9    | U        | -0.7    | 100   | 1.63    | 329      |     | 4.6 3.8 |  |
|             | Sg                                                 |     |         | 58      |          | 0.3     | 100   |         |          |     |         |  |
| KAI         | ePg                                                | 05  | 32      | 40      |          | 0.8     |       | 1.81    | 268      | 3.7 |         |  |
|             | Sg                                                 |     |         | 33 02.5 |          | -1.0    | 100   |         |          |     |         |  |
| MNG         | P*                                                 | 05  | 32      | 41.2    | U        | -0.7    |       | 2.24    | 34       |     | 3.6 3.8 |  |
|             | Pg                                                 |     |         | 52      |          | 4.2     |       |         |          |     |         |  |
|             | S*                                                 |     |         | 33 09   |          | -2.3    |       |         |          |     |         |  |
| GSP         | Pg                                                 | 05  | 33      | 11      |          | 2.8     |       | 3.25    | 238      |     |         |  |
| AMPLITUDES: |                                                    | WEL | 1.6     |         | COB      | 9.0 4.5 |       | KAI     | 0.6      |     |         |  |
|             |                                                    | MNG | 1.5 3.1 |         |          |         |       |         |          |     |         |  |

|             |                                                    |         |          |       |                  |      |     |      |     |     | 77/ 823 |
|-------------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|
| DEC 11      | 19 <sup>h</sup> 37 <sup>m</sup> 51 <sup>s</sup> .8 | 40°.05s | 176°.68E | 33 km | M = 4.2          |      |     |      |     |     |         |
|             | ± 0.5                                              | 0.03    | 0.05     | R     | S.E. of RES. 1.4 |      |     |      |     |     |         |
| STN         | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |
| TRZ         | iP*                                                | 19      | 38       | 02.6  |                  | 0.2  | 100 | 0.50 | 12  |     |         |
| CAZ         | iP*                                                | 19      | 38       | 09.0  | U                | -0.1 | 100 | 0.92 | 202 |     |         |
|             | i                                                  |         |          | 17    |                  |      |     |      |     |     |         |
|             | S*                                                 |         |          | 24    |                  | 2.2  | 99  |      |     |     |         |
| MNG         | iPn                                                | 19      | 38       | 10.1  |                  | 0.0  | 100 | 1.08 | 238 |     |         |
| GSZ         | Pn                                                 | 19      | 38       | 11.5  |                  | 0.5  | 100 | 1.14 | 312 |     |         |
|             | Sn                                                 |         |          | 26.5  |                  | 1.3  | 100 |      |     |     |         |
| CNZ         | Pn                                                 | 19      | 38       | 12    |                  | 0.0  | 100 | 1.22 | 314 |     |         |
|             | P*                                                 |         |          | 16    |                  | 2.0  |     |      |     |     |         |
|             | Sn                                                 |         |          | 28    |                  | 0.9  | 100 |      |     |     |         |
| TUA         | S*-P*                                              |         |          | 18    |                  | 0.6  |     | 1.30 | 17  |     | 4.1 4.2 |
| GNZ         | Pn                                                 | 19      | 38       | 18.9  |                  | -0.3 | 100 | 1.75 | 37  |     | 4.4 4.2 |
|             | Sn                                                 |         |          | 41.5  |                  | 1.7  | 100 |      |     |     |         |
| WEL         | Pn                                                 | 19      | 38       | 19.5  |                  | -1.9 | 99  | 1.91 | 229 | 4.0 |         |
|             | P*                                                 |         |          | 30    |                  | 4.3  |     |      |     |     |         |
|             | Sn                                                 |         |          | 43    |                  | -0.6 | 100 |      |     |     |         |
| WTZ         | P*                                                 | 19      | 38       | 26    |                  | -2.5 |     | 2.08 | 7   |     | 4.0 4.3 |
|             | eSn                                                |         |          | 47    |                  | -0.7 |     |      |     |     |         |
| KRP         | Pn                                                 | 19      | 38       | 24    |                  | -2.8 | 98  | 2.30 | 337 |     |         |
|             | P*                                                 |         |          | 36    |                  | 3.7  |     |      |     |     |         |
|             | S*                                                 |         |          | 39 06 |                  | 3.4  |     |      |     |     |         |
| ECZ         | Pn                                                 | 19      | 38       | 32.5  |                  | -0.6 | 100 | 2.77 | 32  |     | 4.7 4.2 |
| COB         | Pn                                                 | 19      | 38       | 37    |                  | -1.8 | 99  | 3.19 | 250 |     | 4.4 3.9 |
|             | Sn                                                 |         |          | 39 15 |                  | 0.8  | 100 |      |     |     |         |
| KAI         |                                                    |         |          |       |                  |      |     | 4.68 | 236 | 4.2 |         |
| AMPLITUDES: |                                                    | TUA     | 2.4      | 3.8   | GNZ              | 6.5  | 7.0 | WEL  | 1.1 |     |         |
|             |                                                    | WTZ     | 2.5      | 4.0   | ECZ              | 1.4  | 0.5 | COB  |     | 1.6 | 1.6     |
|             |                                                    | KAI     | 0.3      |       |                  |      |     |      |     |     |         |

FELT: Waipawa (60) MM IV

|        |                                                    |         |          |        |                  |  |  |  |  |  | 77/ 824 |
|--------|----------------------------------------------------|---------|----------|--------|------------------|--|--|--|--|--|---------|
| DEC 13 | 05 <sup>h</sup> 12 <sup>m</sup> 15 <sup>s</sup> .8 | 38°.96s | 175°.40E | 143 km | M = 4.6          |  |  |  |  |  |         |
|        | ± 0.6                                              | 0.03    | 0.04     | 6      | S.E. of RES. 1.0 |  |  |  |  |  |         |



| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W   | P    | W    | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|-----|------|------|---|
| CNZ         | iP    | 05  | 12  | 36.4    |     | 0.8  | 100 | 0.27 | 154 |      |     |      |      |   |
|             | S     |     |     | 50      |     | -0.7 |     |      |     |      |     |      |      |   |
|             | e     |     |     | 56      |     |      |     |      |     |      |     |      |      |   |
| WNZ         | P     | 05  | 12  | 37.5    | D   | 0.3  | 100 | 0.64 | 59  |      |     | 4.6  |      |   |
| KRP         | iP    | 05  | 12  | 41.2    | DSW | 0.9  | 100 | 1.04 | 6   |      |     |      |      |   |
|             | S     |     |     | 59      |     | -0.2 | 100 |      |     |      |     |      |      |   |
| TRZ         | iP    | 05  | 12  | 43.5    | D   | 1.0  | 100 | 1.25 | 119 |      |     | 4.8  | 4.5  |   |
|             | S     |     |     | 13 05   |     | 2.1  | 96  |      |     |      |     |      |      |   |
| TUA         | iP    | 05  | 12  | 43.8    | D   | 0.0  | 100 | 1.38 | 84  |      |     | 4.5  | 4.7  |   |
|             | S     |     |     | 13 03.5 |     | -1.6 | 99  |      |     |      |     |      |      |   |
| WTZ         | iP    | 05  | 12  | 45.5    | D   | -0.6 | 100 | 1.58 | 53  |      |     | 4.4  | 4.5  |   |
|             | (S)   |     |     | 13 08   |     | -1.1 | 100 |      |     |      |     |      |      |   |
| MNG         |       |     |     |         |     |      |     | 1.66 | 178 |      |     | 4.4  | 4.7  |   |
| CAZ         | P     | 05  | 12  | 52.5    |     | 1.2  |     | 2.04 | 162 |      |     |      |      |   |
|             | S     |     |     | 13 20   |     | 1.5  |     |      |     |      |     |      |      |   |
| GNZ         | iP    | 05  | 12  | 51.8    | DS  | 0.1  |     | 2.08 | 82  |      |     |      |      |   |
|             | S     |     |     | 13 16.5 |     | -2.7 |     |      |     |      |     |      |      |   |
| WEL         | P     | 05  | 12  | 55.5    | U   | 0.0  | 100 | 2.38 | 192 | 4.4  |     |      |      |   |
|             | S     |     |     | 13 25   |     | -0.8 | 100 |      |     |      |     |      |      |   |
| GBZ         | P     | 05  | 13  | 01      |     | 0.8  | 100 | 2.74 | 1   |      |     |      |      |   |
| ECZ         | iP    | 05  | 13  | 01.1    | D   | 0.3  | 100 | 2.78 | 64  |      |     | 4.5  | 4.8  |   |
|             | S     |     |     | 34.5    |     | -0.5 | 100 |      |     |      |     |      |      |   |
| COB         | P     | 05  | 13  | 02.5    | U   | -0.5 | 100 | 2.95 | 223 |      |     | 4.6* | 4.0* |   |
|             | S     |     |     | 38.5    |     | -0.5 | 100 |      |     |      |     |      |      |   |
| KAI         |       |     |     |         |     |      |     | 4.68 | 219 | 3.7* |     |      |      |   |
| AMPLITUDES: |       |     |     |         |     |      |     |      |     |      |     |      |      |   |
|             | WNZ   | 1.3 |     |         | TRZ | 8.0  | 9.0 | TUA  |     |      | 3.2 | 5.5  |      |   |
|             | WTZ   | 5.0 | 8.0 |         | MNG | 14   | 33  | WEL  | 1.3 |      |     |      |      |   |
|             | GBZ   | 1.1 |     |         | ECZ | 1.1  | 2.1 | COB  |     |      | 7.8 | 6.5  |      |   |
|             | KAI   | 0.5 |     |         |     |      |     |      |     |      |     |      |      |   |

77/ 825

DEC 14 17<sup>h</sup>57<sup>m</sup>19<sup>s</sup>.0 39°.09s 175°.06E 12 km M = 3.8  
 ± 0.6 0.03 0.06 R S.E. of RES. 1.6

| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----|-----|-----|---|
| CNZ         | iPg   | 17  | 57 | 28.3    |     | 1.0  | 100 | 0.40 | 106 |     |     |     |     |   |
|             | Sg    |     |    | 33.5    |     | 0.8  |     |      |     |     |     |     |     |   |
| GSZ         | iPg   | 17  | 57 | 28.9    |     | 0.6  | 100 | 0.45 | 114 |     |     |     |     |   |
|             | eSg   |     |    | 36      |     | 1.5  |     |      |     |     |     |     |     |   |
| WNZ         | Sg    | 17  | 57 | 50      |     | -0.7 |     | 0.94 | 61  |     |     | 3.5 |     |   |
| KRP         | Pg    | 17  | 57 | 43      |     | -0.9 | 100 | 1.22 | 18  |     |     |     |     |   |
|             | Sg    |     |    | 58 01.5 |     | 1.0  | 100 |      |     |     |     |     |     |   |
| TRZ         | Pg    | 17  | 57 | 46.5    |     | -1.7 | 100 | 1.44 | 109 |     |     | 3.8 | 3.8 |   |
| MNG         |       |     |    |         |     |      |     | 1.56 | 168 |     |     | 3.9 | 4.1 |   |
| WEL         | Pg    | 17  | 58 | 02.5    |     | -1.1 | 100 | 2.20 | 186 | 3.7 |     |     |     |   |
|             | S*    |     |    | 25      |     | -1.7 | 100 |      |     |     |     |     |     |   |
|             | Sg    |     |    | 36      |     | 2.7  | 98  |      |     |     |     |     |     |   |
| COB         | Pn    | 17  | 58 | 01      |     | -0.1 | 100 | 2.67 | 221 |     |     | 4.0 | 3.5 |   |
|             | P*    |     |    | 05      |     | -0.9 |     |      |     |     |     |     |     |   |
|             | Sn    |     |    | 35      |     | 2.3  |     |      |     |     |     |     |     |   |
|             | S*    |     |    | 41      |     | 0.1  | 100 |      |     |     |     |     |     |   |
| AMPLITUDES: |       |     |    |         |     |      |     |      |     |     |     |     |     |   |
|             | WNZ   |     |    |         | 0.2 | TRZ  | 0.6 | 0.8  | MNG |     | 5.0 | 10  |     |   |
|             | WEL   | 0.3 |    |         |     | COB  | 0.8 | 0.9  |     |     |     |     |     |   |

FELT: Ohakune (49) MM IV

| 77/ 826     |                                                    |         |          |         |                  |      |     |      |     |     |         |     |
|-------------|----------------------------------------------------|---------|----------|---------|------------------|------|-----|------|-----|-----|---------|-----|
| DEC 15      | 13 <sup>h</sup> 34 <sup>m</sup> 05 <sup>s</sup> .9 | 39°.09s | 175°.10E | 12 km   | M = 3.8          |      |     |      |     |     |         |     |
|             | ± 0.4                                              | 0.02    | 0.03     | R       | S.E. of RES. 1.2 |      |     |      |     |     |         |     |
| STN         | PHASE                                              | H       | M        | S       | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |     |
| CNZ         | iPg                                                | 13      | 34       | 14.9    |                  | 1.3  | 100 | 0.37 | 108 |     |         |     |
| GSZ         | Pg                                                 | 13      | 34       | 15.2    |                  | 0.5  | 100 | 0.42 | 117 |     |         |     |
|             | Sg                                                 |         |          | 21      |                  | 0.4  |     |      |     |     |         |     |
| WNZ         | Pg                                                 | 13      | 34       | 28      |                  | 3.6  |     | 0.91 | 60  |     | 3.3     | 3.6 |
|             | Sg                                                 |         |          | 36.5    |                  | -0.2 | 100 |      |     |     |         |     |
| KRP         | iPg                                                | 13      | 34       | 29.5    | U                | -1.0 | 100 | 1.21 | 17  |     |         |     |
|             | Sg                                                 |         |          | 47.5    |                  | 0.6  | 100 |      |     |     |         |     |
| TRZ         | Pg                                                 | 13      | 34       | 33      |                  | -1.5 | 99  | 1.41 | 110 |     | 4.1     | 4.0 |
|             | eSg                                                |         |          | 55.5    |                  | 1.8  |     |      |     |     |         |     |
| TUA         | ePg                                                | 13      | 34       | 40      |                  | 1.2  |     | 1.63 | 81  |     | 3.6     | 3.6 |
| CAZ         | Pg                                                 | 13      | 34       | 47      |                  | 0.4  | 100 | 2.01 | 155 |     |         |     |
|             | Sg                                                 |         |          | 35 18   |                  | 4.3  |     |      |     |     |         |     |
| WEL         | eP*                                                | 13      | 34       | 43      |                  | -1.8 |     | 2.21 | 187 | 4.0 |         |     |
|             | Pg                                                 |         |          | 49      |                  | -1.6 | 99  |      |     |     |         |     |
|             | Sn                                                 |         |          | 35 09   |                  | 0.6  | 100 |      |     |     |         |     |
|             | Sg                                                 |         |          | 22      |                  | 1.6  |     |      |     |     |         |     |
| GNZ         | Pg                                                 | 13      | 34       | 53      |                  | 0.1  | 100 | 2.32 | 80  |     | 4.0     |     |
| COB         | Pn                                                 | 13      | 34       | 49      |                  | 0.8  | 100 | 2.70 | 222 |     | 4.4     | 3.8 |
|             | P*                                                 |         |          | 52.5    |                  | -0.6 |     |      |     |     |         |     |
|             | Sn                                                 |         |          | 35 21.5 |                  | 1.4  | 99  |      |     |     |         |     |
|             | S*                                                 |         |          | 27      |                  | -1.5 | 99  |      |     |     |         |     |
| KAI         |                                                    |         |          |         |                  |      |     | 4.44 | 218 | 3.8 |         |     |
| AMPLITUDES: | WNZ                                                |         | 0.1      | 0.3     | TRZ              | 1.5  | 1.1 | TUA  |     | 0.2 | 0.2     |     |
|             | WEL                                                | 0.6     |          |         | GNZ              | 0.7  |     | COB  |     | 1.6 | 1.6     |     |
|             | KAI                                                | 0.1     |          |         |                  |      |     |      |     |     |         |     |

FELT: Central North Island

| 77/ 827 |                                                    |         |          |       |                  |      |     |      |     |     |         |     |
|---------|----------------------------------------------------|---------|----------|-------|------------------|------|-----|------|-----|-----|---------|-----|
| DEC 15  | 22 <sup>h</sup> 04 <sup>m</sup> 45 <sup>s</sup> .3 | 42°.76s | 171°.60E | 12 km | M = 4.8          |      |     |      |     |     |         |     |
|         | ± 0.3                                              | 0.03    | 0.04     | R     | S.E. of RES. 1.0 |      |     |      |     |     |         |     |
| STN     | PHASE                                              | H       | M        | S     | DIR              | RES  | WT  | DIST | AZ  | W-A | W P W S |     |
| KAI     | iP*                                                | 22      | 04       | 50.4  | X                | -0.8 | 100 | 0.28 | 329 |     |         |     |
| CHR     | P*                                                 | 22      | 05       | 05    |                  | 0.1  | 100 | 1.08 | 136 |     |         |     |
|         | eS*                                                |         |          | 19    |                  | -0.3 |     |      |     |     |         |     |
| MJZ     | Pn                                                 | 22      | 05       | 11.4  | SW               | 0.3  | 100 | 1.48 | 214 |     |         |     |
|         | Sn                                                 |         |          | 31    |                  | 0.7  | 100 |      |     |     |         |     |
| KKY     | iPn                                                | 22      | 05       | 11.7  | D                | -0.7 | 100 | 1.58 | 78  |     |         |     |
|         | eS*                                                |         |          | 35    |                  | 0.6  |     |      |     |     |         |     |
|         | eSg                                                |         |          | 39    |                  | 0.3  |     |      |     |     |         |     |
| GSP     | Pn                                                 | 22      | 05       | 16    |                  | 0.7  | 100 | 1.79 | 220 |     |         |     |
|         | P*                                                 |         |          | 18.5  |                  | 1.4  |     |      |     |     |         |     |
|         | eSg                                                |         |          | 48    |                  | 2.2  |     |      |     |     |         |     |
| COB     | Pn                                                 | 22      | 05       | 15.4  |                  | -1.0 | 100 | 1.87 | 27  |     | 5.5     | 4.8 |
|         | eP*                                                |         |          | 17    |                  | -1.5 |     |      |     |     |         |     |
|         | Sn                                                 |         |          | 41.5  |                  | 1.7  | 98  |      |     |     |         |     |
| OMZ     | Pn                                                 | 22      | 05       | 22    |                  | -1.1 | 100 | 2.37 | 192 |     |         |     |
|         | P*                                                 |         |          | 29    |                  | 2.2  |     |      |     |     |         |     |
| WEL     | Pn                                                 | 22      | 05       | 28.5  |                  | -0.3 | 100 | 2.78 | 59  | 4.4 |         |     |
|         | P*                                                 |         |          | 36.5  |                  | 2.5  |     |      |     |     |         |     |
|         | Sn                                                 |         |          | 06 02 |                  | 0.4  | 100 |      |     |     |         |     |
|         | Sg                                                 |         |          | 20    |                  | 0.8  |     |      |     |     |         |     |
| ROX     | P*                                                 | 22      | 05       | 43    |                  | 2.3  |     | 3.18 | 210 |     | 5.1     | 4.8 |

Sg 06 32 -0.3 3.28 233 4.7 5.0  
 MSZ MNW 4.16 222 4.4  
 AMPLITUDES: COB 47 36 WEL 1.2 ROX 7.0 10  
 MSZ 7.5 22 MNW 0.7

FELT: Arthurs Pass region. Maximum intensity MM IV

DEC 16 09<sup>h</sup>56<sup>m</sup>50<sup>s</sup>.1 39°.13s 175°.08E 12 km M = 3.9  
 ± 0.5 0.02 0.04 R S.E. of RES. 1.2

| STN         | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-------------|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| CNZ         | iPg   | 09 | 56 | 59.4    |     | 1.4  | 100 | 0.37 | 100 |     |   |     |     |   |
| GSZ         | iPg   | 09 | 56 | 59.7    |     | 0.8  | 100 | 0.42 | 110 |     |   |     |     |   |
|             | Sg    |    |    | 57 06   |     | 1.2  |     |      |     |     |   |     |     |   |
| WNZ         | ePg   | 09 | 57 | 14.5    |     | 5.2  |     | 0.94 | 58  |     |   |     |     |   |
|             | Sg    |    |    | 26      |     | 3.8  |     |      |     |     |   |     |     |   |
| KRP         | Pg    | 09 | 57 | 14.3    |     | -1.4 | 100 | 1.26 | 17  |     |   |     |     |   |
|             | Sg    |    |    | 32.5    |     | -0.2 | 100 |      |     |     |   |     |     |   |
| TRZ         | eP*   | 09 | 57 | 16.5    |     | 1.0  |     | 1.42 | 108 |     |   | 3.9 | 3.9 |   |
|             | Pg    |    |    | 18.5    |     | -0.3 | 100 |      |     |     |   |     |     |   |
|             | e(Sg) |    |    | 40      |     | 2.0  |     |      |     |     |   |     |     |   |
| MNG         | P*    | 09 | 57 | 16.9    |     | -0.3 | 100 | 1.52 | 168 |     |   | 4.1 | 4.1 |   |
|             | S*    |    |    | 35      |     | -2.2 | 98  |      |     |     |   |     |     |   |
| WTZ         | Pg    | 09 | 57 | 28      |     | -0.3 |     | 1.89 | 53  |     |   | 3.4 |     |   |
| CAZ         | Pg    | 09 | 57 | 31      |     | 0.9  | 100 | 1.98 | 154 |     |   |     |     |   |
|             | Sg    |    |    | 58 01   |     | 4.2  |     |      |     |     |   |     |     |   |
| WEL         | P*    | 09 | 57 | 29      |     | 0.8  |     | 2.17 | 186 |     |   | 3.9 |     |   |
|             | Pg    |    |    | 33      |     | -0.9 | 100 |      |     |     |   |     |     |   |
|             | S*    |    |    | 57      |     | 0.3  | 100 |      |     |     |   |     |     |   |
|             | Sg    |    |    | 58 07   |     | 3.9  |     |      |     |     |   |     |     |   |
| GNZ         | ePg   | 09 | 57 | 38      |     | 0.3  |     | 2.35 | 79  |     |   | 3.7 |     |   |
| COB         | Pn    | 09 | 57 | 33.5    |     | 1.7  | 99  | 2.65 | 222 |     |   | 4.2 | 3.8 |   |
|             | S*    |    |    | 58 11.5 |     | 0.2  | 100 |      |     |     |   |     |     |   |
| AMPLITUDES: | TRZ   |    |    | 0.9     | 1.0 | MNG  |     | 8.5  | 10  | WTZ |   | 0.2 |     |   |
|             | WEL   |    |    | 0.5     |     | GNZ  |     | 0.3  |     | COB |   | 1.2 | 1.6 |   |

DEC 18 05<sup>h</sup>33<sup>m</sup>50<sup>s</sup>.5 37°.25s 179°.01E 33 km M = 3.9  
 ± 1.4 0.07 0.09 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W | P   | W   | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|---|-----|-----|---|
| ECZ | iP*   | 05 | 34 | 01.5    | D   | -0.7 | 100 | 0.58 | 220 |     |   | 3.9 | 4.0 |   |
|     | e(S*) |    |    | 11.5    |     | 0.8  |     |      |     |     |   |     |     |   |
| GNZ | Pn    | 05 | 34 | 15.5    |     | -0.3 | 100 | 1.59 | 209 |     |   | 3.4 | 3.6 |   |
|     | Sn    |    |    | 33.5    |     | -1.3 | 99  |      |     |     |   |     |     |   |
| WTZ | iPn   | 05 | 34 | 18.5    | U   | 0.3  | 100 | 1.76 | 245 |     |   | 4.3 | 4.1 |   |
|     | P*    |    |    | 23.5    |     | 1.5  |     |      |     |     |   |     |     |   |
|     | Sn    |    |    | 39      |     | 0.1  | 100 |      |     |     |   |     |     |   |
|     | S*    |    |    | 44      |     | -1.4 |     |      |     |     |   |     |     |   |
| KRP | Pn    | 05 | 34 | 33.5    |     | 0.6  | 100 | 2.84 | 255 |     |   |     |     |   |
|     | Sn    |    |    | 35 04   |     | -0.8 | 100 |      |     |     |   |     |     |   |
| TRZ | Sn    | 05 | 35 | 07.5    |     | 2.0  | 98  | 2.87 | 216 |     |   |     | 3.9 |   |
| CNZ | Pn    | 05 | 34 | 40      |     | 0.2  | 100 | 3.36 | 234 |     |   |     |     |   |
|     | Sn    |    |    | 35 18.5 |     | 1.4  |     |      |     |     |   |     |     |   |
| MNG | ePn   | 05 | 34 | 49      |     | -4.4 |     | 4.35 | 218 |     |   | 3.5 | 3.6 |   |
|     | Sn    |    |    | 35 37   |     | -3.9 |     |      |     |     |   |     |     |   |
| WEL | Sn    | 05 | 35 | 55.5    |     | -6.1 |     | 5.20 | 218 |     |   | 4.9 |     |   |



|             |                                                    |          |          |       |              |       |     |      |     |     |     |     |     |
|-------------|----------------------------------------------------|----------|----------|-------|--------------|-------|-----|------|-----|-----|-----|-----|-----|
| COB         | Sn                                                 | 05 36 21 |          | -4.6  | 6.21         | 230   |     | 3.3  |     |     |     |     |     |
| AMPLITUDES: | ECZ                                                | 4.5      | 8.5      | GNZ   | 0.9          | 2.1   | WTZ | 6.1  | 3.4 |     |     |     |     |
|             | TRZ                                                |          | 0.5      | MNG   | 0.3          | 0.5   | WEL | 0.8  |     |     |     |     |     |
|             | COB                                                |          | 0.1      |       |              |       |     |      |     |     |     |     |     |
| DEC 18      | 17 <sup>h</sup> 49 <sup>m</sup> 28 <sup>s</sup> .5 | 36°.01s  | 178°.23E | 12 km | M = 4.1      |       |     |      |     |     |     |     |     |
|             | ± 1.1                                              | 0.05     | 0.08     | R     | S.E. of RES. | 0.7   |     |      |     |     |     |     |     |
| STN         | PHASE                                              | H        | M        | S     | DIR          | RES   | WT  | DIST | AZ  | W-A | W   | P   | W S |
| ECZ         | (Pg)                                               | 17       | 50       | 02.5  |              | -0.3  | 100 | 1.70 | 171 |     | 3.6 | 3.6 |     |
|             | (Sn)                                               |          |          | 19    |              | 0.3   | 100 |      |     |     |     |     |     |
|             | (Sg)                                               |          |          | 26    |              | 0.2   | 100 |      |     |     |     |     |     |
| WTZ         | Pn                                                 | 17       | 50       | 04.8  |              | 0.7   | 100 | 2.20 | 206 |     | 4.0 | 4.1 |     |
|             | eSn                                                |          |          | 32    |              | 1.1   |     |      |     |     |     |     |     |
| GNZ         | iPn                                                | 17       | 50       | 10.0  | U            | 0.1   | 100 | 2.64 | 184 |     | 4.7 | 4.7 |     |
|             | Sn                                                 |          |          | 40.5  |              | -0.6  | 100 |      |     |     |     |     |     |
| KRP         | Pn                                                 | 17       | 50       | 13.9  | D            | 0.6   | 100 | 2.88 | 228 |     |     |     |     |
| TRZ         | Sn                                                 | 17       | 51       | 07    |              | 0.0   | 100 | 3.71 | 197 |     |     | 4.5 |     |
| CNZ         | ePn                                                | 17       | 50       | 25    |              | -1.3  | 98  | 3.83 | 213 |     |     |     |     |
| MNG         | ePn                                                | 17       | 50       | 36.5  |              | -6.9  |     | 5.08 | 204 |     | 4.0 | 4.3 |     |
|             | Sn                                                 |          |          | 51 32 |              | -8.0  |     |      |     |     |     |     |     |
|             | S*                                                 |          |          | 52    |              | -10.5 |     |      |     |     |     |     |     |
| WEL         | Sn                                                 | 17       | 51       | 51    |              | -9.2  |     | 5.92 | 206 | 3.9 |     |     |     |
| COB         | Sn                                                 | 17       | 52       | 12    |              | -5.7  |     | 6.65 | 219 |     |     | 3.8 |     |
| AMPLITUDES: | ECZ                                                | 0.3      | 0.4      | WTZ   | 2.0          | 2.5   | GNZ | 5.8  | 8.8 |     |     |     |     |
|             | TRZ                                                |          | 1.3      | MNG   | 0.7          | 1.7   | WEL | 0.1  |     |     |     |     |     |
|             | COB                                                |          | 0.3      |       |              |       |     |      |     |     |     |     |     |

|             |                                                    |         |          |       |              |      |     |      |     |     |      |      |     |
|-------------|----------------------------------------------------|---------|----------|-------|--------------|------|-----|------|-----|-----|------|------|-----|
| DEC 18      | 20 <sup>h</sup> 31 <sup>m</sup> 05 <sup>s</sup> .4 | 45°.45s | 167°.22E | 96 km | M = 4.5      |      |     |      |     |     |      |      |     |
|             | ± 0.9                                              | 0.03    | 0.07     | 8     | S.E. of RES. | 0.8  |     |      |     |     |      |      |     |
| STN         | PHASE                                              | H       | M        | S     | DIR          | RES  | WT  | DIST | AZ  | W-A | W    | P    | W S |
| MNW         | P                                                  | 20      | 31       | 20    |              | -0.5 | 100 | 0.44 | 140 |     |      |      |     |
| MSZ         | iP                                                 | 20      | 31       | 25.3  | D            | 0.5  | 100 | 0.92 | 33  |     | 4.5* |      |     |
|             | S                                                  |         |          | 39.5  |              | -0.1 | 100 |      |     |     |      |      |     |
| ROX         | iP                                                 | 20      | 31       | 33.0  | D            | 1.3  | 98  | 1.48 | 92  |     | 4.7  | 4.5  |     |
|             | S                                                  |         |          | 52    |              | 0.5  | 100 |      |     |     |      |      |     |
| OBZ         | P                                                  | 20      | 31       | 33.4  |              | 0.4  | 100 | 1.58 | 157 |     |      |      |     |
|             | i                                                  |         |          | 34.9  |              |      |     |      |     |     |      |      |     |
|             | S                                                  |         |          | 53    |              | -0.7 | 100 |      |     |     |      |      |     |
| OMZ         | iP                                                 | 20      | 31       | 46.9  | D            | -0.2 | 100 | 2.64 | 83  |     |      |      |     |
|             | e(S)                                               |         |          | 32 19 |              | 0.6  |     |      |     |     |      |      |     |
| MJZ         | iP                                                 | 20      | 31       | 47.9  | DS           | -0.6 | 100 | 2.74 | 59  |     |      |      |     |
|             | e                                                  |         |          | 54    |              |      |     |      |     |     |      |      |     |
|             | S                                                  |         |          | 32 20 |              | -0.8 | 100 |      |     |     |      |      |     |
|             | e                                                  |         |          | 36    |              |      |     |      |     |     |      |      |     |
| KAI         |                                                    |         |          |       |              |      |     | 4.20 | 47  | 4.3 |      |      |     |
| COB         | eS                                                 | 20      | 33       | 36    |              | -3.6 |     | 5.94 | 45  |     |      | 4.5  |     |
| MNG         | P                                                  | 20      | 32       | 55    |              | -2.1 |     | 7.75 | 54  |     | 3.1* | 2.9* |     |
| AMPLITUDES: | MSZ                                                | 42      |          | ROX   | 11           | 17   | KAI | 0.3  |     |     |      |      |     |
|             | COB                                                |         | 0.8      | MNG   | 0.4          | 0.3  |     |      |     |     |      |      |     |

|        |                                                    |         |          |        |              |     |  |  |  |  |  |  |  |
|--------|----------------------------------------------------|---------|----------|--------|--------------|-----|--|--|--|--|--|--|--|
| DEC 19 | 17 <sup>h</sup> 15 <sup>m</sup> 50 <sup>s</sup> .7 | 38°.15s | 175°.76E | 278 km | M = 4.2      |     |  |  |  |  |  |  |  |
|        | ± 1.2                                              | 0.05    | 0.09     | 8      | S.E. of RES. | 1.2 |  |  |  |  |  |  |  |



| STN         | PHASE | H   | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P    | W    | S |
|-------------|-------|-----|----|---------|-----|------|-----|------|-----|-----|-----|------|------|---|
| KRP         | iP    | 17  | 16 | 26.5    | D   | -0.0 | 100 | 0.28 | 322 |     |     |      |      |   |
|             | S     |     |    | 54.5    |     | 0.1  | 100 |      |     |     |     |      |      |   |
| WTZ         | iP    | 17  | 16 | 27.8    | D   | -1.0 | 100 | 0.99 | 81  |     |     | 4.1  |      |   |
| CNZ         | eS    | 17  | 17 | 00      |     | 0.7  | 100 | 1.06 | 189 |     |     |      |      |   |
| TRZ         | P     | 17  | 16 | 34      |     | 1.1  | 100 | 1.63 | 150 |     |     | 3.9  | 4.2  |   |
|             | S     |     |    | 17 07   |     | 1.4  | 99  |      |     |     |     |      |      |   |
| GNZ         | iP    | 17  | 16 | 35.3    | U   | 0.8  | 100 | 1.85 | 106 |     |     | 4.7  | 4.3  |   |
|             | S     |     |    | 17 07.5 |     | -1.1 | 100 |      |     |     |     |      |      |   |
| ECZ         | P     | 17  | 16 | 38      |     | -0.0 | 100 | 2.26 | 79  |     |     | 4.5  |      |   |
| MNG         | iP    | 17  | 16 | 40.0    | U   | -0.1 | 100 | 2.47 | 185 |     |     | 4.3  | 4.3  |   |
|             | S     |     |    | 17 16.5 |     | -2.1 | 98  |      |     |     |     |      |      |   |
| CAZ         | S     | 17  | 17 | 24.5    |     | 0.6  | 100 | 2.78 | 173 |     |     |      |      |   |
| WEL         | S     | 17  | 17 | 31      |     | -1.1 |     | 3.23 | 193 | 3.8 |     |      |      |   |
| COB         | P     | 17  | 16 | 51.6    | U   | -1.9 |     | 3.75 | 218 |     |     | 3.7* | 2.8* |   |
|             | eS    |     |    | 17 44   |     | 1.6  |     |      |     |     |     |      |      |   |
| AMPLITUDES: |       | WTZ |    | 1.5     |     | TRZ  |     | 0.3  | 1.5 | GNZ |     | 5.0  | 3.0  |   |
|             |       | ECZ |    | 1.1     |     | MNG  |     | 3.5  | 4.8 | WEL | 0.1 |      |      |   |
|             |       | COB |    | 0.7     | 0.3 |      |     |      |     |     |     |      |      |   |

77/ 833

DEC 19 17<sup>h</sup>54<sup>m</sup>49<sup>s</sup>.1 37°.06S 179°.72W 33 km M = 4.0

± 0.9 0.05 0.11 R S.E. of RES. 0.5

| STN         | PHASE | H   | M  | S     | DIR | RES  | WT  | DIST  | AZ  | W-A | W   | P   | W   | S |
|-------------|-------|-----|----|-------|-----|------|-----|-------|-----|-----|-----|-----|-----|---|
| ECZ         | iPn   | 17  | 55 | 14.0  | D   | 0.6  | 99  | 1.52  | 245 |     |     | 4.4 | 4.2 |   |
|             | P*    |     |    | 16.5  |     | 0.1  |     |       |     |     |     |     |     |   |
|             | e(S*) |     |    | 40    |     | 3.4  |     |       |     |     |     |     |     |   |
| GNZ         | Pn    | 17  | 55 | 25    |     | -0.2 | 100 | 2.38  | 228 |     |     | 4.1 | 4.1 |   |
|             | Sn    |     |    | 52    |     | -0.3 | 100 |       |     |     |     |     |     |   |
| WTZ         | iPn   | 17  | 55 | 30.0  | U   | -0.5 | 99  | 2.77  | 250 |     |     | 4.3 | 4.1 |   |
|             | eP*   |     |    | 35.5  |     | -2.1 |     |       |     |     |     |     |     |   |
|             | Sn    |     |    | 58.5  |     | -3.2 |     |       |     |     |     |     |     |   |
| TRZ         | Pn    | 17  | 55 | 43    |     | 0.0  | 100 | 3.69  | 227 |     |     | 3.8 | 4.3 |   |
|             | Sn    |     |    | 56 24 |     | 0.3  | 100 |       |     |     |     |     |     |   |
| KRP         | Pn    | 17  | 55 | 45.5  |     | 0.0  | 100 | 3.87  | 256 |     |     |     |     |   |
| CNZ         | P*    | 17  | 56 | 07    |     | 3.4  |     | 4.30  | 239 |     |     |     |     |   |
| MNG         | Pn    | 17  | 56 | 00    |     | -3.1 |     | 5.17  | 225 |     |     | 3.8 | 3.8 |   |
|             | Sn    |     |    | 53.5  |     | -5.6 |     |       |     |     |     |     |     |   |
| WEL         | Sn    | 17  | 57 | 14    |     | -5.5 |     | 6.01  | 224 | 3.9 |     |     |     |   |
| COB         |       |     |    |       |     |      |     | 7.12  | 233 |     |     |     | 3.7 |   |
| CIZ         | Sn    | 17  | 57 | 55    |     | 4.6  |     | 7.30  | 162 |     |     |     |     |   |
| MJZ         | Sn    | 17  | 58 | 53.5  |     | -6.2 |     | 10.18 | 224 |     |     |     |     |   |
| AMPLITUDES: |       | ECZ |    | 2.5   | 1.7 | GNZ  |     | 2.0   | 2.7 | WTZ |     | 2.4 | 1.6 |   |
|             |       | TRZ |    | 0.2   | 0.9 | MNG  |     | 0.4   | 0.5 | WEL | 0.1 |     |     |   |
|             |       | COB |    |       | 0.2 |      |     |       |     |     |     |     |     |   |

77/ 834

DEC 21 03<sup>h</sup>38<sup>m</sup>00<sup>s</sup>.1 41°.05S 175°.64E 12 km M = 3.9

± 0.5 0.03 0.03 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W | P | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---|---|---|---|
| MNG | i(P*) | 03 | 38 | 06.6 | D   | -2.3 | 96  | 0.45 | 344 |     |   |   |   |   |
| CAZ | i(P*) | 03 | 38 | 07.9 | D   | -1.3 | 99  | 0.47 | 72  |     |   |   |   |   |
|     | Sg    |    |    | 17.5 |     | 1.3  | 99  |      |     |     |   |   |   |   |
| WEL | P*    | 03 | 38 | 13   |     | -0.3 | 100 | 0.70 | 250 | 3.9 |   |   |   |   |
|     | Pg    |    |    | 14.5 |     | 0.0  |     |      |     |     |   |   |   |   |
|     | S*    |    |    | 23.5 |     | 0.6  | 100 |      |     |     |   |   |   |   |

|             |       |            |      |     |      |     |     |     |  |
|-------------|-------|------------|------|-----|------|-----|-----|-----|--|
| TRZ         | Sg    | 03 26      | 1.9  |     |      |     |     |     |  |
| GSZ         | Pg    | 03 38 35.5 | 0.0  | 100 | 1.75 | 31  | 4.0 | 3.7 |  |
|             | Pn    | 03 38 30.0 | 0.2  |     | 1.77 | 359 |     |     |  |
|             | S*    | 56.5       | 1.6  |     |      |     |     |     |  |
| CNZ         | iPn   | 03 38 30.7 | -0.2 | 100 | 1.85 | 358 |     |     |  |
|             | Sg    | 39 03      | 0.5  | 100 |      |     |     |     |  |
| KKY         | e(P*) | 03 38 35.5 | 0.0  |     | 2.01 | 226 |     |     |  |
|             | Sg    | 39 14.5    | 6.8  |     |      |     |     |     |  |
| TNZ         | ePn   | 03 38 35.5 | 1.2  |     | 2.10 | 332 | 4.1 | 4.3 |  |
|             | P*    | 38         | 0.9  | 100 |      |     |     |     |  |
|             | S*    | 39 05      | 0.3  | 100 |      |     |     |     |  |
|             | Sg    | 15         | 4.1  |     |      |     |     |     |  |
| COB         | Pn    | 03 38 36.0 | 0.3  | 100 | 2.20 | 268 | 4.2 | 3.9 |  |
|             | eSn   | 39 05      | 2.6  |     |      |     |     |     |  |
| GNZ         | Sn    | 03 39 19.5 | -2.6 |     | 3.02 | 38  |     |     |  |
| WTZ         |       |            |      |     | 3.23 | 19  | 3.5 | 3.7 |  |
| KAI         |       |            |      |     | 3.49 | 244 | 3.8 |     |  |
| AMPLITUDES: | WEL   | 5.9        | TRZ  | 1.5 | 0.9  | TNZ | 1.0 | 2.3 |  |
|             | COB   | 2.0        | 3.7  | WTZ | 0.3  | 0.4 | KAI | 0.2 |  |

FELT: Masterton (66) MM IV

77/ 835  
 DEC 21 10<sup>h</sup>19<sup>m</sup>15<sup>s</sup>.6 41°.02s 174°.64E 59 km M = 3.5  
 ± 0.2 0.01 0.02 3 S.E. of RES. 0.5

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W P W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|------|---------|
| MRW | P     | 10 | 19 | 26.1    |     | 0.5  |     | 0.22 | 167 |      |         |
| WEL | iP    | 10 | 19 | 26.5    | D   | 0.5  | 100 | 0.28 | 160 |      |         |
|     | S     |    |    | 34      |     | 0.3  | 100 |      |     |      |         |
| TCW | iP    | 10 | 19 | 26.8    | D   | 0.3  | 100 | 0.33 | 235 |      |         |
| CPW | iP    | 10 | 19 | 26.5    | U   | 0.0  | 100 | 0.33 | 105 |      |         |
| WDW | P     | 10 | 19 | 27.0    |     | 0.3  | 100 | 0.36 | 133 |      |         |
| BHW | iP    | 10 | 19 | 27.6    | U   | 0.4  |     | 0.42 | 156 |      |         |
| MNG | iP    | 10 | 19 | 31.2    | U   | 0.3  | 100 | 0.76 | 58  | 3.3  | 3.5     |
|     | S     |    |    | 41      |     | -1.2 | 94  |      |     |      |         |
| CAZ | P     | 10 | 19 | 36.7    | D   | -0.1 | 100 | 1.21 | 85  |      |         |
|     | S     |    |    | 52.5    |     | -0.2 | 100 |      |     |      |         |
| COB | P     | 10 | 19 | 40      |     | 0.0  | 100 | 1.45 | 267 | 3.9* | 3.8*    |
|     | S     |    |    | 58.5    |     | 0.0  | 100 |      |     |      |         |
| KKY | P     | 10 | 19 | 41.5    | U   | -0.3 | 100 | 1.57 | 207 |      |         |
|     | e     |    |    | 52.5    |     |      |     |      |     |      |         |
|     | S     |    |    | 20 01   |     | -0.4 | 100 |      |     |      |         |
| TNZ | P     | 10 | 19 | 46      |     | 0.4  | 100 | 1.84 | 354 | 3.2* | 3.4*    |
|     | S     |    |    | 20 07.5 |     | -0.4 | 100 |      |     |      |         |
|     | e     |    |    | 10      |     |      |     |      |     |      |         |
| GSZ | P     | 10 | 19 | 46.5    |     | 0.4  |     | 1.89 | 23  |      |         |
|     | S     |    |    | 20 09   |     | 0.1  |     |      |     |      |         |
| CNZ | P     | 10 | 19 | 46.5    |     | -0.5 | 100 | 1.95 | 21  |      |         |
|     | S     |    |    | 20 10.5 |     | 0.2  | 100 |      |     |      |         |
| TRZ | S     | 10 | 20 | 18      |     | 0.9  | 99  | 2.22 | 49  |      | 3.5     |
| KAI | S     | 10 | 20 | 30      |     | -3.0 |     | 2.85 | 237 | 3.3* |         |
| KRP | eP    | 10 | 20 | 03      |     | -1.4 |     | 3.18 | 13  |      |         |
|     | e     |    |    | 13.5    |     |      |     |      |     |      |         |
|     | S     |    |    | 38      |     | -3.2 |     |      |     |      |         |
| GNZ | S     | 10 | 20 | 46      |     | -4.1 |     | 3.53 | 49  |      |         |
| WTZ | S     | 10 | 20 | 45.5    |     | -4.9 |     | 3.54 | 32  |      | 3.7     |
| MJZ | eP    | 10 | 20 | 18.5    |     | -1.3 |     | 4.28 | 225 |      |         |
|     | e     |    |    | 32      |     |      |     |      |     |      |         |

S 21 04.5 -4.5  
 AMPLITUDES: WEL 8.7 MNG 6.5 12 COB 3.8 9.5  
 TNZ 0.3 0.7 TRZ 0.4 KAI 0.3  
 WTZ 0.3

FELT: Wellington (68) MM IV

DEC 22 00<sup>h</sup>04<sup>m</sup>29<sup>s</sup>.7 40°.32S 173°.43E 173 km 77/ 836  
 ± 1.0 0.05 0.05 8 S.E. of RES. 1.1 M = 4.4

| STN         | PHASE | H   | M   | S       | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W   | S |
|-------------|-------|-----|-----|---------|-----|------|-----|------|-----|------|------|------|-----|---|
| COB         | iP    | 00  | 04  | 57.3    |     | 1.0  | 100 | 0.94 | 214 |      | 4.3* | 3.8* |     |   |
|             | S     |     | 05  | 18      |     | 1.1  | 100 |      |     |      |      |      |     |   |
| WEL         | P     | 00  | 05  | 01.4    | U   | 1.0  | 100 | 1.40 | 134 | 4.3  |      |      |     |   |
|             | S     |     |     | 23.5    |     | -0.6 | 100 |      |     |      |      |      |     |   |
| MNG         | iP    | 00  | 05  | 02.7    | D   | 0.4  | 100 | 1.59 | 102 |      | 4.4  | 4.7  |     |   |
|             | S     |     |     | 26.5    |     | -1.0 | 100 |      |     |      |      |      |     |   |
| GSZ         | P     | 00  | 05  | 05.6    |     | -0.6 |     | 1.96 | 59  |      |      |      |     |   |
|             | S     |     |     | 35.5    |     | 1.2  |     |      |     |      |      |      |     |   |
| CNZ         | iP    | 00  | 05  | 05.6    |     | -0.8 | 100 | 1.98 | 56  |      |      |      |     |   |
|             | S     |     |     | 34      |     | -0.7 | 100 |      |     |      |      |      |     |   |
| KKY         | iP    | 00  | 05  | 08.2    | D   | 0.4  | 100 | 2.12 | 175 |      |      |      |     |   |
|             | S     |     |     | 37      |     | -0.3 | 100 |      |     |      |      |      |     |   |
| CAZ         | iP    | 00  | 05  | 09.3    | D   | 0.3  | 100 | 2.21 | 106 |      |      |      |     |   |
|             | e     |     |     | 34      |     |      |     |      |     |      |      |      |     |   |
|             | S     |     |     | 40.5    |     | 1.2  | 100 |      |     |      |      |      |     |   |
| KAI         | S     | 00  | 05  | 47.5    |     | -1.8 | 99  | 2.68 | 214 | 3.9* |      |      |     |   |
| TRZ         | e(S)  | 00  | 05  | 53      |     | 2.8  |     | 2.72 | 75  |      |      |      | 4.3 |   |
| KRP         | P     | 00  | 05  | 15.5    |     | -1.9 |     | 2.90 | 35  |      |      |      |     |   |
|             | S     |     |     | 49.5    |     | -4.6 |     |      |     |      |      |      |     |   |
| WTZ         | P     | 00  | 05  | 23      |     | -3.5 |     | 3.62 | 51  |      | 3.9  | 4.0  |     |   |
|             | S     |     |     | 06 06   |     | -4.2 |     |      |     |      |      |      |     |   |
| GNZ         | iP    | 00  | 05  | 27.9    |     | -2.5 |     | 3.93 | 66  |      | 4.8  | 4.8  |     |   |
|             | S     |     |     | 06 12.5 |     | -4.8 |     |      |     |      |      |      |     |   |
| AMPLITUDES: |       | COB |     | 8.3     | 9.7 | WEL  | 2.0 |      | MNG |      | 12   | 32   |     |   |
|             |       | KAI | 1.2 |         |     | TRZ  |     | 1.6  | WTZ |      | 0.4  | 0.6  |     |   |
|             |       | GNZ |     | 3.2     | 4.3 |      |     |      |     |      |      |      |     |   |

DEC 22 14<sup>h</sup>43<sup>m</sup>57<sup>s</sup>.6 39°.42S 174°.23E 257 km 77/ 837  
 ± 0.8 0.04 0.05 6 S.E. of RES. 1.0 M = 3.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A  | W    | P    | W   | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|------|------|------|-----|---|
| TNZ | eS    | 14 | 44 | 57.5 |     | 0.7  | 100 | 0.26 | 27  |      |      |      |     |   |
| CNZ | (S)   | 14 | 45 | 06   |     | 3.9  |     | 1.05 | 78  |      |      |      |     |   |
| MNG | iP    | 14 | 44 | 37.8 | U   | 0.7  | 100 | 1.54 | 142 |      | 3.9  | 4.2  |     |   |
|     | S     |    | 45 | 07   |     | -0.7 | 100 |      |     |      |      |      |     |   |
| KRP | eP    | 14 | 44 | 39   |     | -0.2 | 100 | 1.81 | 35  |      |      |      |     |   |
| WEL | P     | 14 | 44 | 41   |     | 0.9  | 100 | 1.91 | 168 | 3.9  |      |      |     |   |
|     | S     |    | 45 | 12   |     | -1.0 | 100 |      |     |      |      |      |     |   |
| TRZ | S     | 14 | 45 | 16   |     | 1.2  | 99  | 2.02 | 95  |      |      |      | 3.7 |   |
| COB | iP    | 14 | 44 | 41.3 | U   | 0.2  | 100 | 2.02 | 214 |      | 4.3* | 3.1* |     |   |
|     | S     |    | 45 | 14   |     | -0.8 | 100 |      |     |      |      |      |     |   |
| CAZ | S     | 14 | 45 | 17.5 |     | 0.7  | 100 | 2.13 | 135 |      |      |      |     |   |
| WTZ | eP    | 14 | 44 | 46   |     | -0.6 | 100 | 2.59 | 57  |      | 3.2  | 3.4  |     |   |
| GNZ | P     | 14 | 44 | 52   |     | 0.5  | 100 | 3.06 | 77  |      | 3.8  | 4.1  |     |   |
|     | S     |    | 45 | 31.5 |     | -1.9 | 98  |      |     |      |      |      |     |   |
| KAI | eS    | 14 | 45 | 47.5 |     | -0.1 | 100 | 3.77 | 214 | 3.3* |      |      |     |   |

|                             |                                                    |         |          |         |              |      |     |      |     |     |         |      |
|-----------------------------|----------------------------------------------------|---------|----------|---------|--------------|------|-----|------|-----|-----|---------|------|
| MSZ                         | P                                                  | 14      | 45       | 36      |              | -3.5 |     | 7.05 | 220 |     | 3.0*    | 2.7* |
|                             | S                                                  |         |          | 46      | 57           | -2.3 |     |      |     |     |         |      |
| AMPLITUDES:                 | TNZ                                                |         |          |         |              | 0.1  | MNG | 2.4  | 7.0 | WEL | 0.4     |      |
|                             | TRZ                                                |         |          |         |              | 0.4  | COB | 4.5  | 0.9 | WTZ | 0.1     | 0.2  |
|                             | GNZ                                                |         |          | 0.4     | 1.1          | KAI  | 0.2 |      |     | MSZ | 0.2     | 0.2  |
| 77/ 838                     |                                                    |         |          |         |              |      |     |      |     |     |         |      |
| DEC 22                      | 18 <sup>h</sup> 59 <sup>m</sup> 32 <sup>s</sup> .0 | 41°.08s | 172°.43E | 12 km   | M = 3.9      |      |     |      |     |     |         |      |
|                             | ± 0.6                                              | 0.03    | 0.04     | R       | S.E. of RES. | 1.2  |     |      |     |     |         |      |
| STN                         | PHASE                                              | H       | M        | S       | DIR          | RES  | WT  | DIST | AZ  | W-A | W P W S |      |
| COB                         | iPg                                                | 18      | 59       | 35.6    | D            | -1.5 | 99  | 0.23 | 92  |     |         |      |
|                             | Sg                                                 |         |          | 38.6    |              | -1.9 | 99  |      |     |     |         |      |
| KAI                         | eP*                                                | 19      | 00       | 01      |              | -0.0 | 100 | 1.64 | 208 | 4.2 |         |      |
|                             | e(Pg)                                              |         |          | 05      |              | -0.0 |     |      |     |     |         |      |
|                             | eS*                                                |         |          | 22.5    |              | -0.1 | 100 |      |     |     |         |      |
|                             | Sg                                                 |         |          | 27.5    |              | 0.4  |     |      |     |     |         |      |
| KKY                         | P*                                                 | 19      | 00       | 01      |              | -0.1 | 100 | 1.64 | 145 |     |         |      |
|                             | (Pg)                                               |         |          | 04      |              | -1.1 |     |      |     |     |         |      |
|                             | S*                                                 |         |          | 24.5    |              | 1.8  | 99  |      |     |     |         |      |
| WEL                         | P*                                                 | 19      | 00       | 03      |              | -0.5 | 100 | 1.78 | 97  | 3.6 |         |      |
|                             | S*                                                 |         |          | 27      |              | 0.1  | 100 |      |     |     |         |      |
| MNG                         | Pn                                                 | 19      | 00       | 10      |              | 0.3  | 100 | 2.37 | 80  |     | 4.2     | 4.1  |
|                             | P*                                                 |         |          | 13      |              | -0.4 |     |      |     |     |         |      |
|                             | S*                                                 |         |          | 45.5    |              | 1.1  | 100 |      |     |     |         |      |
| TNZ                         | ePn                                                | 19      | 00       | 09.5    |              | -0.9 | 100 | 2.41 | 39  |     | 3.6     | 4.2  |
|                             | P*                                                 |         |          | 17      |              | 2.7  |     |      |     |     |         |      |
|                             | S*                                                 |         |          | 48      |              | 2.0  | 99  |      |     |     |         |      |
|                             | Sg                                                 |         |          | 53      |              | -0.3 | 100 |      |     |     |         |      |
| CAZ                         | Pg                                                 | 19      | 00       | 27      |              | -3.2 |     | 2.88 | 88  |     |         |      |
|                             | Sg                                                 |         |          | 01 08.5 |              | -0.5 |     |      |     |     |         |      |
| CNZ                         | P*                                                 | 19      | 00       | 23      |              | -2.0 |     | 3.04 | 53  |     |         |      |
|                             | eS*                                                |         |          | 01 05   |              | 0.2  |     |      |     |     |         |      |
| MJZ                         | Pn                                                 | 19      | 00       | 21.5    |              | -0.3 |     | 3.25 | 206 |     |         |      |
|                             | S*                                                 |         |          | 01 11.5 |              | 0.5  |     |      |     |     |         |      |
| MSZ                         |                                                    |         |          |         |              |      |     | 4.89 | 221 |     | 3.8     | 3.8  |
| AMPLITUDES:                 | COB                                                |         |          | 22      | 26           | KAI  | 2.2 |      |     | WEL | 0.5     |      |
|                             | MNG                                                |         |          | 4.8     | 5.5          | TNZ  | 0.2 | 1.4  | MSZ |     | 0.4     | 0.7  |
| FELT: Cobb River (75) MM IV |                                                    |         |          |         |              |      |     |      |     |     |         |      |

|         |                                                    |         |          |         |              |      |     |      |     |     |         |     |
|---------|----------------------------------------------------|---------|----------|---------|--------------|------|-----|------|-----|-----|---------|-----|
| 77/ 839 |                                                    |         |          |         |              |      |     |      |     |     |         |     |
| DEC 23  | 00 <sup>h</sup> 40 <sup>m</sup> 08 <sup>s</sup> .3 | 41°.68s | 173°.88E | 12 km   | M = 3.7      |      |     |      |     |     |         |     |
|         | ± 0.8                                              | 0.05    | 0.04     | R       | S.E. of RES. | 1.5  |     |      |     |     |         |     |
| STN     | PHASE                                              | H       | M        | S       | DIR          | RES  | WT  | DIST | AZ  | W-A | W P W S |     |
| WEL     | P*                                                 | 00      | 40       | 23.7    |              | 1.0  | 100 | 0.77 | 60  |     |         |     |
|         | S*                                                 |         |          | 33.5    |              | 0.3  | 100 |      |     |     |         |     |
| COB     | iP*                                                | 00      | 40       | 28.0    |              | 0.7  | 100 | 1.04 | 304 |     | 4.4     | 3.6 |
|         | S*                                                 |         |          | 41.0    |              | -0.3 | 100 |      |     |     |         |     |
| MNG     | Pn                                                 | 00      | 40       | 33.8    |              | -2.0 | 99  | 1.61 | 49  |     | 3.5     | 3.6 |
|         | S*                                                 |         |          | 56.5    |              | -1.7 | 99  |      |     |     |         |     |
| KAI     | eS*                                                | 00      | 41       | 10      |              | -0.7 | 100 | 2.02 | 244 | 3.5 |         |     |
| TNZ     | ePn                                                | 00      | 40       | 48.5    |              | 0.3  | 100 | 2.52 | 9   |     | 3.6     | 3.6 |
|         | eSn                                                |         |          | 41 17.0 |              | -1.2 | 100 |      |     |     |         |     |
| CNZ     | eP*                                                | 00      | 40       | 54.8    |              | -2.2 |     | 2.79 | 28  |     |         |     |
|         | e                                                  |         |          | 41 02.8 |              |      |     |      |     |     |         |     |
|         | e                                                  |         |          | 30      |              |      |     |      |     |     |         |     |
| KRP     | ePn                                                | 00      | 41       | 11      |              | 3.1  |     | 3.96 | 19  |     | 3.8     |     |



|             |     |       |         |     |     |     |         |     |     |
|-------------|-----|-------|---------|-----|-----|-----|---------|-----|-----|
|             | eSn |       | 54.5    |     | 1.6 | 100 |         |     |     |
| GNZ         | Pn  | 00 41 | 15.8    |     | 2.0 | 99  | 4.39    | 48  |     |
| AMPLITUDES: | COB |       | 13 7.5  | MNG |     |     | 2.2 3.8 | KAI | 0.3 |
|             | TNZ |       | 0.2 0.3 | KRP |     |     | 0.2     |     |     |

77/ 840  
 DEC 23 05<sup>h</sup>40<sup>m</sup>00<sup>s</sup>.2 44°.83s 167°.67E 132 km M = 4.5  
 ± 1.9 0.08 0.13 10 S.E. of RES. 1.6

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | P     | 05 | 40 | 19.2    |     | 0.6  | 100 | 0.23 | 48  |     |     |     |
|     | S     |    |    | 32.0    |     | -0.6 | 100 |      |     |     |     |     |
| ROX | P     | 05 | 40 | 28.0    |     | 1.1  | 100 | 1.33 | 120 |     | 4.2 | 4.2 |
|     | S     |    |    | 46.1    |     | -1.2 | 100 |      |     |     |     |     |
| MJZ | P     | 05 | 40 | 37.4    |     | 0.6  | 100 | 2.17 | 68  |     |     |     |
|     | S     |    |    | 41 05.2 |     | 0.6  | 100 |      |     |     |     |     |
| KAI | eS    | 05 | 41 | 39.0    |     | 2.0  | 99  | 3.55 | 51  | 4.5 |     |     |
| COB | eP    | 05 | 41 | 17.0    |     | -1.0 | 100 | 5.27 | 47  |     | 4.8 | 4.6 |
|     | eS    |    | 42 | 16.0    |     | -2.1 | 99  |      |     |     |     |     |

|             |     |  |     |     |     |  |         |     |     |
|-------------|-----|--|-----|-----|-----|--|---------|-----|-----|
| AMPLITUDES: | MSZ |  | 6.3 | 22  | ROX |  | 2.8 5.0 | KAI | 0.3 |
|             | COB |  | 0.4 | 0.4 |     |  |         |     |     |

77/ 841  
 DEC 24 04<sup>h</sup>15<sup>m</sup>30<sup>s</sup>.5 36°.97s 179°.59w 33 km M = 4.1  
 ± 1.1 0.07 0.08 R S.E. of RES. 1.1

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P     | 04 | 15 | 58.5    |     | 1.8  | 99  | 1.66 | 243 |     | 4.2 | 4.2 |
|     | e     |    |    | 16 07.3 |     |      |     |      |     |     |     |     |
|     | eS    |    |    | 16      |     | -0.2 | 100 |      |     |     |     |     |
| GNZ | P     | 04 | 16 | 09.2    |     | 0.6  | 100 | 2.53 | 228 |     |     |     |
|     | S     |    |    | 38.0    |     | 0.8  | 100 |      |     |     |     |     |
| WTZ | P     | 04 | 16 | 14.0    |     | 0.2  | 100 | 2.91 | 248 |     | 3.8 | 4.2 |
|     | e     |    |    | 21.2    |     |      |     |      |     |     |     |     |
|     | eS    |    |    | 44.5    |     | -1.8 | 99  |      |     |     |     |     |
| TRZ | eP    | 04 | 16 | 25      |     | -1.3 | 100 | 3.83 | 226 |     | 4.0 | 4.2 |
|     | e     |    |    | 17 15   |     |      |     |      |     |     |     |     |
| KRP | eP    | 04 | 16 | 29      |     | 0.4  | 100 | 4.00 | 255 |     | 4.0 |     |
|     | S     |    |    | 17 13.0 |     | 0.5  | 100 |      |     |     |     |     |
| MNG | P     | 04 | 16 | 44.8    |     | -1.7 | 99  | 5.31 | 225 |     | 3.9 | 4.1 |
|     | S     |    |    | 17 45.0 |     | 1.0  | 100 |      |     |     |     |     |
| WEL | eS    | 04 | 18 | 04      |     | -0.4 | 100 | 6.16 | 224 | 4.4 |     |     |
| COB | eP    | 04 | 17 | 13      |     | -0.1 | 100 | 7.26 | 233 |     | 4.3 | 4.1 |
|     | eS    |    | 18 | 31      |     | 0.1  | 100 |      |     |     |     |     |

|             |     |  |     |     |     |  |         |     |  |         |
|-------------|-----|--|-----|-----|-----|--|---------|-----|--|---------|
| AMPLITUDES: | ECZ |  | 1.2 | 1.5 | WTZ |  | 0.8 1.7 | TRZ |  | 0.3 0.6 |
|             | KRP |  | 0.3 |     | MNG |  | 0.5 1.1 | WEL |  | 0.2     |
|             | COB |  | 0.2 | 0.5 |     |  |         |     |  |         |

77/ 842  
 DEC 24 14<sup>h</sup>30<sup>m</sup>17<sup>s</sup>.1 37°.52s 179°.29E 33 km M = 3.8  
 ± 1.9 0.08 0.12 R S.E. of RES. 1.8

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| ECZ | P     | 14 | 30 | 28.2 |     | -0.9 | 100 | 0.61 | 253 |     | 3.7 | 4.0 |
|     | eS    |    |    | 39.5 |     | 1.6  | 100 |      |     |     |     |     |
| GNZ | P     | 14 | 30 | 42.0 |     | 0.8  | 100 | 1.50 | 221 |     |     |     |
|     | e     |    |    | 49.5 |     |      |     |      |     |     |     |     |
|     | S     |    | 31 | 02.0 |     | 2.8  | 99  |      |     |     |     |     |
|     | e     |    |    | 06   |     |      |     |      |     |     |     |     |

|             |    |             |             |             |         |
|-------------|----|-------------|-------------|-------------|---------|
| WTZ         | P  | 14 30 47.0  | 0.6 100     | 1.88 255    | 4.1 4.2 |
|             | S  | 31 08.0     | -0.3 100    |             |         |
| TRZ         | eP | 14 30 59.0  | 0.0 100     | 2.81 223    | 3.6 3.6 |
|             | eS | 31 33       | 2.5 99      |             |         |
| KRP         | P  | 14 31 03.0  | 1.3 100     | 3.01 261    | 3.7     |
|             | S  | 34.0        | -1.3 100    |             |         |
| MNG         | P  | 14 31 17.3  | -1.9 100    | 4.28 223    | 3.5 3.7 |
|             | S  | 32 05.0     | -1.1 100    |             |         |
| WEL         | eS | 14 32 24    | -2.6 99     | 5.14 222    | 4.1     |
| COB         | eS | 14 32 51    | -1.3 100    | 6.21 233    | 3.8     |
| AMPLITUDES: |    | ECZ 2.6 7.0 | WTZ 3.5 3.7 | TRZ 0.2 0.3 |         |
|             |    | KRP 0.3     | MNG 0.3 0.6 | WEL 0.2     |         |
|             |    | COB 0.3     |             |             |         |

77/ 843

DEC 25 04<sup>h</sup>35<sup>m</sup>54<sup>s</sup>.8 42°.05S 178°.27E 33 km M = 4.5  
 ± 0.8 0.04 0.05 R S.E. of RES. 1.0

| STN         | PHASE | H       | M       | S       | DIR | RES     | WT  | DIST | AZ  | W-A | W P | W S |
|-------------|-------|---------|---------|---------|-----|---------|-----|------|-----|-----|-----|-----|
| MNG         | P     | 04 36   | 32.4    |         |     | -0.6    | 100 | 2.54 | 303 |     | 4.0 | 4.5 |
|             | e     |         | 58.8    |         |     |         |     |      |     |     |     |     |
|             | S     |         | 37 02.0 |         |     | 0.2     | 100 |      |     |     |     |     |
| TRZ         | P     | 04 36   | 35.6    |         |     | 0.0     | 100 | 2.73 | 336 |     | 4.9 | 4.2 |
|             | e     |         | 37 07.5 |         |     |         |     |      |     |     |     |     |
|             | iS    |         | 11.8    |         |     | 5.5     |     |      |     |     |     |     |
| WEL         | e     | 04 37   | 04.0    |         |     |         |     | 2.74 | 285 | 4.1 |     |     |
|             | S     |         | 07.0    |         |     | 0.5     | 100 |      |     |     |     |     |
| GNZ         | P     | 04 36   | 44.7    |         |     | -0.2    | 100 | 3.41 | 357 |     |     |     |
|             | e     |         | 37 22.8 |         |     |         |     |      |     |     |     |     |
|             | iS    |         | 25.0    |         |     | 2.3     | 94  |      |     |     |     |     |
| WNZ         | eP    | 04 36   | 51.0    |         |     | 0.8     | 100 | 3.80 | 333 |     | 4.8 |     |
| WTZ         | P     | 04 36   | 54.5    |         |     | -0.9    | 100 | 4.18 | 346 |     | 4.6 | 4.5 |
|             | S     |         | 37 40.0 |         |     | -1.2    | 99  |      |     |     |     |     |
| COB         | P     | 04 36   | 56.0    |         |     | -0.6    | 100 | 4.27 | 281 |     | 4.4 | 4.2 |
|             | S     |         | 37 43   |         |     | -0.3    | 100 |      |     |     |     |     |
| ECZ         | P     | 04 36   | 57.2    |         |     | -0.6    | 100 | 4.36 | 3   |     | 4.8 |     |
| KRP         | P     | 04 37   | 01.4    |         |     | -0.1    | 100 | 4.63 | 332 |     | 4.5 |     |
| MJZ         | eP    | 04 37   | 22      |         |     | 1.2     | 100 | 6.05 | 249 |     |     |     |
| AMPLITUDES: |       | MNG 2.8 | 11      | TRZ 4.6 | 1.3 | WEL 0.6 |     |      |     |     |     |     |
|             |       | WNZ 0.3 |         | WTZ 2.2 | 1.5 | COB 0.8 | 1.8 |      |     |     |     |     |
|             |       | ECZ 0.7 |         | KRP 0.8 |     |         |     |      |     |     |     |     |

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DEC 25 18<sup>h</sup>17<sup>m</sup>53<sup>s</sup>.1 41°.07S 174°.10E 33 km M = 3.7  
 ± 0.6 0.04 0.05 R S.E. of RES. 1.9

| STN | PHASE | H     | M    | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|-------|------|---|-----|------|-----|------|-----|-----|-----|-----|
| WEL | P*    | 18 18 | 04.1 |   |     | -0.2 | 100 | 0.55 | 113 | 3.4 |     |     |
|     | S*    |       | 12.8 |   |     | 0.3  | 100 |      |     |     |     |     |
| COB | P*    | 18 18 | 11.0 |   |     | -1.3 | 100 | 1.03 | 269 |     | 4.1 | 3.9 |
|     | S*    |       | 26.2 |   |     | -0.2 | 100 |      |     |     |     |     |
| MNG | Pn    | 18 18 | 11.2 |   |     | -1.1 | 100 | 1.14 | 67  |     | 3.6 | 3.8 |
|     | Sn    |       | 27.7 |   |     | 1.2  | 100 |      |     |     |     |     |
| CAZ | e     | 18 18 | 25   |   |     |      |     | 1.62 | 85  |     |     |     |
| TNZ | eSn   | 18 18 | 47   |   |     | 2.3  |     | 1.90 | 7   |     | 3.3 | 3.6 |
|     | eS*   |       | 53   |   |     | 1.1  | 100 |      |     |     |     |     |
| CNZ | eP*   | 18 18 | 30.2 |   |     | -1.3 | 100 | 2.18 | 31  |     |     |     |
|     | i     |       | 36.4 |   |     |      |     |      |     |     |     |     |
| KAI | eSn   | 18 19 | 01   |   |     | 2.2  | 99  | 2.48 | 233 | 3.7 |     |     |

|             |       |     |     |      |      |     |      |     |     |    |     |  |  |
|-------------|-------|-----|-----|------|------|-----|------|-----|-----|----|-----|--|--|
|             | eS*   |     | 04  | -5.3 |      |     |      |     |     |    |     |  |  |
| TRZ         | e(S*) | 18  | 19  | 18   | 5.9  |     | 2.57 | 55  |     |    |     |  |  |
| KRP         | ePn   | 18  | 18  | 39   | -3.2 | 99  | 3.34 | 20  |     |    | 3.7 |  |  |
|             | eSn   |     | 19  | 21.8 | 2.5  | 99  |      |     |     |    |     |  |  |
|             | e     |     |     | 49.3 |      |     |      |     |     |    |     |  |  |
| MJZ         | Pn    | 18  | 18  | 56   | 5.2  |     | 3.96 | 222 |     |    |     |  |  |
|             | eSn   |     | 19  | 33   | -1.3 |     |      |     |     |    |     |  |  |
| AMPLITUDES: | WEL   | 3.6 |     |      | COB  | 6.2 | 14   | MNG | 5.0 | 12 |     |  |  |
|             | TNZ   |     | 0.2 | 0.5  | KAI  | 0.3 |      | KRP | 0.2 |    |     |  |  |

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DEC 26 05<sup>h</sup>59<sup>m</sup>41<sup>s</sup>.0 43°.48S 171°.33E 12 km M = 3.9  
 ± 0.6 0.04 0.08 R S.E. of RES. 1.9

| STN         | PHASE | H   | M   | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-------------|-------|-----|-----|------|-----|------|-----|------|-----|-----|---------|
| MJZ         | iP*   | 05  | 59  | 53.8 |     | -2.1 | 100 | 0.81 | 231 |     |         |
|             | S*    | 06  | 00  | 04.3 |     | -2.5 | 99  |      |     |     |         |
| CHR         | iP*   | 05  | 59  | 59.4 |     | 1.1  | 100 | 0.94 | 94  |     |         |
|             | i     | 06  | 00  | 12.0 |     |      |     |      |     |     |         |
|             | i     |     |     | 16.4 |     |      |     |      |     |     |         |
| KAI         | eP*   | 05  | 59  | 57.8 |     | -0.7 | 100 | 0.95 | 3   | 3.6 |         |
|             | S*    | 06  | 00  | 11.8 |     | 0.5  | 100 |      |     |     |         |
| GSP         | P*    | 06  | 00  | 00.0 |     | -1.8 | 100 | 1.15 | 235 |     |         |
| OMZ         | P*    | 06  | 00  | 07.8 |     | -2.0 | 100 | 1.62 | 190 |     | 4.1 3.9 |
|             | i     |     |     | 10.2 |     |      |     |      |     |     |         |
|             | S*    |     |     | 30.3 |     | -0.9 | 100 |      |     |     |         |
| ROX         | eP*   | 06  | 00  | 25   |     | 0.8  | 100 | 2.47 | 215 |     | 4.1 3.9 |
|             | e     |     |     | 27.0 |     |      |     |      |     |     |         |
|             | S*    |     | 01  | 01.0 |     | 4.5  | 94  |      |     |     |         |
| COB         | Pn    | 06  | 00  | 21.4 |     | -0.7 | 100 | 2.61 | 24  |     | 4.1 3.8 |
|             | iP*   |     |     | 26.3 |     | -0.4 | 100 |      |     |     |         |
|             | eSn   |     |     | 54   |     | 0.9  |     |      |     |     |         |
| MSZ         | ePn   | 06  | 00  | 24.7 |     | 0.9  | 100 | 2.74 | 243 |     |         |
|             | iP*   |     |     | 31   |     | 2.2  | 100 |      |     |     |         |
|             | e     |     |     | 58   |     |      |     |      |     |     |         |
| MNW         | ePn   | 06  | 00  | 35   |     | 0.6  | 100 | 3.51 | 228 |     | 4.1     |
|             | eP*   |     |     | 43   |     | 0.9  | 100 |      |     |     |         |
|             | e     |     | 01  | 16   |     |      |     |      |     |     |         |
| OBZ         | eP*   | 06  | 00  | 52.5 |     | 0.1  |     | 4.11 | 212 |     |         |
|             | eSn   |     | 01  | 32   |     | 2.8  |     |      |     |     |         |
| MNG         | P*    | 06  | 00  | 50.8 |     | -3.3 |     | 4.21 | 49  |     | 3.9     |
| AMPLITUDES: | KAI   | 1.6 |     |      | OMZ | 3.0  | 3.2 | ROX  | 1.2 | 1.7 |         |
|             | COB   |     | 1.0 | 1.8  | MNW | 1.0  |     | MNG  | 0.8 |     |         |

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DEC 26 07<sup>h</sup>44<sup>m</sup>33<sup>s</sup>.6 37°.64S 178°.22E 49 km M = 4.2  
 ± 0.6 0.03 0.03 5 S.E. of RES. 0.6

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|---------|
| ECZ | P     | 07 | 44 | 43.0 |     | 0.1  | 100 | 0.26 | 103 |     |         |
|     | eS    |    |    | 49.5 |     | -0.2 | 100 |      |     |     |         |
| GNZ | P     | 07 | 44 | 52.0 |     | -0.0 | 100 | 1.02 | 189 |     |         |
|     | S     |    | 45 | 06.6 |     | 0.9  | 99  |      |     |     |         |
| WTZ | iP    | 07 | 44 | 52.1 |     | -0.1 | 100 | 1.03 | 250 |     | 4.3 4.5 |
|     | eS    |    | 45 | 05.8 |     | -0.3 | 100 |      |     |     |         |
| WNZ | e(P)  | 07 | 45 | 07   |     | 2.2  |     | 1.94 | 239 |     | 4.3     |
| KRP | P     | 07 | 45 | 07.5 |     | -0.2 | 100 | 2.15 | 261 |     | 3.2*    |
|     | S     |    |    | 33.5 |     | 0.3  | 100 |      |     |     |         |
| TRZ | eP    | 07 | 45 | 07.6 |     | -1.0 | 99  | 2.20 | 209 |     | 4.4 3.8 |



|             |      |            |      |         |      |     |     |           |  |
|-------------|------|------------|------|---------|------|-----|-----|-----------|--|
|             | eS   | 34         | -0.7 | 99      |      |     |     |           |  |
| CNZ         | P    | 07 45 14.7 | 0.3  | 100     | 2.62 | 233 |     |           |  |
| GSZ         | P    | 07 45 15.3 | 0.6  | 100     | 2.64 | 231 |     |           |  |
| TNZ         | eP   | 07 45 26.2 | 0.7  | 100     | 3.39 | 242 |     | 3.5*      |  |
|             | e    | 29.2       |      |         |      |     |     |           |  |
| ONE         | eP   | 07 45 30   | 1.4  |         | 3.62 | 300 |     |           |  |
| MNG         | P    | 07 45 25.1 | -4.1 | 0       | 3.66 | 215 |     | 4.0       |  |
| WEL         | eS   | 07 46 27.5 | -5.8 |         | 4.53 | 215 | 4.2 |           |  |
| COB         | e(P) | 07 45 49   | -5.7 |         | 5.48 | 229 |     | 3.4* 3.2* |  |
|             | e    | 58         |      |         |      |     |     |           |  |
|             | e(S) | 46 52      | -5.3 |         |      |     |     |           |  |
| AMPLITUDES: | WTZ  | 13 22      | WNZ  | 0.2     | KRP  | 1.3 |     |           |  |
|             | TRZ  | 1.4 0.8    | TNZ  | 0.3     | MNG  | 1.6 |     |           |  |
|             | WEL  | 0.3        | COB  | 0.3 0.6 |      |     |     |           |  |

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DEC 26 17<sup>h</sup>35<sup>m</sup>07<sup>s</sup>.6 38°.13S 175°.85E 277 km M = 4.0  
 ± 1.4 0.07 0.10 10 S.E. of RES. 1.6

| STN         | PHASE | H       | M       | S       | DIR | RES     | WT  | DIST | AZ  | W-A | W P W S   |
|-------------|-------|---------|---------|---------|-----|---------|-----|------|-----|-----|-----------|
| KRP         | eP    | 17 35   | 44.0    |         |     | 0.7     | 100 | 0.31 | 309 |     | 2.7*      |
|             | S     |         | 36 12.8 |         |     | 1.6     | 100 |      |     |     |           |
| WTZ         | P     | 17 35   | 44.0    |         |     | -1.3    | 100 | 0.91 | 81  |     | 4.0 3.7   |
|             | S     |         | 36 12.1 |         |     | -2.6    | 99  |      |     |     |           |
| CNZ         | P     | 17 35   | 47.9    |         |     | 1.7     | 100 | 1.10 | 192 |     |           |
|             | (S)   |         | 36 21.9 |         |     | 5.5     |     |      |     |     |           |
| TNZ         | e(P)  | 17 35   | 51      |         |     | 1.8     |     | 1.57 | 227 |     | 3.2*      |
| TRZ         | eP    | 17 35   | 52.5    |         |     | 2.9     | 98  | 1.61 | 152 |     | 3.7 4.0   |
|             | S     |         | 36 22.5 |         |     | 0.3     | 100 |      |     |     |           |
| GNZ         | P     | 17 35   | 51.0    |         |     | 0.2     | 100 | 1.78 | 108 |     | 4.5 4.0   |
|             | S     |         | 36 23.9 |         |     | -0.6    | 100 |      |     |     |           |
| ECZ         | P     | 17 35   | 54.0    |         |     | -0.1    | 100 | 2.18 | 79  |     |           |
| MNG         | P     | 17 35   | 57.9    |         |     | 0.6     | 100 | 2.51 | 186 |     | 4.1 4.2   |
|             | S     |         | 36 36.0 |         |     | 0.1     | 100 |      |     |     |           |
| WEL         | eS    | 17 36   | 50      |         |     | 0.4     | 100 | 3.27 | 194 | 4.0 |           |
| COB         | P     | 17 36   | 09.0    |         |     | -2.0    | 99  | 3.82 | 218 |     | 3.7* 3.0* |
|             | eS    |         | 59      |         |     | -1.5    | 100 |      |     |     |           |
| AMPLITUDES: | KRP   | 0.4     | WTZ     | 1.4 0.8 | TNZ | 0.2     |     |      |     |     |           |
|             | TRZ   | 0.2 0.8 | GNZ     | 3.3 1.8 | MNG | 2.1 3.6 |     |      |     |     |           |
|             | WEL   | 0.2     | COB     | 0.7 0.5 |     |         |     |      |     |     |           |

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DEC 27 05<sup>h</sup>01<sup>m</sup>39<sup>s</sup>.9 40°.24S 176°.51E 33 km M = 3.4  
 ± 0.6 0.03 0.05 R S.E. of RES. 1.6

| STN | PHASE | H     | M       | S | DIR | RES  | WT  | DIST | AZ  | W-A | W P W S |
|-----|-------|-------|---------|---|-----|------|-----|------|-----|-----|---------|
| CAZ | eP*   | 05 01 | 52.8    |   |     | -0.7 | 100 | 0.69 | 198 |     |         |
|     | eS*   |       | 02 05.0 |   |     | 1.6  | 100 |      |     |     |         |
| TRZ | P*    | 05 01 | 52.9    |   |     | -1.2 | 100 | 0.73 | 19  |     | 3.1 3.5 |
|     | S*    |       | 02 06.3 |   |     | 1.9  | 100 |      |     |     |         |
| MNG | P*    | 05 01 | 54.0    |   |     | -2.3 | 99  | 0.87 | 244 |     | 3.7 3.4 |
|     | S*    |       | 02 07.6 |   |     | -0.8 | 100 |      |     |     |         |
| GSZ | P*    | 05 02 | 01.8    |   |     | -0.0 | 100 | 1.20 | 323 |     |         |
|     | S*    |       | 20.0    |   |     | 1.9  | 99  |      |     |     |         |
| CNZ | P*    | 05 02 | 02.0    |   |     | -1.2 | 100 | 1.28 | 324 |     |         |
| WEL | eP*   | 05 02 | 11      |   |     | 1.0  | 100 | 1.68 | 231 | 3.2 |         |
|     | e     |       | 25      |   |     |      |     |      |     |     |         |
|     | eS*   |       | 34      |   |     | 1.7  | 100 |      |     |     |         |
| TNZ | eP*   | 05 02 | 13.0    |   |     | -1.5 | 100 | 1.95 | 302 |     | 3.4 3.2 |



|     |     |            |      |     |      |     |         |
|-----|-----|------------|------|-----|------|-----|---------|
|     | c   | 45         |      |     |      |     |         |
| GNZ | eSn | 05 02 34   | 0.5  | 100 | 1.98 | 37  |         |
| WTZ | ePn | 05 02 17   | 2.3  |     | 2.29 | 10  |         |
| KRP | ePn | 05 02 16.5 | -0.2 | 100 | 2.44 | 342 | 3.6     |
| COB | eP* | 05 02 30   | -2.2 | 99  | 3.00 | 252 | 3.7 3.4 |
|     | eS* | 03 13      | 1.6  | 100 |      |     |         |

|             |     |     |     |     |     |     |     |         |
|-------------|-----|-----|-----|-----|-----|-----|-----|---------|
| AMPLITUDES: | TRZ | 0.9 | 3.3 | MNG | 11  | 7.8 | WEL | 0.2     |
|             | TNZ | 0.2 | 0.2 | KRP | 0.3 |     | COB | 0.3 0.6 |

DEC 27 14<sup>h</sup>36<sup>m</sup>47<sup>s</sup>.8 36°.86s 177°.84E 214 km M = 4.2  
 ± 1.1 0.06 0.07 6 S.E. of RES. 1.2 77/ 849

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|------|------|
| ECZ | P     | 14 | 37 | 18.8    |     | -0.3 | 100 | 1.01 | 146 |     | 4.2  | 4.3  |
|     | S     |    |    | 43.8    |     | 0.4  | 100 |      |     |     |      |      |
| WTZ | P     | 14 | 37 | 20.4    |     | -1.0 | 100 | 1.31 | 211 |     | 4.4  | 4.1  |
|     | eS    |    |    | 45.5    |     | -1.9 | 99  |      |     |     |      |      |
| GNZ | P     | 14 | 37 | 26.1    |     | 0.5  | 100 | 1.79 | 175 |     |      |      |
|     | e     |    |    | 52.2    |     |      |     |      |     |     |      |      |
|     | S     |    |    | 56.0    |     | 1.2  | 100 |      |     |     |      |      |
| KRP | eP    | 14 | 37 | 28.8    |     | -0.1 | 100 | 2.12 | 239 |     | 2.9* |      |
|     | eS    |    |    | 38 02.0 |     | 1.5  | 99  |      |     |     |      |      |
| TRZ | eP    | 14 | 37 | 36.8    |     | 0.4  | 100 | 2.81 | 196 |     | 4.0  | 4.4  |
|     | e     |    |    | 38 13.0 |     |      |     |      |     |     |      |      |
|     | S     |    |    | 14.0    |     | 0.0  | 100 |      |     |     |      |      |
| CNZ | e(P)  | 14 | 37 | 42.1    |     | 4.0  |     | 2.96 | 217 |     |      |      |
|     | e     |    |    | 46.2    |     |      |     |      |     |     |      |      |
| MNG | P     | 14 | 37 | 51.0    |     | -2.0 | 99  | 4.18 | 205 |     | 3.9  | 4.2  |
|     | S     |    |    | 38 43.5 |     | 0.1  | 100 |      |     |     |      |      |
| WEL | eS    | 14 | 39 | 01.8    |     | -0.5 | 100 | 5.03 | 207 | 4.4 |      |      |
| COB | eP    | 14 | 38 | 15      |     | 1.6  | 99  | 5.80 | 222 |     | 3.3* | 3.0* |
|     | eS    |    |    | 39 20   |     | -0.1 | 100 |      |     |     |      |      |

|             |     |     |     |     |     |     |     |     |
|-------------|-----|-----|-----|-----|-----|-----|-----|-----|
| AMPLITUDES: | ECZ | 1.4 | 1.8 | WTZ | 4.6 | 2.5 | KRP | 0.5 |
|             | TRZ | 0.3 | 1.7 | MNG | 0.8 | 2.0 | WEL | 0.4 |
|             | COB | 0.2 | 0.4 |     |     |     |     |     |

DEC 27 18<sup>h</sup>47<sup>m</sup>55<sup>s</sup>.8 43°.43s 170°.84E 12 km M = 4.1  
 ± 0.3 0.03 0.06 R S.E. of RES. 1.3 77/ 850

| STN  | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|------|-------|----|----|-------|-----|------|-----|------|-----|-----|-----|-----|
| MIJZ | iP*   | 18 | 48 | 06.7  |     | -0.8 | 100 | 0.62 | 206 |     |     |     |
|      | S*    |    |    | 15.8  |     | -0.2 | 100 |      |     |     |     |     |
| KAI  | iP*   | 18 | 48 | 13.0  |     | -1.0 | 100 | 1.00 | 25  | 4.1 |     |     |
|      | i     |    |    | 14.1  |     |      |     |      |     |     |     |     |
|      | e     |    |    | 27.7  |     |      |     |      |     |     |     |     |
|      | S*    |    |    | 28.8  |     | 1.5  | 100 |      |     |     |     |     |
| OMZ  | P*    | 18 | 48 | 23.7  |     | -1.3 | 100 | 1.65 | 178 |     | 4.1 | 3.8 |
|      | eS*   |    |    | 48.5  |     | 1.8  | 99  |      |     |     |     |     |
| ROX  | Pn    | 18 | 48 | 31.9  |     | -1.0 | 100 | 2.32 | 207 |     | 4.3 | 4.0 |
|      | eP*   |    |    | 38.2  |     | 1.7  | 99  |      |     |     |     |     |
|      | eSn   |    |    | 49 00 |     | -0.9 | 100 |      |     |     |     |     |
|      | eS*   |    |    | 05.0  |     | -2.0 |     |      |     |     |     |     |
| MSZ  | ePn   | 18 | 48 | 34.0  |     | -0.7 | 100 | 2.45 | 238 |     | 4.0 | 4.3 |
|      | eP*   |    |    | 38.2  |     | -0.5 | 100 |      |     |     |     |     |
|      | i     |    |    | 40.8  |     |      |     |      |     |     |     |     |
|      | Sn    |    |    | 49 06 |     | 2.0  | 99  |      |     |     |     |     |
| COB  | Pn    | 18 | 48 | 38.2  |     | -0.4 | 100 | 2.74 | 32  |     | 4.3 | 3.8 |

|             |     |            |         |         |     |         |     |  |  |
|-------------|-----|------------|---------|---------|-----|---------|-----|--|--|
|             | eP* | 44.0       | 0.4     |         |     |         |     |  |  |
|             | Sn  | 49 11      | 0.2 100 |         |     |         |     |  |  |
|             | e   | 19.8       |         |         |     |         |     |  |  |
| WEL         | eSn | 18 49 33   | 0.9 100 | 3.62    | 55  | 3.8     |     |  |  |
| MNG         | ePn | 18 49 00.5 | -1.6 99 | 4.45    | 53  |         | 4.0 |  |  |
|             | e   | 50 07.3    |         |         |     |         |     |  |  |
| AMPLITUDES: | KAI | 5.0        | OMZ     | 2.5 3.0 | ROX | 2.3 2.5 |     |  |  |
|             | MSZ | 2.6 9.1    | COB     | 1.7 1.6 | WEL | 0.2     |     |  |  |
|             | MNG | 1.0        |         |         |     |         |     |  |  |

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 DEC 28 09<sup>h</sup>00<sup>m</sup>47<sup>s</sup>.3 50°.11s 163°.87E 33 km M = 4.9  
 ± 1.2 0.13 0.25 R S.E. of RES. 1.1

| STN         | PHASE | H       | M   | S    | DIR     | RES  | WT  | DIST  | AZ | W-A | W   | P   | W | S |
|-------------|-------|---------|-----|------|---------|------|-----|-------|----|-----|-----|-----|---|---|
| OBZ         | P     | 09      | 01  | 49.6 |         | 0.5  | 100 | 4.27  | 43 |     |     |     |   |   |
|             | S     |         | 02  | 35   |         | -0.9 | 100 |       |    |     |     |     |   |   |
| MNW         | P     | 09      | 01  | 59.2 |         | -0.0 | 100 | 5.01  | 32 |     | 5.5 | 5.0 |   |   |
|             | S     |         | 02  | 54   |         | 0.3  | 100 |       |    |     |     |     |   |   |
| ROX         | P     | 09      | 02  | 11.9 |         | 0.3  | 100 | 5.91  | 40 |     | 5.1 | 4.7 |   |   |
|             | eS    |         | 03  | 16   |         | 0.6  | 100 |       |    |     |     |     |   |   |
| MSZ         | P     | 09      | 02  | 14.8 |         | 0.8  | 100 | 6.10  | 28 |     | 5.2 |     |   |   |
| OMZ         | eP    | 09      | 02  | 26   |         | 0.5  | 100 | 6.94  | 46 |     | 4.6 | 4.3 |   |   |
|             | e     |         | 03  | 28   |         |      |     |       |    |     |     |     |   |   |
|             | e     |         |     | 34   |         |      |     |       |    |     |     |     |   |   |
| GSP         | P     | 09      | 02  | 29.3 |         | -1.2 | 100 | 7.31  | 37 |     |     |     |   |   |
| MJZ         | eP    | 09      | 02  | 32.5 |         | -2.1 | 97  | 7.60  | 39 |     |     |     |   |   |
| COB         | P     | 09      | 03  | 20   |         | -0.3 | 100 | 10.95 | 38 |     | 4.8 |     |   |   |
| MNG         | eP    | 09      | 03  | 43   |         | 1.4  | 99  | 12.51 | 45 |     | 4.5 |     |   |   |
| AMPLITUDES: | MNW   | 10      | 7.3 | ROX  | 1.9 2.2 | MSZ  | 6.9 |       |    |     |     |     |   |   |
|             | OMZ   | 0.5 0.5 | COB | 0.3  | MNG     | 0.4  |     |       |    |     |     |     |   |   |

77/ 852  
 DEC 28 09<sup>h</sup>20<sup>m</sup>13<sup>s</sup>.6 36°.92s 177°.63E 202 km M = 3.9  
 ± 2.0 0.11 0.13 12 S.E. of RES. 1.7

| STN         | PHASE | H       | M   | S    | DIR | RES     | WT  | DIST | AZ  | W-A | W    | P   | W | S |
|-------------|-------|---------|-----|------|-----|---------|-----|------|-----|-----|------|-----|---|---|
| WIZ         | P     | 09      | 20  | 45.0 |     | 0.1     | 100 | 1.18 | 205 |     | 3.6  | 3.9 |   |   |
|             | S     |         | 21  | 06.8 |     | -2.5    | 99  |      |     |     |      |     |   |   |
| GNZ         | P     | 09      | 20  | 51.0 |     | 0.9     | 100 | 1.75 | 170 |     |      |     |   |   |
|             | e     |         | 21  | 12.3 |     |         |     |      |     |     |      |     |   |   |
|             | S     |         |     | 18.5 |     | 0.3     | 100 |      |     |     |      |     |   |   |
| KRP         | P     | 09      | 20  | 52.8 |     | 0.8     | 100 | 1.94 | 238 |     | 2.9* |     |   |   |
|             | eS    |         | 21  | 22.8 |     | 1.2     | 100 |      |     |     |      |     |   |   |
| TRZ         | eP    | 09      | 21  | 00   |     | -0.3    | 100 | 2.71 | 193 |     | 3.8  | 4.2 |   |   |
|             | S     |         |     | 38.8 |     | 2.2     | 99  |      |     |     |      |     |   |   |
| MNG         | P     | 09      | 21  | 15.2 |     | -1.6    | 100 | 4.06 | 204 |     | 4.0  | 3.7 |   |   |
|             | S     |         | 22  | 04.8 |     | -1.0    | 100 |      |     |     |      |     |   |   |
| WEL         | eS    | 09      | 22  | 20.0 |     | -4.7    |     | 4.90 | 206 | 4.2 |      |     |   |   |
| AMPLITUDES: | WIZ   | 0.8 1.6 | KRP | 0.5  | TRZ | 0.2 1.0 |     |      |     |     |      |     |   |   |
|             | MNG   | 1.0 0.7 | WEL | 0.2  |     |         |     |      |     |     |      |     |   |   |

77/ 853  
 DEC 29 03<sup>h</sup>37<sup>m</sup>20<sup>s</sup>.6 37°.99s 176°.69E 12 km M = 3.0  
 ± 0.5 0.07 0.03 R S.E. of RES. 0.9

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| WIZ | Pg    | 03 | 37 | 26.2 |     | 0.3  | 100 | 0.23 | 88  |     |     |     |   |   |
| KRP | ePg   | 03 | 37 | 38.8 |     | -0.4 | 100 | 0.91 | 274 |     | 2.9 | 3.0 |   |   |

|     |    |       |         |      |     |      |     |
|-----|----|-------|---------|------|-----|------|-----|
|     | Sg |       | 52.0    | 0.4  | 100 |      |     |
| GNZ | Pg | 03 37 | 44.8    | -0.9 | 99  | 1.23 | 122 |
|     | Sg |       | 38 03.0 | 0.6  | 100 |      |     |

AMPLITUDES: KRP 0.7 0.8

FELT: Matahina (34) MM IV

DEC 29 05<sup>h</sup>24<sup>m</sup>32<sup>s</sup>.9 44°.89s 167°.50E 99 km M = 4.2  
 ± 1.3 0.07 0.09 14 S.E. of RES. 1.5 77/ 854

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P  | W S  |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|------|------|
| MSZ | iP    | 05 | 24 | 49.2 |     | 1.2  | 100 | 0.37 | 54  |     |      |      |
| MNW | P     | 05 | 24 | 52.2 |     | -0.1 | 100 | 0.90 | 175 |     | 4.1* | 4.3* |
|     | S     |    | 25 | 05.0 |     | -2.0 | 99  |      |     |     |      |      |
| ROX | P     | 05 | 24 | 59.2 |     | 0.8  | 100 | 1.41 | 115 |     | 4.2  | 4.5  |
|     | S     |    | 25 | 17.0 |     | -0.8 | 100 |      |     |     |      |      |
| GSP | P     | 05 | 25 | 06.2 |     | 0.9  | 100 | 1.95 | 68  |     |      |      |
|     | S     |    |    | 30.5 |     | 1.2  | 100 |      |     |     |      |      |
| MJZ | P     | 05 | 25 | 10.9 |     | 0.7  | 100 | 2.31 | 68  |     |      |      |
|     | S     |    |    | 38.1 |     | 0.2  | 100 |      |     |     |      |      |
| OMZ | P     | 05 | 25 | 13.9 |     | 2.0  | 99  | 2.43 | 95  |     | 4.3  | 4.0  |
|     | S     |    |    | 40.8 |     | -0.1 | 100 |      |     |     |      |      |
| KAI | eS    | 05 | 26 | 11   |     | -0.8 | 100 | 3.69 | 52  | 4.1 |      |      |
|     | e     |    |    | 19   |     |      |     |      |     |     |      |      |
| COB | eP    | 05 | 25 | 52   |     | -0.4 | 100 | 5.41 | 47  |     | 4.1  | 3.9  |
|     | eS    |    | 26 | 51   |     | -3.0 | 97  |      |     |     |      |      |

AMPLITUDES: MNW 10 38 ROX 4.0 18 OMZ 2.2 1.6  
 KAI 0.3 COB 0.2 0.3

DEC 29 10<sup>h</sup>30<sup>m</sup>21<sup>s</sup>.5 44°.07s 168°.65E 12 km M = 4.0  
 ± 0.7 0.04 0.05 R S.E. of RES. 1.4 77/ 855

| STN | PHASE | H  | M  | S    | DIR | RES  | WT  | DIST | AZ  | W-A | W P | W S |
|-----|-------|----|----|------|-----|------|-----|------|-----|-----|-----|-----|
| MSZ | eP*   | 10 | 30 | 33.7 |     | -2.6 | 98  | 0.80 | 221 |     | 3.3 | 3.6 |
|     | i     |    |    | 35.0 |     |      |     |      |     |     |     |     |
|     | S*    |    |    | 49.2 |     | 2.1  | 99  |      |     |     |     |     |
| GSP | P*    | 10 | 30 | 39.8 |     | 0.2  | 100 | 0.99 | 94  |     |     |     |
|     | S*    |    |    | 52   |     | -0.8 | 100 |      |     |     |     |     |
| MJZ | Pn    | 10 | 30 | 45.8 |     | 0.8  | 100 | 1.31 | 87  |     |     |     |
|     | Sn    |    | 31 | 02.0 |     | -0.4 | 100 |      |     |     |     |     |
| ROX | ePn   | 10 | 30 | 46.0 |     | -1.3 | 100 | 1.48 | 161 |     | 4.4 | 4.4 |
|     | iP*   |    |    | 48.8 |     | 0.8  | 100 |      |     |     |     |     |
|     | Sn    |    | 31 | 04.6 |     | -1.9 | 99  |      |     |     |     |     |
| MNW | Pn    | 10 | 30 | 52.9 |     | 0.5  | 100 | 1.86 | 203 |     | 4.0 | 3.8 |
|     | S*    |    | 31 | 18.7 |     | -0.2 | 100 |      |     |     |     |     |
| OMZ | ePn   | 10 | 30 | 53.2 |     | 0.2  | 100 | 1.91 | 122 |     | 4.2 | 4.1 |
|     | iP*   |    |    | 55.3 |     | 0.1  | 100 |      |     |     |     |     |
|     | Sn    |    | 31 | 19   |     | 2.4  | 99  |      |     |     |     |     |
| KAI | e     | 10 | 31 | 16   |     |      |     | 2.54 | 53  | 3.8 |     |     |
|     | eS*   |    |    | 39   |     | -0.3 | 100 |      |     |     |     |     |
|     | e     |    |    | 45   |     |      |     |      |     |     |     |     |
| COB | Pn    | 10 | 31 | 25.3 |     | 0.4  | 100 | 4.25 | 47  |     | 4.1 |     |
|     | eSn   |    | 32 | 13.5 |     | 0.6  |     |      |     |     |     |     |
|     | e     |    |    | 20.5 |     |      |     |      |     |     |     |     |

AMPLITUDES: MSZ 4.5 17 ROX 6.6 16 MNW 2.8 4.0  
 OMZ 2.7 3.7 KAI 0.4 COB 0.4

77/ 856  
 DEC 30 08<sup>h</sup>02<sup>m</sup>55<sup>s</sup>.8 42°.70s 171°.67E 12 km M = 4.6  
 ± 0.3 0.02 0.04 R S.E. of RES. 1.7

| STN | PHASE | H  | M  | S       | DIR | RES  | WT  | DIST | AZ  | W-A | W   | P   | W | S |
|-----|-------|----|----|---------|-----|------|-----|------|-----|-----|-----|-----|---|---|
| KAI | Pg    | 08 | 03 | 01.0    |     | -0.5 | 100 | 0.26 | 312 |     |     |     |   |   |
|     | eSg   |    |    | 05.8    |     | 0.5  | 100 |      |     |     |     |     |   |   |
| KKY | P*    | 08 | 03 | 23.0    |     | 0.1  | 100 | 1.52 | 80  |     |     |     |   |   |
|     | Pg    |    |    | 25.1    |     | -1.5 | 100 |      |     |     |     |     |   |   |
|     | Sg    |    |    | 48.0    |     | 0.8  | 100 |      |     |     |     |     |   |   |
| MJZ | Pn    | 08 | 03 | 22.0    |     | -0.6 | 100 | 1.56 | 214 |     |     |     |   |   |
|     | eSn   |    |    | 42      |     | -0.6 | 100 |      |     |     |     |     |   |   |
|     | eS*   |    |    | 45.2    |     | 1.0  | 100 |      |     |     |     |     |   |   |
| COB | Pn    | 08 | 03 | 25.3    |     | -0.5 | 100 | 1.80 | 27  |     | 5.0 | 4.5 |   |   |
|     | iP*   |    |    | 27.8    |     | 0.2  | 100 |      |     |     |     |     |   |   |
|     | eSg   |    |    | 55      |     | -1.4 | 100 |      |     |     |     |     |   |   |
| GSP | Pn    | 08 | 03 | 27.0    |     | 0.1  | 100 | 1.87 | 219 |     |     |     |   |   |
| OMZ | ePn   | 08 | 03 | 32.8    |     | -1.7 | 100 | 2.43 | 193 |     | 4.9 | 4.4 |   |   |
|     | iP*   |    |    | 39.6    |     | 1.1  | 100 |      |     |     |     |     |   |   |
|     | eSg   |    |    | 04 17   |     | -0.8 | 100 |      |     |     |     |     |   |   |
| WEL | ePn   | 08 | 03 | 41      |     | 2.7  | 99  | 2.71 | 60  | 4.0 |     |     |   |   |
| ROX | ePn   | 08 | 03 | 47.0    |     | 1.3  | 100 | 3.25 | 211 |     | 5.0 | 4.6 |   |   |
|     | iP*   |    |    | 53.1    |     | 0.6  | 100 |      |     |     |     |     |   |   |
|     | Sg    |    |    | 04 41.8 |     | -3.6 |     |      |     |     |     |     |   |   |
| MSZ | Pn    | 08 | 03 | 45.0    |     | -2.2 | 99  | 3.37 | 233 |     | 4.5 | 4.7 |   |   |
|     | iPg   |    |    | 04 00.0 |     | -3.8 | 97  |      |     |     |     |     |   |   |
|     | i     |    |    | 29.5    |     |      |     |      |     |     |     |     |   |   |
|     | i     |    |    | 42.5    |     |      |     |      |     |     |     |     |   |   |
| MNG | Pn    | 08 | 03 | 48.0    |     | -1.5 | 100 | 3.54 | 55  |     | 4.7 | 4.9 |   |   |
|     | iP*   |    |    | 54.5    |     | -2.8 | 99  |      |     |     |     |     |   |   |
|     | e     |    |    | 04 01.0 |     |      |     |      |     |     |     |     |   |   |
| TNZ | ePn   | 08 | 03 | 58.0    |     | 1.2  | 100 | 4.07 | 31  |     | 4.3 |     |   |   |
|     | eP*   |    |    | 04 08.3 |     | 1.9  | 100 |      |     |     |     |     |   |   |
| MNW | eP*   | 08 | 04 | 12      |     | 2.7  | 99  | 4.24 | 222 |     | 4.5 | 4.2 |   |   |
|     | e     |    |    | 45      |     |      |     |      |     |     |     |     |   |   |
|     | eSn   |    |    | 49      |     | 1.9  | 100 |      |     |     |     |     |   |   |
| CNZ | (Pn)  | 08 | 04 | 09.0    |     | 5.3  |     | 4.57 | 41  |     |     |     |   |   |
|     | eP*   |    |    | 16.9    |     | 2.0  |     |      |     |     |     |     |   |   |
| KRP | ePn   | 08 | 04 | 19.0    |     | 1.1  | 100 | 5.62 | 33  |     | 4.4 |     |   |   |
|     | eP*   |    |    | 37.0    |     | 4.2  |     |      |     |     |     |     |   |   |
|     | iSn   |    |    | 05 22.0 |     | 1.9  |     |      |     |     |     |     |   |   |

AMPLITUDES: COB 16 20 OMZ 7.2 4.6 WEL 0.5  
 ROX 5.0 5.7 MSZ 3.9 11 MNG 7.7 14  
 TNZ 0.4 MNW 1.7 1.8 KRP 1.3

FELT: Arthurs Pass (93) Inchbonnie (92) MM IV

77/ 857  
 DEC 30 11<sup>h</sup>12<sup>m</sup>31<sup>s</sup>.1 31°.49s 179°.65W 504 km M = 4.8  
 ± 2.1 0.22 0.54 31 S.E. of RES. 1.8

| STN | PHASE | H  | M  | S     | DIR | RES  | WT  | DIST | AZ  | W-A | W    | P   | W   | S |
|-----|-------|----|----|-------|-----|------|-----|------|-----|-----|------|-----|-----|---|
| ECZ | eS?   | 11 | 15 | 32    |     | -0.2 |     | 6.37 | 193 |     |      |     | 5.0 |   |
|     | e     |    |    | 40    |     |      |     |      |     |     |      |     |     |   |
| WIZ | P     | 11 | 14 | 19.5  |     | 0.6  | 100 | 7.05 | 202 |     | 5.0  | 4.8 |     |   |
|     | eS    |    |    | 15 42 |     | -2.5 | 99  |      |     |     |      |     |     |   |
| GNZ | eP    | 11 | 14 | 21    |     | -1.5 | 100 | 7.39 | 194 |     |      |     |     |   |
|     | eS    |    |    | 15 52 |     | 1.2  | 100 |      |     |     |      |     |     |   |
| KRP | eP    | 11 | 14 | 25.8  |     | 1.8  | 100 | 7.55 | 210 |     | 3.2* |     |     |   |



|             |     |            |      |     |       |     |     |      |
|-------------|-----|------------|------|-----|-------|-----|-----|------|
| TRZ         | eP  | 11 14 34   | -0.4 | 100 | 8.55  | 199 | 4.8 | 5.0  |
|             | eS  | 16 14.8    | 2.3  | 99  |       |     |     |      |
| MNG         | P   | 11 14 48.2 | -0.8 | 100 | 9.93  | 202 | 4.5 | 4.4  |
|             | S   | 16 37      | -1.8 | 100 |       |     |     |      |
| WEL         | eS  | 11 16 55   | 0.1  | 100 | 10.76 | 203 | 4.8 |      |
| COB         | eS  | 11 17 07   | 0.2  | 100 | 11.38 | 211 |     | 3.2* |
| AMPLITUDES: | ECZ |            | 0.5  | WTZ | 1.0   | 0.7 | KRP | 0.3  |
|             | TRZ | 0.2        | 0.7  | MNG | 0.5   | 0.5 | WEL | 0.2  |
|             | COB |            | 0.3  |     |       |     |     |      |

## **SUMMARY OF ORIGIN AND MAGNITUDE DETERMINATIONS**

### **STANDARD NETWORK**

The following chronological list of origins of New Zealand earthquakes is a summary of the determinations presented earlier. The Reference Number given in the first column identifies the earthquake. The letter F following the magnitude indicates that the earthquake is known to have been felt. NUM OBS is the number of separate phase readings used, and NUM STN the number of stations that recorded the shock, whether the readings were used in the epicentral solution or not.

| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 001        | JAN | 01              | 13 42 53.4 | 45.14 S         | 168.06 E         | 33 R        | 3.6   | 1.7  | 13         | 8          |
| 002        |     | 01              | 21 49 11.2 | 35.29 S         | 179.42 W         | 215         | 4.4   | 1.3  | 11         | 8          |
| 003        |     | 01              | 23 01 20.4 | 35.29 S         | 179.52 W         | 163         | 4.2   | 1.5  | 9          | 9          |
| 004        |     | 02              | 05 50 36.3 | 39.44 S         | 175.32 E         | 169         | 5.2 F | 1.6  | 26         | 20         |
| 005        |     | 03              | 13 27 08.8 | 44.70 S         | 167.87 E         | 12 R        | 3.3   | 1.3  | 10         | 6          |
| 006        |     | 03              | 13 35 38.7 | 44.76 S         | 167.82 E         | 12 R        | 3.3   | 1.2  | 10         | 6          |
| 007        |     | 04              | 00 05 27.7 | 35.40 S         | 178.58 E         | 269         | 4.3   | 2.2  | 8          | 5          |
| 008        |     | 04              | 15 07 02.3 | 38.54 S         | 175.88 E         | 172         | 3.5   | 1.4  | 14         | 8          |
| 009        |     | 05              | 01 55 19.0 | 33.61 S         | 179.08 W         | 33 R        | 4.7   | 2.1  | 13         | 7          |
| 010        |     | 05              | 15 31 01.7 | 36.95 S         | 176.87 E         | 301         | 4.2   | 1.8  | 16         | 9          |
| 011        |     | 05              | 17 07 00.9 | 44.04 S         | 172.07 E         | 12 R        | 3.6 F | 1.4  | 16         | 8          |
| 012        |     | 06              | 01 33 41.2 | 40.54 S         | 174.19 E         | 12 R        | 3.5   | 1.7  | 19         | 11         |
| 013        |     | 06              | 03 07 43.0 | 38.31 S         | 175.95 E         | 190         | 4.5 F | 1.0  | 24         | 15         |
| 014        |     | 08              | 17 53 27.0 | 38.82 S         | 175.17 E         | 227         | 4.1   | 0.9  | 11         | 12         |
| 015        |     | 09              | 14 32 19.2 | 37.17 S         | 176.84 E         | 254         | 4.0   | 1.0  | 9          | 12         |
| 016        |     | 10              | 10 09 51.9 | 38.59 S         | 179.26 E         | 12 R        | 3.8   | 1.7  | 15         | 11         |
| 017        |     | 10              | 16 07 33.5 | 41.63 S         | 174.71 E         | 33 R        | 3.5   | 0.9  | 13         | 14         |
| 018        |     | 11              | 02 43 04.9 | 41.66 S         | 174.81 E         | 12 R        | 3.9 F | 1.6  | 20         | 14         |
| 019        |     | 11              | 13 41 35.7 | 38.57 S         | 175.29 E         | 282         | 4.7   | 0.8  | 13         | 18         |
| 020        |     | 11              | 20 28 22.3 | 37.74 S         | 177.47 E         | 33 R        | 3.8   | 1.6  | 13         | 10         |
| 021        |     | 12              | 16 17 16.1 | 44.44 S         | 167.98 E         | 12 R        | 4.0   | 1.0  | 16         | 11         |
| 022        |     | 13              | 04 41 27.5 | 37.77 S         | 177.55 E         | 33 R        | 3.6   | 1.3  | 12         | 11         |
| 023        |     | 15              | 02 38 12.3 | 38.26 S         | 176.47 E         | 12 R        | 2.3 F | 0.5  | 5          | 3          |
| 024        |     | 15              | 02 46 10.7 | 40.97 S         | 172.49 E         | 12 R        | 4.0 F | 1.2  | 18         | 15         |
| 025        |     | 15              | 03 02 32.6 | 39.74 S         | 176.89 E         | 33 R        | 3.8 F | 1.3  | 18         | 17         |
| 026        |     | 16              | 00 42 45.2 | 41.69 S         | 171.97 E         | 12 R        | 3.4 F | 1.3  | 17         | 8          |
| 027        |     | 16              | 00 44 53.2 | 41.68 S         | 171.99 E         | 12 R        | 3.7 F | 1.5  | 19         | 10         |
| 028        |     | 18              | 05 41 48.9 | 41.84 S         | 174.58 E         | 33 R        | 6.0 F | 0.8  | 10         | 25         |
| 029        |     | 18              | 09 37 02.5 | 41.88 S         | 174.55 E         | 33 R        | 4.7 F | 1.5  | 14         | 24         |
| 030        |     | 18              | 17 01 48.4 | 41.88 S         | 174.62 E         | 33 R        | 3.5 F | 1.3  | 11         | 12         |
| 031        |     | 18              | 22 43 50.3 | 37.14 S         | 177.44 E         | 135         | 5.5 F | 1.1  | 10         | 26         |
| 032        |     | 19              | 09 42 04.8 | 48.20 S         | 165.14 E         | 12 R        | 4.2   | 1.1  | 9          | 9          |
| 033        |     | 19              | 13 52 58.9 | 34.29 S         | 179.11 E         | 267         | 4.7   | 1.4  | 8          | 13         |
| 034        |     | 20              | 05 21 48.1 | 45.14 S         | 167.60 E         | 126         | 3.9   | 0.9  | 12         | 8          |
| 035        |     | 22              | 11 31 44.9 | 36.85 S         | 176.89 E         | 353         | 5.3   | 1.6  | 27         | 16         |
| 036        |     | 23              | 05 06 28.4 | 39.58 S         | 175.14 E         | 112         | 3.7   | 0.9  | 14         | 9          |
| 037        |     | 23              | 11 27 02.2 | 41.81 S         | 174.52 E         | 33 R        | 3.6   | 1.1  | 10         | 7          |
| 038        |     | 24              | 01 45 29.6 | 32.14 S         | 179.99 W         | 511         | 4.6   | 1.3  | 9          | 6          |
| 039        |     | 25              | 03 20 58.4 | 40.58 S         | 174.75 E         | 104         | 4.0   | 1.8  | 15         | 12         |
| 040        |     | 25              | 05 19 10.4 | 44.71 S         | 166.95 E         | 33 R        | 3.6   | 1.4  | 9          | 6          |
| 041        |     | 25              | 21 00 09.7 | 36.90 S         | 178.83 E         | 158         | 4.5   | 1.7  | 12         | 10         |
| 042        |     | 26              | 18 06 18.6 | 37.77 S         | 177.45 E         | 149         | 4.9   | 2.0  | 15         | 15         |
| 043        |     | 27              | 10 18 58.2 | 39.80 S         | 176.39 E         | 12 R        | 3.2 F | 1.7  | 13         | 9          |
| 044        |     | 27              | 18 49 33.6 | 35.66 S         | 178.77 E         | 228         | 4.2   | 1.4  | 10         | 7          |
| 045        |     | 28              | 14 09 07.8 | 37.48 S         | 176.85 E         | 12 R        | 3.9   | 2.0  | 12         | 8          |
| 046        |     | 29              | 05 26 58.9 | 33.97 S         | 178.71 W         | 270         | 4.8   | 1.2  | 15         | 10         |
| 047        |     | 29              | 05 54 49.6 | 33.76 S         | 178.89 W         | 271         | 4.8   | 2.0  | 13         | 9          |
| 048        |     | 29              | 07 02 41.0 | 34.02 S         | 178.43 W         | 242         | 4.7   | 0.9  | 16         | 12         |
| 049        |     | 29              | 09 44 19.7 | 37.91 S         | 177.16 E         | 62          | 3.6   | 1.6  | 13         | 9          |
| 050        |     | 29              | 17 59 20.2 | 37.38 S         | 176.70 E         | 284         | 4.8   | 1.1  | 20         | 12         |

*Campbell*

*XX*

| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 051        | JAN | 31              | 10 44 41.1 | 40.64 S         | 174.96 E         | 12 R        | 3.6   | 1.4  | 12         | 8          |
| 052        |     | 31              | 11 04 54.5 | 39.53 S         | 177.11 E         | 33 R        | 3.6   | 1.3  | 13         | 9          |
| 053        |     | 31              | 17 43 26.7 | 45.16 S         | 167.67 E         | 123         | 4.5 F | 1.7  | 13         | 10         |
| 054        |     | 31              | 23 22 19.1 | 31.41 S         | 179.38 W         | 521         | 5.4   | 2.1  | 18         | 10         |
| 055        | FEB | 01              | 02 27 59.6 | 36.66 S         | 178.14 E         | 33 R        | 3.7   | 1.5  | 9          | 6          |
| 056        |     | 01              | 08 40 36.3 | 37.92 S         | 177.55 E         | 33 R        | 4.6 F | 1.6  | 15         | 15         |
| 057        |     | 01              | 20 05 36.7 | 39.77 S         | 174.12 E         | 172         | 4.2   | 1.5  | 14         | 11         |
| 058        |     | 01              | 22 13 17.9 | 41.99 S         | 173.80 E         | 12 R        | 3.8   | 1.6  | 18         | 9          |
| 059        |     | 01              | 22 43 04.7 | 38.04 S         | 176.69 E         | 175         | 4.4   | 1.5  | 18         | 12         |
| 060        |     | 02              | 01 11 48.3 | 40.09 S         | 174.67 E         | 33 R        | 4.0 F | 1.0  | 11         | 8          |
| 061        |     | 02              | 10 09 31.3 | 44.84 S         | 167.71 E         | 75          | 3.3   | 1.0  | 14         | 8          |
| 062        |     | 02              | 22 34 04.5 | 39.97 S         | 175.03 E         | 107         | 4.9 F | 1.7  | 16         | 16         |
| 063        |     | 03              | 07 01 24.5 | 37.47 S         | 177.37 E         | 145         | 4.1   | 1.4  | 12         | 9          |
| 064        |     | 03              | 11 01 03.9 | 37.95 S         | 177.48 E         | 54          | 3.9   | 1.7  | 12         | 9          |
| 065        |     | 03              | 22 55 07.1 | 40.85 S         | 178.06 E         | 33 R        | 4.2   | 1.4  | 22         | 14         |
| 066        |     | 04              | 14 35 48.7 | 40.46 S         | 173.70 E         | 197         | 4.4   | 1.5  | 19         | 12         |
| 067        |     | 05              | 11 03 23.2 | 31.85 S         | 179.80 W         | 503         | 4.7   | 1.4  | 12         | 8          |
| 068        |     | 05              | 13 15 07.5 | 38.71 S         | 177.98 E         | 12 R        | 3.9 F | 1.6  | 13         | 9          |
| 069        |     | 05              | 13 39 38.4 | 41.88 S         | 174.54 E         | 12 R        | 3.8   | 1.7  | 15         | 9          |
| 070        |     | 06              | 05 28 58.5 | 44.67 S         | 167.67 E         | 12 R        | 3.8   | 1.4  | 16         | 9          |
| 071        |     | 06              | 15 16 39.2 | 40.41 S         | 173.51 E         | 138         | 4.4 F | 1.4  | 19         | 11         |
| 072        |     | 06              | 18 17 01.7 | 37.95 S         | 179.26 E         | 12 R        | 3.9   | 1.1  | 20         | 9          |
| 073        |     | 06              | 19 13 32.6 | 40.12 S         | 176.62 E         | 12 R        | 3.8   | 1.8  | 13         | 8          |
| 074        |     | 07              | 03 13 34.2 | 37.35 S         | 177.13 E         | 176         | 3.8   | 0.9  | 14         | 9          |
| 075        |     | 07              | 11 14 58.6 | 32.37 S         | 179.25 W         | 660         | 5.0   | 2.3  | 10         | 7          |
| 076        |     | 08              | 16 21 53.7 | 33.63 S         | 179.38 W         | 350         | 4.8   | 1.5  | 13         | 8          |
| 077        |     | 09              | 10 01 57.7 | 44.64 S         | 167.79 E         | 12 R        | 3.3   | 1.1  | 17         | 8          |
| 078        |     | 09              | 16 19 03.5 | 36.68 S         | 178.87 E         | 176         | 5.7   | 1.5  | 21         | 17         |
| 079        |     | 10              | 08 32 35.4 | 40.06 S         | 173.86 E         | 221         | 3.9   | 1.5  | 13         | 9          |
| 080        |     | 11              | 08 32 04.1 | 39.88 S         | 174.01 E         | 246         | 5.0   | 1.7  | 23         | 16         |
| 081        |     | 12              | 02 00 41.2 | 35.36 S         | 179.65 W         | 240         | 4.4   | 1.8  | 11         | 8          |
| 082        |     | 12              | 03 27 55.0 | 35.91 S         | 178.08 E         | 237         | 4.4   | 1.7  | 16         | 10         |
| 083        |     | 13              | 15 04 13.0 | 37.90 S         | 179.16 E         | 12 R        | 3.9   | 1.6  | 18         | 12         |
| 084        |     | 14              | 02 29 33.6 | 44.95 S         | 168.00 E         | 33 R        | 4.1   | 1.2  | 18         | 10         |
| 085        |     | 14              | 10 33 13.9 | 36.47 S         | 177.88 E         | 270         | 4.6   | 1.1  | 17         | 10         |
| 086        |     | 14              | 13 06 34.7 | 46.39 S         | 166.56 E         | 12 R        | 3.6   | 1.1  | 12         | 5          |
| 087        |     | 15              | 22 51 08.8 | 35.30 S         | 179.34 E         | 218         | 4.3   | 2.6  | 8          | 8          |
| 088        |     | 16              | 12 33 04.7 | 38.82 S         | 176.87 E         | 12 R        | 3.9   | 1.6  | 20         | 9          |
| 089        |     | 16              | 13 24 51.8 | 36.99 S         | 177.99 E         | 186         | 3.9   | 1.3  | 15         | 9          |
| 090        |     | 17              | 19 21 51.8 | 41.63 S         | 174.11 E         | 12 R        | 4.1   | 1.4  | 19         | 12         |
| 091        |     | 17              | 20 45 24.2 | 40.28 S         | 176.75 E         | 12 R        | 3.4   | 1.3  | 13         | 10         |
| 092        |     | 17              | 22 01 48.8 | 37.52 S         | 176.86 E         | 221         | 3.9   | 2.1  | 7          | 5          |
| 093        |     | 18              | 05 20 40.2 | 39.18 S         | 174.49 E         | 12 R        | 2.9 F | 1.9  | 13         | 7          |
| 094        |     | 19              | 11 51 32.4 | 34.50 S         | 178.80 E         | 341         | 4.8   | 0.9  | 9          | 15         |
| 095        |     | 19              | 20 33 47.3 | 36.14 S         | 177.74 E         | 247         | 4.2   | 0.2  | 7          | 11         |
| 096        |     | 21              | 06 25 49.5 | 39.12 S         | 174.57 E         | 12 R        | 2.4   | 0.1  | 4          | 2          |
| 097        |     | 21              | 18 20 46.1 | 44.50 S         | 169.55 E         | 12 R        | 3.6   | 0.7  | 10         | 10         |
| 098        |     | 22              | 06 06 00.4 | 39.11 S         | 174.57 E         | 12 R        | 2.7   | 0.1  | 4          | 3          |
| 099        |     | 22              | 07 42 14.4 | 39.11 S         | 174.50 E         | 12 R        | 3.3 F | 1.6  | 9          | 5          |
| 100        |     | 22              | 07 51 10.3 | 39.14 S         | 174.54 E         | 12 R        | 3.0 F | 1.4  | 7          | 4          |



| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|----------------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 101        | FEB | 22 08 42 25.5        | 39.12 S         | 174.53 E         | 12 R        | 3.1 F | 1.0  | 8          | 5          |
| 102        |     | 22 09 03 08.0        | 39.12 S         | 174.45 E         | 12 R        | 2.6   | 2.3  | 6          | 4          |
| 103        |     | 22 15 57 41.9        | 39.08 S         | 174.46 E         | 12 R        | 3.2 F | 1.1  | 9          | 4          |
| 104        |     | 23 03 34 03.5        | 39.13 S         | 174.57 E         | 12 R        | 2.7   | 0.2  | 5          | 4          |
| 105        |     | 23 03 50 17.9        | 39.12 S         | 174.58 E         | 12 R        | 2.7   | 0.3  | 5          | 4          |
| 106        |     | 24 14 17 44.7        | 45.16 S         | 167.43 E         | 93          | 3.7   | 0.5  | 12         | 10         |
| 107        |     | 24 14 23 35.8        | 38.57 S         | 176.16 E         | 110         | 4.2   | 0.2  | 14         | 19         |
| 108        |     | 26 02 41 50.4        | 47.75 S         | 165.84 E         | 12 R        | 3.8   | 0.9  | 7          | 4          |
| 109        |     | 27 13 19 47.2        | 35.57 S         | 179.34 W         | 12 R        | 4.1   | 2.1  | 16         | 11         |
| 110        |     | 27 14 43 33.8        | 32.79 S         | 178.48 W         | 12 R        | 4.5   | 2.8  | 16         | 11         |
| 111        |     | 28 02 18 10.7        | 35.46 S         | 179.25 W         | 12 R        | 4.6   | 1.8  | 11         | 14         |
| 112        | MAR | 01 07 46 49.4        | 39.96 S         | 176.61 E         | 12 R        | 4.1 F | 1.4  | 26         | 15         |
| 113        |     | 03 05 29 46.6        | 38.60 S         | 175.22 E         | 254         | 4.0   | 1.2  | 12         | 14         |
| 114        |     | 04 21 12 50.3        | 37.04 S         | 177.30 E         | 145         | 3.7   | 0.9  | 6          | 4          |
| 115        |     | 04 21 29 45.0        | 36.75 S         | 177.44 E         | 132         | 4.0   | 1.7  | 10         | 7          |
| 116        |     | 05 02 52 56.5        | 38.60 S         | 176.10 E         | 12 R        | 2.7 F | 1.5  | 3          | 3          |
| 117        |     | 05 07 12 03.8        | 40.30 S         | 173.18 E         | 20          | 3.6   | 4.5  | 11         | 8          |
| 118        |     | 05 09 55 42.9        | 38.52 S         | 177.95 E         | 33 R        | 3.7 F | 2.0  | 11         | 7          |
| 119        |     | 05 10 25 45.0        | 36.63 S         | 177.96 E         | 277         | 4.2   | 2.0  | 7          | 6          |
| 120        |     | 06 03 59 14.2        | 35.59 S         | 177.77 E         | 155         | 3.9   | 2.5  | 5          | 4          |
| 121        |     | 06 10 38 03.2        | 37.86 S         | 177.27 E         | 145         | 3.7   | 1.7  | 10         | 7          |
| 122        |     | 06 16 40 09.0        | 45.23 S         | 167.09 E         | 12 R        | 4.0   | 1.5  | 10         | 5          |
| 123        |     | 06 16 46 22.7        | 45.23 S         | 167.16 E         | 12 R        | 3.8   | 1.8  | 10         | 5          |
| 124        |     | 06 16 47 09.4        | 45.24 S         | 167.12 E         | 12 R        | 3.7   | 1.8  | 8          | 5          |
| 125        |     | 06 17 39 47.9        | 48.62 S         | 165.85 E         | 33 R        | 4.2   | 1.6  | 6          | 4          |
| 126        |     | 07 01 09 26.2        | 37.29 S         | 178.47 E         | 132         | 4.4   | 1.9  | 13         | 13         |
| 127        |     | 07 01 59 38.5        | 36.85 S         | 178.24 E         | 33 R        | 3.7   | 1.4  | 6          | 4          |
| 128        |     | 07 02 00 38.8        | 39.45 S         | 175.85 E         | 12 R        | 3.5   | 1.1  | 9          | 5          |
| 129        |     | 07 02 23 08.9        | 34.95 S         | 176.30 W         | 33 R        | 4.6   | 4.6  | 4          | 3          |
| 130        |     | 07 13 08 28.8        | 37.44 S         | 178.38 E         | 134         | 3.9   | 2.6  | 11         | 8          |
| 131        |     | 07 18 20 53.2        | 38.33 S         | 175.69 E         | 242         | 4.1   | 1.7  | 17         | 11         |
| 132        |     | 09 02 33 51.9        | 42.85 S         | 171.56 E         | 12 R        | 3.2 F | 1.2  | 8          | 6          |
| 133        |     | 09 16 50 34.5        | 45.28 S         | 167.27 E         | 12 R        | 4.1   | 1.1  | 10         | 7          |
| 134        |     | 10 02 38 20.9        | 49.95 S         | 165.05 E         | 33 R        | 4.4   | 2.1  | 6          | 3          |
| 135        |     | 10 05 40 05.4        | 45.27 S         | 167.26 E         | 12 R        | 4.0   | 1.5  | 11         | 5          |
| 136        |     | 10 11 21 42.1        | 38.02 S         | 176.01 E         | 277         | 4.0   | 0.9  | 11         | 8          |
| 137        |     | 11 11 27 57.1        | 40.65 S         | 174.22 E         | 12          | 3.5   | 2.1  | 10         | 7          |
| 138        |     | 11 16 12 59.3        | 37.57 S         | 177.25 E         | 112         | 3.2   | 1.1  | 6          | 6          |
| 139        |     | 13 16 36 11.3        | 37.01 S         | 177.40 E         | 226         | 4.2   | 1.1  | 11         | 9          |
| 140        |     | 13 19 35 01.8        | 31.59 S         | 178.62 W         | 467         | 5.2   | 2.7  | 13         | 8          |
| 141        |     | 14 11 53 04.8        | 37.09 S         | 177.91 E         | 147         | 3.9   | 1.5  | 12         | 8          |
| 142        |     | 14 12 31 59.8        | 39.11 S         | 174.85 E         | 219         | 5.7 F | 1.9  | 19         | 20         |
| 143        |     | 14 18 31 28.4        | 41.04 S         | 172.03 E         | 33 R        | 4.0 F | 2.4  | 13         | 9          |
| 144        |     | 16 13 36 56.9        | 33.06 S         | 180.00 E         | 284         | 4.7   | 2.0  | 11         | 7          |
| 145        |     | 16 18 42 46.5        | 38.16 S         | 176.23 E         | 187         | 3.4   | 2.0  | 8          | 8          |
| 146        |     | 17 04 54 33.4        | 39.09 S         | 178.04 E         | 12 R        | 3.9   | 2.1  | 17         | 13         |
| 147        |     | 17 06 56 36.9        | 39.26 S         | 174.00 E         | 33 R        | 3.5   | 0.8  | 9          | 6          |
| 148        |     | 17 19 41 36.4        | 37.29 S         | 177.19 E         | 224         | 4.4   | 1.6  | 19         | 11         |
| 149        |     | 18 01 25 07.4        | 39.14 S         | 174.84 E         | 214         | 4.4   | 1.4  | 17         | 9          |
| 150        |     | 18 09 44 50.4        | 37.77 S         | 176.09 E         | 232         | 4.0   | 1.4  | 14         | 8          |

| REF<br>NUM | ORIGIN<br>h m s | TIME<br>deg | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----------------|-------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 151        | MAR 20          | 10 46 52.3  | 44.14 S         | 168.79 E         | 33 R        | 4.1 F | 1.7  | 16         | 9          |
| 152        | 21              | 00 42 41.5  | 41.27 S         | 174.82 E         | 12 R        | F     | ND   | 1          | 1          |
| 153        | 21              | 06 39 13.7  | 35.90 S         | 179.21 E         | 199         | 4.3   | 2.1  | 16         | 9          |
| 154        | 21              | 18 36 29.8  | 39.92 S         | 174.49 E         | 12 R        | 3.7   | 1.1  | 9          | 5          |
| 155        | 22              | 02 23 21.8  | 34.23 S         | 178.11 E         | 317         | 6.2 F | 3.5  | 19         | 15         |
| 156        | 22              | 07 33 40.8  | 36.22 S         | 178.68 E         | 251         | 4.0   | 1.6  | 9          | 6          |
| 157        | 22              | 10 50 04.0  | 34.27 S         | 179.89 W         | 377         | 4.5   | 2.0  | 8          | 5          |
| 158        | 23              | 17 24 44.9  | 35.14 S         | 179.95 W         | 12 R        | 4.8   | 2.2  | 17         | 7          |
| 159        | 23              | 18 40 57.3  | 38.04 S         | 176.28 E         | 179         | 4.3   | 1.4  | 15         | 8          |
| 160        | 24              | 15 51 39.7  | 39.72 S         | 174.16 E         | 12 R        | 3.2 F | 1.3  | 9          | 5          |
| 161        | 24              | 16 14 22.8  | 37.98 S         | 176.61 E         | 12 R        | 3.3 F | 1.6  | 9          | 5          |
| 162        | 24              | 16 45 47.6  | 37.99 S         | 176.66 E         | 12 R        | 3.1 F | 1.5  | 8          | 4          |
| 163        | 24              | 22 13 13.4  | 31.73 S         | 179.81 E         | 549         | 5.3   | 1.8  | 16         | 10         |
| 164        | 25              | 02 32 50.4  | 31.83 S         | 179.84 E         | 410         | 4.8   | 2.6  | 8          | 6          |
| 165        | 25              | 15 14 29.3  | 39.25 S         | 175.38 E         | 12 R        | 3.8   | 1.5  | 20         | 9          |
| 166        | 26              | 06 22 57.9  | 44.75 S         | 168.10 E         | 12 R        | 3.2   | 1.6  | 13         | 6          |
| 167        | 26              | 16 38 58.5  | 45.24 S         | 168.20 E         | 12 R        | 3.5   | 1.8  | 12         | 7          |
| 168        | 26              | 23 04 58.0  | 40.53 S         | 173.09 E         | 109         | 3.7   | 1.0  | 10         | 7          |
| 169        | 27              | 16 32 03.4  | 38.90 S         | 175.94 E         | 67          | 3.3   | 1.4  | 8          | 6          |
| 170        | 28              | 14 13 08.3  | 38.25 S         | 176.25 E         | 12 R        | 2.2 F | 2.6  | 3          | 3          |
| 171        | 28              | 17 28 05.4  | 37.84 S         | 177.82 E         | 65          | 3.7   | 1.6  | 9          | 6          |
| 172        | APR 01          | 06 37 25.5  | 40.09 S         | 174.98 E         | 12 R        | 3.5   | 0.8  | 12         | 11         |
| 173        | 01              | 10 29 26.1  | 39.04 S         | 177.93 E         | 12 R        | 3.5   | 1.3  | 15         | 13         |
| 174        | 01              | 11 37 54.6  | 37.95 S         | 176.26 E         | 201         | 4.2   | 0.6  | 9          | 15         |
| 175        | 01              | 22 01 07.6  | 44.96 S         | 166.80 E         | 12 R        | 4.5   | 1.2  | 11         | 14         |
| 176        | 02              | 08 19 14.8  | 45.15 S         | 167.55 E         | 91          | 3.5   | 0.6  | 12         | 8          |
| 177        | 02              | 17 51 42.4  | 39.15 S         | 177.93 E         | 12 R        | 3.4   | 1.8  | 14         | 10         |
| 178        | 02              | 18 01 08.3  | 36.55 S         | 177.76 E         | 12 R        | 3.9   | 1.6  | 16         | 11         |
| 179        | 03              | 19 35 44.7  | 37.41 S         | 176.79 E         | 220         | 5.3   | 0.8  | 13         | 23         |
| 180        | 04              | 09 53 11.6  | 40.55 S         | 174.51 E         | 75          | 4.8 F | 0.7  | 13         | 23         |
| 181        | 05              | 11 13 37.1  | 44.91 S         | 167.75 E         | 73          | 3.5   | 0.7  | 12         | 9          |
| 182        | 05              | 18 27 01.9  | 45.09 S         | 167.55 E         | 94          | 3.5   | 0.7  | 12         | 9          |
| 183        | 06              | 09 48 18.9  | 37.12 S         | 176.96 E         | 192         | 3.8   | 1.5  | 11         | 10         |
| 184        | 06              | 16 29 05.6  | 37.40 S         | 177.39 E         | 133         | 4.2   | 0.7  | 11         | 17         |
| 185        | 07              | 01 23 49.3  | 39.20 S         | 174.60 E         | 12 R        | F     | 3.4  | 2          | 1          |
| 186        | 07              | 07 02 39.5  | 39.46 S         | 174.23 E         | 205         | 4.2   | 1.3  | 15         | 16         |
| 187        | 07              | 09 00 59.1  | 50.86 S         | 162.65 E         | 12 R        | 4.4   | 0.2  | 7          | 9          |
| 188        | 07              | 15 06 23.7  | 44.29 S         | 167.99 E         | 12 R        | 4.0   | 1.2  | 13         | 11         |
| 189        | 09              | 14 10 19.7  | 37.73 S         | 176.24 E         | 217         | 4.5   | 1.4  | 16         | 16         |
| 190        | 10              | 13 28 57.5  | 38.01 S         | 176.25 E         | 158         | 4.0   | 0.3  | 9          | 14         |
| 191        | 11              | 13 55 05.9  | 36.29 S         | 178.34 E         | 33 R        | 4.3   | 1.3  | 13         | 14         |
| 192        | 11              | 17 36 32.2  | 45.65 S         | 167.05 E         | 82          | 3.1   | 0.3  | 8          | 6          |
| 193        | 12              | 00 22 36.7  | 35.60 S         | 179.73 E         | 33 R        | 4.6   | 1.4  | 13         | 15         |
| 194        | 12              | 09 08 33.5  | 39.93 S         | 174.34 E         | 12 R        | 4.7   | 1.4  | 25         | 22         |
| 195        | 13              | 10 28 51.8  | 31.09 S         | 176.97 W         | 33 R        | 5.4   | 1.9  | 11         | 15         |
| 196        | 13              | 16 26 58.0  | 40.87 S         | 175.40 E         | 12 R        | 3.4   | 0.9  | 7          | 19         |
| 197        | 13              | 17 35 16.0  | 40.90 S         | 175.43 E         | 12 R        | 3.3   | 0.9  | 7          | 20         |
| 198        | 13              | 17 44 30.5  | 40.89 S         | 175.39 E         | 12 R        | 3.0 F | 0.8  | 8          | 14         |
| 199        | 14              | 21 14 54.2  | 38.50 S         | 175.86 E         | 163         | 4.0   | 0.4  | 11         | 17         |
| 200        | 15              | 14 04 53.8  | 37.62 S         | 177.82 E         | 165         | 4.4   | 1.9  | 14         | 11         |

| REF<br>NUM | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|----------------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 201        | APR 15 16 41 47.4    | 37.27 S         | 177.29 E         | 162         | 3.8   | 1.8  | 11         | 7          |
| 202        | 15 19 51 05.5        | 38.13 S         | 176.52 E         | 157         | 3.9   | 1.9  | 12         | 8          |
| 203        | 17 17 49 05.8        | 41.48 S         | 172.93 E         | 133         | 3.3   | 1.6  | 18         | 12         |
| 204        | 18 00 45 41.5        | 37.66 S         | 178.13 E         | 33 R        | 3.6   | 1.9  | 4          | 4          |
| 205        | 18 01 54 41.7        | 43.75 S         | 169.56 E         | 12 R        | 3.2 F | 0.5  | 8          | 6          |
| 206        | 18 10 30 40.1        | 37.75 S         | 178.14 E         | 33 R        | 4.1   | 1.4  | 12         | 12         |
| 207        | 18 23 25 02.4        | 37.95 S         | 178.09 E         | 107         | 4.5 F | 1.7  | 13         | 13         |
| 208        | 19 02 13 37.3        | 37.96 S         | 178.44 E         | 33 R        | 4.5 F | 1.9  | 10         | 11         |
| 209        | 19 17 51 08.3        | 45.01 S         | 167.68 E         | 102         | 3.4   | 0.9  | 10         | 5          |
| 210        | 19 20 55 40.7        | 45.13 S         | 167.46 E         | 108         | 3.3   | 1.8  | 9          | 5          |
| 211        | 20 07 28 12.7        | 44.98 S         | 167.71 E         | 95          | 3.4   | 0.7  | 10         | 6          |
| 212        | 20 07 40 57.9        | 37.69 S         | 176.61 E         | 242         | 4.8   | 1.8  | 15         | 12         |
| 213        | 20 07 49 03.1        | 31.97 S         | 179.89 W         | 472         | 5.0   | 1.7  | 11         | 8          |
| 214        | 21 13 18 04.4        | 33.98 S         | 179.82 E         | 267         | 4.8   | 1.7  | 13         | 8          |
| 215        | 21 17 11 03.8        | 39.17 S         | 175.33 E         | 127         | 3.5   | 2.2  | 12         | 7          |
| 216        | 21 20 42 13.7        | 32.43 S         | 179.50 E         | 417         | 5.0   | 1.0  | 11         | 7          |
| 217        | 22 10 04 35.0        | 38.66 S         | 175.70 E         | 191         | 4.0   | 1.8  | 17         | 10         |
| 218        | 22 11 20 18.2        | 37.70 S         | 176.14 E         | 314         | 4.6   | 1.2  | 17         | 10         |
| 219        | 22 12 05 47.5        | 50.17 S         | 165.36 E         | 33 R        | 4.7   | 3.0  | 8          | 5          |
| 220        | 23 10 20 17.7        | 45.38 S         | 167.45 E         | 85          | 3.3   | 0.4  | 6          | 3          |
| 221        | 23 11 46 59.6        | 39.87 S         | 174.11 E         | 162         | 3.6   | 1.6  | 13         | 8          |
| 222        | 24 01 49 59.8        | 40.42 S         | 173.42 E         | 192         | 5.5 F | 1.6  | 24         | 22         |
| 223        | 25 06 40 06.5        | 37.79 S         | 176.43 E         | 264         | 4.0   | 1.5  | 10         | 8          |
| 224        | 25 15 08 36.3        | 37.90 S         | 176.03 E         | 295         | 5.0   | 1.1  | 19         | 15         |
| 225        | 25 19 42 41.8        | 44.12 S         | 168.69 E         | 12 R        | 3.4   | 1.2  | 8          | 5          |
| 226        | 26 15 22 23.6        | 38.10 S         | 178.18 E         | 33 R        | 3.6   | 1.4  | 12         | 8          |
| 227        | 26 16 44 24.1        | 38.34 S         | 175.76 E         | 210         | 3.8   | 1.9  | 13         | 8          |
| 228        | 26 16 52 42.6        | 45.13 S         | 166.69 E         | 33 R        | 3.5   | 1.5  | 6          | 3          |
| 229        | 27 09 15 27.4        | 38.52 S         | 175.91 E         | 171         | 4.0   | 1.5  | 12         | 9          |
| 230        | 28 10 40 55.3        | 37.88 S         | 176.76 E         | 102         | 3.5   | 0.5  | 8          | 7          |
| 231        | 28 16 57 14.0        | 36.90 S         | 177.09 E         | 182         | 3.7   | 0.4  | 5          | 3          |
| 232        | 28 22 21 58.0        | 44.58 S         | 167.52 E         | 12 R        | 4.1   | 1.3  | 8          | 6          |
| 233        | 29 20 06 55.8        | 45.04 S         | 166.64 E         | 12 R        | 4.3   | 1.0  | 9          | 7          |
| 234        | 29 20 57 46.6        | 36.03 S         | 179.45 E         | 174         | 4.8   | 1.7  | 10         | 10         |
| 235        | 29 21 23 24.9        | 44.48 S         | 169.47 E         | 12 R        | 3.7   | 1.1  | 14         | 6          |
| 236        | 30 02 21 46.8        | 39.14 S         | 174.99 E         | 12 R        | 3.7   | 1.7  | 12         | 7          |
| 237        | 30 17 38 05.1        | 44.23 S         | 168.51 E         | 12 R        | 3.7   | 0.9  | 10         | 7          |
| 238        | 30 18 33 50.9        | 37.88 S         | 177.68 E         | 12 R        | 4.8 F | 1.2  | 15         | 11         |
| 239        | 30 21 57 44.1        | 37.70 S         | 177.57 E         | 12 R        | 3.4   | 2.0  | 6          | 3          |
| 240        | MAY 02 08 24 19.1    | 38.29 S         | 175.80 E         | 165         | 3.7   | 0.9  | 8          | 5          |
| 241        | 02 20 45 11.2        | 37.06 S         | 177.49 E         | 12 R        | 3.8   | 1.3  | 7          | 4          |
| 242        | 03 16 14 52.5        | 37.82 S         | 176.20 E         | 311         | 5.1   | 1.5  | 22         | 14         |
| 243        | 04 11 37 21.4        | 39.87 S         | 174.04 E         | 219         | 4.5   | 1.7  | 21         | 14         |
| 244        | 05 02 20 05.7        | 41.26 S         | 173.74 E         | 12 R        | 3.6 F | 1.7  | 15         | 10         |
| 245        | 05 02 22 11.1        | 45.17 S         | 167.68 E         | 113         | 3.5   | 0.4  | 9          | 5          |
| 246        | 05 04 59 38.6        | 49.63 S         | 164.84 E         | 33 R        | 4.3   | 1.1  | 8          | 5          |
| 247        | 05 07 22 57.8        | 38.59 S         | 175.97 E         | 165         | 3.8   | 1.5  | 18         | 9          |
| 248        | 05 16 13 30.9        | 38.20 S         | 176.25 E         | 162         | 3.6   | 0.9  | 10         | 6          |
| 249        | 07 08 44 14.1        | 37.84 S         | 177.94 E         | 12 R        | 4.4 F | 1.7  | 17         | 12         |
| 250        | 08 03 24 59.5        | 38.95 S         | 177.65 E         | 33 R        | 3.2   | 1.7  | 14         | 5          |



| REF<br>NUM | ORIGIN | TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|--------|---------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 251        | MAY    | 09 11 28 09.1 | 38.72 S         | 175.53 E         | 170         | 3.5   | 1.5  | 13         | 7          |
| 252        |        | 10 19 57 19.7 | 34.00 S         | 178.59 W         | 230         | 4.6   | 2.5  | 10         | 9          |
| 253        |        | 10 23 56 19.6 | 44.89 S         | 167.81 E         | 90          | 4.4   | 1.9  | 9          | 7          |
| 254        |        | 11 00 51 04.4 | 46.00 S         | 167.00 E         | 33 R        | 3.7   | 1.4  | 6          | 3          |
| 255        |        | 11 02 41 58.2 | 43.26 S         | 171.73 E         | 33 R        | 5.3 F | 1.8  | 19         | 15         |
| 256        |        | 11 03 24 10.2 | 43.27 S         | 171.74 E         | 33 R        | 4.2   | 1.6  | 17         | 9          |
| 257        |        | 11 03 28 30.5 | 43.28 S         | 171.88 E         | 33 R        | 3.7   | 2.1  | 15         | 8          |
| 258        |        | 11 11 05 35.9 | 41.15 S         | 174.67 E         | 12 R        | 3.3 F | 1.3  | 9          | 5          |
| 259        |        | 11 13 55 26.6 | 35.27 S         | 178.86 E         | 191         | 4.3   | 0.7  | 10         | 6          |
| 260        |        | 11 19 17 21.7 | 36.06 S         | 177.90 E         | 165         | 3.9   | 2.1  | 6          | 4          |
| 261        |        | 12 00 12 39.0 | 34.88 S         | 179.94 W         | 254         | 4.7   | 1.2  | 15         | 10         |
| 262        |        | 12 00 48 10.2 | 34.57 S         | 179.69 W         | 33 R        | 4.4   | 1.1  | 12         | 8          |
| 263        |        | 12 04 01 06.7 | 45.42 S         | 166.80 E         | 12 R        | 3.5   | 1.6  | 12         | 6          |
| 264        |        | 12 16 42 25.4 | 44.52 S         | 168.24 E         | 12 R        | 4.9 F | 2.0  | 15         | 15         |
| 265        |        | 12 17 31 24.9 | 44.39 S         | 167.78 E         | 12 R        | 3.7 F | 1.6  | 16         | 8          |
| 266        |        | 12 19 48 40.6 | 38.15 S         | 177.46 E         | 33 R        | 3.2   | 1.5  | 13         | 6          |
| 267        |        | 13 05 57 34.2 | 44.43 S         | 168.20 E         | 12 R        | 2.6 F | 0.2  | 6          | 3          |
| 268        |        | 13 10 53 18.0 | 40.41 S         | 175.18 E         | 33 R        | 3.7   | 0.7  | 14         | 15         |
| 269        |        | 14 04 12 07.1 | 34.55 S         | 178.22 W         | 33 R        | 4.2   | 0.5  | 6          | 10         |
| 270        |        | 14 10 55 23.1 | 33.29 S         | 178.18 W         | 12 R        | 4.3   | 1.1  | 8          | 11         |
| 271        |        | 14 12 35 47.6 | 33.29 S         | 178.35 W         | 12 R        | 4.0   | 1.2  | 6          | 8          |
| 272        |        | 14 19 37 42.7 | 37.20 S         | 177.50 E         | 128         | 3.8   | 0.8  | 13         | 15         |
| 273        |        | 15 01 07 40.8 | 37.60 S         | 176.35 E         | 289         | 3.8   | 1.6  | 7          | 11         |
| 274        |        | 15 05 28 09.4 | 44.84 S         | 166.17 E         | 33 R        | 4.4   | 1.4  | 13         | 7          |
| 275        |        | 15 13 32 10.8 | 41.31 S         | 172.57 E         | 217         | 4.1   | 1.1  | 14         | 18         |
| 276        |        | 17 13 48 18.1 | 37.35 S         | 176.63 E         | 302         | 4.4   | 1.5  | 10         | 11         |
| 277        |        | 18 02 25 41.7 | 38.54 S         | 176.38 E         | 12 R        | 3.7   | 1.1  | 8          | 10         |
| 278        |        | 18 04 11 50.2 | 37.58 S         | 175.93 E         | 12 R        | 4.6 F | 1.1  | 14         | 16         |
| 279        |        | 18 13 39 42.9 | 37.52 S         | 175.90 E         | 12 R        | 3.6   | 1.2  | 8          | 6          |
| 280        |        | 18 16 35 31.4 | 37.53 S         | 175.91 E         | 12 R        | 4.2 F | 1.4  | 19         | 12         |
| 281        |        | 18 20 50 29.3 | 37.47 S         | 175.87 E         | 12 R        | 3.3   | 1.3  | 5          | 3          |
| 282        |        | 19 06 32 14.7 | 43.34 S         | 171.75 E         | 12 R        | 3.5   | 1.2  | 19         | 11         |
| 283        |        | 19 06 43 07.2 | 43.33 S         | 171.75 E         | 12 R        | 3.8   | 1.6  | 22         | 12         |
| 284        |        | 19 10 58 53.1 | 37.54 S         | 175.97 E         | 12 R        | 3.8 F | 2.0  | 20         | 10         |
| 285        |        | 19 20 19 22.7 | 38.85 S         | 175.11 E         | 194         | 4.2   | 1.0  | 13         | 15         |
| 286        |        | 20 03 52 56.5 | 38.28 S         | 176.12 E         | 158         | 4.2   | 0.5  | 9          | 18         |
| 287        |        | 20 21 30 23.8 | 40.89 S         | 172.37 E         | 12 R        | 3.7 F | 1.5  | 22         | 11         |
| 288        |        | 21 04 54 07.7 | 44.98 S         | 167.30 E         | 12 R        | 3.9   | 0.3  | 6          | 7          |
| 289        |        | 21 05 44 00.6 | 36.83 S         | 177.74 E         | 12 R        | 4.4   | 1.0  | 15         | 18         |
| 290        |        | 22 03 48 52.5 | 32.46 S         | 179.10 W         | 12 R        | 4.7   | 1.9  | 8          | 15         |
| 291        |        | 22 04 05 58.1 | 36.90 S         | 176.91 E         | 302         | 4.7   | 1.2  | 16         | 16         |
| 292        |        | 22 14 28 03.0 | 42.59 S         | 172.75 E         | 12 R        | 3.9   | 1.3  | 20         | 16         |
| 293        |        | 22 14 33 11.6 | 42.61 S         | 172.79 E         | 12 R        | 3.0 F | 1.3  | 16         | 7          |
| 294        |        | 22 15 23 16.8 | 37.80 S         | 176.74 E         | 12 R        | 4.1   | 1.1  | 14         | 12         |
| 295        |        | 23 08 33 52.1 | 37.31 S         | 177.40 E         | 130         | 3.8   | 0.6  | 8          | 11         |
| 296        |        | 23 08 36 15.0 | 37.88 S         | 176.57 E         | 158         | 4.5   | 1.1  | 21         | 20         |
| 297        |        | 23 18 59 57.0 | 44.95 S         | 167.70 E         | 33 R        | 4.0   | 1.1  | 8          | 8          |
| 298        |        | 23 22 28 30.2 | 31.29 S         | 178.75 W         | 33 R        | 4.8   | 1.0  | 10         | 13         |
| 299        |        | 24 08 21 46.8 | 39.39 S         | 179.37 E         | 12 R        | 3.8   | 1.4  | 15         | 13         |
| 300        |        | 24 12 18 08.6 | 38.36 S         | 176.23 E         | 140         | 4.3   | 0.4  | 10         | 17         |



| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|----------------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 301        | MAY | 25 07 57 36.7        | 39.22 S         | 175.22 E         | 121         | 3.8   | 1.0  | 18         | 16         |
| 302        |     | 25 16 36 16.5        | 32.98 S         | 178.18 W         | 12 R        | 4.6   | 1.9  | 17         | 14         |
| 303        |     | 26 18 47 17.9        | 40.29 S         | 174.03 E         | 101         | 3.5   | 0.6  | 10         | 13         |
| 304        |     | 26 20 06 54.2        | 38.52 S         | 176.45 E         | 12 R        | 2.5 F | 2.3  | 4          | 4          |
| 305        |     | 27 07 52 27.0        | 35.37 S         | 178.65 E         | 279         | 4.3   | 1.2  | 10         | 6          |
| 306        |     | 27 10 59 20.3        | 32.88 S         | 179.66 W         | 466         | 4.8   | 1.4  | 11         | 7          |
| 307        |     | 28 01 46 07.2        | 38.97 S         | 177.57 E         | 12 R        | 4.0 F | 1.6  | 13         | 11         |
| 308        |     | 28 20 01 06.2        | 41.96 S         | 173.66 E         | 12 R        | 3.7   | 2.1  | 14         | 9          |
| 309        |     | 28 22 03 43.6        | 39.24 S         | 175.28 E         | 12 R        | 3.4   | 0.9  | 11         | 6          |
| 310        |     | 28 22 35 39.5        | 37.94 S         | 176.38 E         | 183         | 4.2   | 1.3  | 16         | 12         |
| 311        |     | 29 03 07 12.4        | 41.05 S         | 172.75 E         | 12 R        | 2.8 F | 1.4  | 3          | 2          |
| 312        |     | 29 03 20 31.8        | 34.71 S         | 178.91 W         | 33 R        | 5.0   | 1.7  | 19         | 16         |
| 313        |     | 29 11 20 07.8        | 44.72 S         | 167.58 E         | 12 R        | 4.0   | 1.5  | 14         | 8          |
| 314        |     | 29 18 38 30.2        | 37.84 S         | 176.72 E         | 12 R        | 3.3 F | 2.0  | 10         | 5          |
| 315        |     | 30 03 51 22.7        | 38.41 S         | 175.97 E         | 208         | 3.8   | 1.8  | 9          | 7          |
| 316        |     | 30 12 37 49.4        | 39.66 S         | 176.14 E         | 33 R        | 3.4   | 1.5  | 11         | 10         |
| 317        |     | 31 18 50 56.9        | 37.88 S         | 176.81 E         | 12 R        | 5.4 F | 1.6  | 23         | 21         |
| 318        |     | 31 18 59 11.1        | 37.69 S         | 176.72 E         | 12 R        | 4.0 F | 1.6  | 7          | 8          |
| 319        |     | 31 19 00 49.3        | 37.78 S         | 176.71 E         | 12 R        | 3.8 F | 1.9  | 6          | 5          |
| 320        |     | 31 19 05 11.1        | 37.76 S         | 176.71 E         | 12 R        | 3.9 F | 1.9  | 11         | 7          |
| 321        |     | 31 19 26 42.1        | 37.69 S         | 176.89 E         | 12 R        | 4.3 F | 2.0  | 15         | 10         |
| 322        |     | 31 19 29 59.6        | 37.69 S         | 176.74 E         | 12 R        | 3.7 F | 2.0  | 8          | 6          |
| 323        |     | 31 20 11 37.2        | 37.94 S         | 176.74 E         | 12 R        | 3.5   | 0.9  | 6          | 5          |
| 324        |     | 31 23 17 50.1        | 37.82 S         | 176.78 E         | 12 R        | 3.5   | 1.3  | 7          | 5          |
| 325        | JUN | 01 00 07 03.5        | 37.84 S         | 176.76 E         | 12 R        | 3.6   | 1.3  | 8          | 6          |
| 326        |     | 01 03 22 58.1        | 37.77 S         | 176.75 E         | 12 R        | 3.8   | 2.1  | 10         | 7          |
| 327        |     | 01 05 55 20.9        | 39.55 S         | 175.61 E         | 12 R        | 4.4 F | 1.4  | 27         | 14         |
| 328        |     | 01 08 47 01.0        | 34.40 S         | 179.05 W         | 269         | 4.7   | 1.4  | 8          | 7          |
| 329        |     | 01 09 01 37.6        | 32.06 S         | 178.99 W         | 33 R        | 4.9   | 2.7  | 10         | 8          |
| 330        |     | 01 09 36 42.0        | 39.65 S         | 175.66 E         | 12 R        | 3.5 F | 1.6  | 19         | 10         |
| 331        |     | 01 14 41 33.2        | 39.65 S         | 175.65 E         | 12 R        | 3.4 F | 1.4  | 18         | 10         |
| 332        |     | 01 17 07 08.1        | 37.80 S         | 176.77 E         | 12 R        | 4.7 F | 1.6  | 21         | 14         |
| 333        |     | 01 20 49 24.1        | 37.76 S         | 176.72 E         | 12 R        | 3.7 F | 1.4  | 10         | 7          |
| 334        |     | 02 00 18 52.7        | 40.63 S         | 174.14 E         | 102         | 4.1   | 1.8  | 17         | 11         |
| 335        |     | 02 00 44 13.7        | 41.59 S         | 175.42 E         | 12 R        | 3.9 F | 1.8  | 16         | 9          |
| 336        |     | 02 03 03 50.7        | 37.84 S         | 176.73 E         | 12 R        | 3.6   | 1.8  | 12         | 7          |
| 337        |     | 02 11 12 11.5        | 39.19 S         | 175.12 E         | 12 R        | 4.1   | 1.9  | 15         | 10         |
| 338        |     | 02 12 14 46.3        | 34.85 S         | 179.21 W         | 223         | 4.2   | 2.4  | 10         | 7          |
| 339        |     | 02 13 17 46.6        | 38.37 S         | 177.04 E         | 12 R        | 4.5   | 1.6  | 16         | 14         |
| 340        |     | 02 13 46 43.0        | 38.37 S         | 177.02 E         | 12 R        | 3.9   | 1.5  | 13         | 12         |
| 341        |     | 02 20 58 53.1        | 37.92 S         | 176.63 E         | 12 R        | 3.6   | 1.4  | 8          | 6          |
| 342        |     | 02 21 46 51.4        | 37.62 S         | 176.37 E         | 218         | 3.9   | 1.2  | 14         | 9          |
| 343        |     | 03 07 17 56.1        | 37.84 S         | 176.64 E         | 12 R        | 3.6   | 2.0  | 9          | 6          |
| 344        |     | 03 09 23 26.8        | 37.84 S         | 176.63 E         | 12 R        | 3.7   | 1.7  | 10         | 7          |
| 345        |     | 03 11 40 20.4        | 37.85 S         | 176.89 E         | 12 R        | 4.3 F | 1.3  | 19         | 10         |
| 346        |     | 03 11 54 06.3        | 37.83 S         | 176.79 E         | 12 R        | 3.8 F | 1.9  | 12         | 7          |
| 347        |     | 03 16 57 23.6        | 37.92 S         | 176.80 E         | 12 R        | 3.1 F | 0.8  | 8          | 6          |
| 348        |     | 03 20 40 14.3        | 37.92 S         | 177.12 E         | 12 R        | 3.3 F | 2.7  | 8          | 6          |
| 349        |     | 04 07 36 09.4        | 37.90 S         | 176.60 E         | 12 R        | 3.9 F | 1.5  | 14         | 10         |
| 350        |     | 04 10 21 32.4        | 40.80 S         | 172.50 E         | 12 R        | 2.5 F | 0.7  | 2          | 1          |

| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 351        | JUN | 04              | 10 30 05.0 | 38.45 S         | 178.13 E         | 12 R        | 3.2   | 1.4  | 7          | 6          |
| 352        |     | 04              | 17 25 01.6 | 39.32 S         | 177.78 E         | 33 R        | 5.1 F | 1.2  | 22         | 20         |
| 353        |     | 04              | 19 26 22.2 | 38.56 S         | 175.79 E         | 167         | 3.9   | 1.9  | 21         | 14         |
| 354        |     | 05              | 01 57 31.6 | 33.42 S         | 179.57 W         | 33 R        | 4.9   | 2.8  | 15         | 10         |
| 355        |     | 05              | 12 16 24.3 | 45.01 S         | 167.63 E         | 97          | 3.3   | 0.9  | 10         | 5          |
| 356        |     | 05              | 15 33 43.1 | 37.86 S         | 176.63 E         | 12 R        | 3.5   | 1.7  | 9          | * 6        |
| 357        |     | 05              | 17 37 04.0 | 39.63 S         | 177.17 E         | 12 R        | 3.9   | 2.0  | 15         | 11         |
| 358        |     | 05              | 21 19 21.0 | 45.10 S         | 167.65 E         | 97          | 3.6   | 0.5  | 9          | 5          |
| 359        |     | 07              | 00 07 23.3 | 41.24 S         | 173.96 E         | 12 R        | 4.6 F | 1.8  | 21         | 13         |
| 360        |     | 07              | 02 14 47.4 | 37.75 S         | 176.70 E         | 12 R        | 3.8   | 1.8  | 12         | 6          |
| 361        |     | 07              | 08 06 09.7 | 33.58 S         | 178.44 W         | 275         | 5.4   | 1.9  | 13         | 11         |
| 362        |     | 07              | 17 38 35.0 | 37.84 S         | 176.78 E         | 12 R        | 3.5   | 2.1  | 10         | 6          |
| 363        |     | 07              | 18 11 04.0 | 37.76 S         | 176.72 E         | 12 R        | 4.1 F | 1.5  | 13         | 10         |
| 364        |     | 07              | 18 12 15.2 | 37.73 S         | 176.77 E         | 12 R        | 3.4   | 1.9  | 7          | 4          |
| 365        |     | 08              | 02 20 33.6 | 39.04 S         | 175.32 E         | 223         | 4.1   | 1.3  | 15         | 11         |
| 366        |     | 08              | 04 23 39.3 | 37.85 S         | 176.70 E         | 12 R        | 3.8   | 1.9  | 12         | 8          |
| 367        |     | 08              | 04 33 28.6 | 37.87 S         | 176.72 E         | 12 R        | 3.5   | 1.7  | 10         | 6          |
| 368        |     | 08              | 09 40 57.6 | 38.06 S         | 178.57 E         | 12 R        | 3.5   | 1.0  | 8          | 6          |
| 369        |     | 08              | 10 37 23.2 | 38.29 S         | 178.65 E         | 76          | 3.7   | 2.1  | 7          | 5          |
| 370        |     | 08              | 18 28 32.2 | 34.29 S         | 179.00 W         | 246         | 4.6   | 1.6  | 17         | 12         |
| 371        |     | 09              | 05 30 57.8 | 37.81 S         | 176.67 E         | 12 R        | 3.4   | 1.3  | 8          | 6          |
| 372        |     | 09              | 09 03 48.7 | 37.82 S         | 176.66 E         | 12 R        | 3.6   | 1.2  | 11         | 7          |
| 373        |     | 09              | 14 17 35.2 | 37.77 S         | 176.53 E         | 12 R        | 3.5   | 1.7  | 8          | 7          |
| 374        |     | 09              | 15 27 01.4 | 37.76 S         | 176.53 E         | 12 R        | 3.8   | 1.0  | 13         | 8          |
| 375        |     | 10              | 03 04 06.2 | 39.26 S         | 175.25 E         | 12 R        | 3.4   | 1.2  | 11         | 5          |
| 376        |     | 11              | 18 17 39.8 | 38.68 S         | 175.64 E         | 142         | 4.1   | 1.8  | 18         | 9          |
| 377        |     | 12              | 01 35 12.0 | 40.98 S         | 174.96 E         | 33 R        | 4.2 F | 1.4  | 19         | 12         |
| 378        |     | 13              | 15 36 27.4 | 45.01 S         | 167.64 E         | 117         | 3.6   | 1.2  | 13         | 8          |
| 379        |     | 13              | 23 05 46.6 | 40.13 S         | 174.73 E         | 33 R        | 4.0   | 1.4  | 15         | 10         |
| 380        |     | 14              | 02 03 54.6 | 37.93 S         | 176.67 E         | 0           | 3.6 F | 1.8  | 8          | 6          |
| 381        |     | 15              | 09 53 22.6 | 36.39 S         | 177.99 E         | 250         | 4.1   | 1.7  | 14         | 8          |
| 382        |     | 16              | 14 01 14.6 | 45.18 S         | 167.60 E         | 120         | 3.4   | 0.6  | 10         | 7          |
| 383        |     | 17              | 09 24 38.7 | 45.35 S         | 167.42 E         | 141         | 3.7   | 0.9  | 11         | 7          |
| 384        |     | 17              | 09 34 23.7 | 39.21 S         | 177.26 E         | 12 R        | 3.2   | 1.7  | 14         | 8          |
| 385        |     | 17              | 15 29 37.1 | 37.77 S         | 176.79 E         | 4           | 3.7   | 1.5  | 16         | 10         |
| 386        |     | 18              | 02 45 36.5 | 34.10 S         | 179.48 W         | 215         | 4.6   | 1.6  | 17         | 12         |
| 387        |     | 18              | 06 08 25.1 | 36.96 S         | 179.69 W         | 171         | 4.2   | 2.0  | 18         | 11         |
| 388        |     | 18              | 06 13 32.6 | 37.15 S         | 179.75 W         | 151         | 4.5   | 1.5  | 21         | 14         |
| 389        |     | 18              | 12 21 38.8 | 37.06 S         | 179.58 W         | 148         | 4.7   | 1.5  | 23         | 16         |
| 390        |     | 18              | 13 02 11.8 | 38.31 S         | 175.93 E         | 213         | 4.5   | 1.5  | 19         | 11         |
| 391        |     | 19              | 01 03 31.4 | 36.77 S         | 177.76 E         | 12 R        | 4.4   | 1.4  | 25         | 16         |
| 392        |     | 19              | 08 44 26.6 | 45.02 S         | 167.49 E         | 12 R        | 3.7 F | 1.1  | 14         | 8          |
| 393        |     | 19              | 22 37 01.8 | 38.25 S         | 177.68 E         | 70          | 3.8   | 1.7  | 14         | 9          |
| 394        |     | 20              | 06 36 28.8 | 36.93 S         | 179.71 W         | 171         | 4.1   | 1.7  | 13         | 8          |
| 395        |     | 20              | 09 56 53.1 | 37.49 S         | 177.78 E         | 29          | 4.4   | 1.4  | 25         | 15         |
| 396        |     | 21              | 10 12 54.1 | 37.09 S         | 179.79 W         | 160         | 4.3   | 1.4  | 14         | 10         |
| 397        |     | 21              | 21 01 52.1 | 36.83 S         | 179.90 W         | 152         | 4.2   | 1.9  | 12         | 8          |
| 398        |     | 22              | 12 08 28.3 | 23.19 S         | 175.92 W         | 33 R        | F     | ND   | 0          | 1          |
| 399        |     | 22              | 21 35 15.3 | 37.05 S         | 177.39 E         | 196         | 4.3   | 1.6  | 20         | 13         |
| 400        |     | 23              | 04 34 41.5 | 42.00 S         | 174.37 E         | 12 R        | 3.8   | 1.3  | 13         | 8          |

| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|----------------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 401        | JUN | 23 04 42 41.5        | 38.34 S         | 176.61 E         | 12          | 3.3   | 1.3  | 14         | 7          |
| 402        |     | 24 00 31 36.0        | 37.86 S         | 176.17 E         | 206         | 4.0   | 1.2  | 8          | 10         |
| 403        |     | 24 19 49 01.6        | 39.62 S         | 176.30 E         | 33 R        | 3.4   | 1.0  | 19         | 12         |
| 404        |     | 24 23 39 45.2        | 39.66 S         | 174.25 E         | 208         | 3.7   | 0.8  | 9          | 9          |
| 405        |     | 25 22 35 36.4        | 40.04 S         | 174.80 E         | 12 R        | 3.7   | 1.3  | 15         | 10         |
| 406        |     | 26 01 52 34.2        | 34.14 S         | 179.68 E         | 282         | 5.4   | 1.3  | 16         | 19         |
| 407        |     | 26 02 14 25.9        | 40.58 S         | 173.97 E         | 12 R        | 3.8   | 1.2  | 12         | 15         |
| 408        |     | 26 04 51 32.6        | 38.20 S         | 176.20 E         | 12 R        | 2.2 F | 1.2  | 4          | 2          |
| 409        |     | 27 03 39 24.3        | 40.10 S         | 174.92 E         | 12 R        | 3.6 F | 0.9  | 15         | 12         |
| 410        |     | 28 16 20 28.4        | 32.57 S         | 179.05 W         | 33 R        | 4.4   | 0.1  | 5          | 8          |
| 411        |     | 29 08 25 04.9        | 41.89 S         | 174.55 E         | 33 R        | 4.0   | 0.9  | 10         | 17         |
| 412        |     | 29 12 20 33.6        | 35.56 S         | 179.28 E         | 33 R        | 5.0   | 1.1  | 19         | 21         |
| 413        | JUL | 01 02 56 05.6        | 45.09 S         | 167.57 E         | 130         | 4.0   | 0.3  | 8          | 6          |
| 414        |     | 01 22 41 36.3        | 49.54 S         | 164.57 E         | 12 R        | 4.7   | 0.5  | 6          | 11         |
| 415        |     | 02 03 32 25.9        | 37.36 S         | 179.36 E         | 33 R        | 4.1   | 0.7  | 13         | 14         |
| 416        |     | 02 13 12 17.9        | 41.03 S         | 173.99 E         | 12 R        | 3.3   | 0.8  | 10         | 10         |
| 417        |     | 03 14 58 27.5        | 35.03 S         | 178.29 W         | 33 R        | 4.6   | 1.4  | 13         | 13         |
| 418        |     | 04 03 04 58.5        | 38.84 S         | 176.23 E         | 12 R        | 2.1 F | ND   | 3          | 3          |
| 419        |     | 04 06 27 44.0        | 37.84 S         | 177.39 E         | 33 R        | 3.7   | 0.8  | 7          | 13         |
| 420        |     | 04 12 29 23.9        | 31.63 S         | 177.42 W         | 33 R        | 5.4   | 1.2  | 14         | 15         |
| 421        |     | 05 08 42 58.6        | 41.68 S         | 174.17 E         | 12 R        | 3.0 F | 0.8  | 8          | 7          |
| 422        |     | 05 08 51 42.4        | 45.43 S         | 167.36 E         | 33 R        | 4.3   | 1.3  | 5          | 10         |
| 423        |     | 05 10 22 31.0        | 41.69 S         | 174.16 E         | 12 R        | 2.9 F | 0.8  | 8          | 7          |
| 424        |     | 05 11 34 40.9        | 38.87 S         | 175.67 E         | 12 R        | 2.8 F | 1.2  | 11         | 9          |
| 425        |     | 06 13 39 52.9        | 40.85 S         | 172.80 E         | 175         | 3.9   | 0.6  | 12         | 22         |
| 426        |     | 06 16 59 37.8        | 38.03 S         | 176.23 E         | 209         | 4.1   | 0.6  | 10         | 16         |
| 427        |     | 07 05 01 39.9        | 38.35 S         | 177.01 E         | 33 R        | 3.6   | 0.9  | 12         | 15         |
| 428        |     | 07 16 20 26.8        | 33.68 S         | 179.55 W         | 33 R        | 4.5   | 1.3  | 9          | 12         |
| 429        |     | 08 04 17 27.6        | 45.31 S         | 167.23 E         | 12 R        | 3.7   | 1.6  | 14         | 8          |
| 430        |     | 08 10 31 52.3        | 45.11 S         | 167.91 E         | 33 R        | 3.2   | 1.7  | 9          | 6          |
| 431        |     | 08 11 40 08.4        | 41.59 S         | 173.33 E         | 12 R        | 3.9   | 1.6  | 23         | 11         |
| 432        |     | 08 14 19 17.0        | 50.03 S         | 164.81 E         | 33 R        | 4.0   | 1.3  | 7          | 4          |
| 433        |     | 08 20 15 37.7        | 39.35 S         | 175.42 E         | 86          | 3.9   | 1.5  | 13         | 8          |
| 434        |     | 09 01 05 24.5        | 41.29 S         | 173.39 E         | 127         | 3.6   | 1.4  | 13         | 8          |
| 435        |     | 09 01 34 44.3        | 45.28 S         | 167.23 E         | 12 R        | 3.9 F | 1.6  | 10         | 7          |
| 436        |     | 09 01 36 10.2        | 45.31 S         | 167.15 E         | 12 R        | 4.0 F | 1.5  | 9          | 6          |
| 437        |     | 10 20 16 45.5        | 41.62 S         | 172.90 E         | 110         | 3.7   | 1.1  | 13         | 11         |
| 438        |     | 11 15 40 59.3        | 39.38 S         | 177.93 E         | 12 R        | 4.1 F | 1.5  | 23         | 13         |
| 439        |     | 12 19 23 11.6        | 31.60 S         | 179.92 E         | 476         | 4.9   | 2.1  | 12         | 9          |
| 440        |     | 13 04 56 27.9        | 40.24 S         | 173.49 E         | 191         | 3.8   | 1.6  | 22         | 12         |
| 441        |     | 13 11 28 21.9        | 37.68 S         | 176.51 E         | 200         | 4.1   | 1.7  | 21         | 13         |
| 442        |     | 13 11 49 30.5        | 37.82 S         | 176.67 E         | 170         | 4.1   | 1.3  | 18         | 11         |
| 443        |     | 14 03 58 08.9        | 45.48 S         | 167.26 E         | 72          | 3.7   | 1.3  | 13         | 9          |
| 444        |     | 14 13 38 03.5        | 39.16 S         | 174.79 E         | 12 R        | 3.8   | 0.9  | 17         | 9          |
| 445        |     | 15 10 53 09.2        | 44.59 S         | 168.04 E         | 12 R        | 3.5   | 1.2  | 14         | 8          |
| 446        |     | 15 22 12 11.5        | 40.21 S         | 177.15 E         | 20          | 4.3 F | 1.1  | 22         | 14         |
| 447        |     | 17 03 12 38.0        | 41.81 S         | 174.45 E         | 12 R        | 4.0   | 1.8  | 18         | 14         |
| 448        |     | 17 03 27 01.9        | 46.07 S         | 167.25 E         | 33 R        | 3.7   | 1.4  | 14         | 6          |
| 449        |     | 17 06 27 09.9        | 38.79 S         | 176.13 E         | 12 R        | 3.3 F | 1.4  | 16         | 9          |
| 450        |     | 17 19 17 53.2        | 39.39 S         | 176.73 E         | 12 R        | 3.3 F | 1.3  | 15         | 9          |



| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 451        | JUL | 18              | 00 54 24.3 | 37.43 S         | 176.67 E         | 283         | 4.6   | 1.2  | 19         | 11         |
| 452        |     | 18              | 03 18 47.3 | 38.60 S         | 176.20 E         | 12 R        | 2.4 F | 2.9  | 3          | 2          |
| 453        |     | 18              | 19 57 13.0 | 38.23 S         | 176.13 E         | 167         | 4.1   | 1.5  | 17         | 9          |
| 454        |     | 19              | 20 57 23.1 | 37.09 S         | 178.15 E         | 145         | 4.4   | 1.8  | 9          | 10         |
| 455        |     | 20              | 07 09 26.8 | 37.21 S         | 177.09 E         | 321         | 4.5   | 1.5  | 11         | 9          |
| 456        |     | 20              | 16 48 51.0 | 37.34 S         | 176.79 E         | 270         | 4.0   | 2.0  | 11         | 7          |
| 457        |     | 21              | 23 48 13.3 | 41.89 S         | 174.56 E         | 12 R        | 3.8 F | 1.4  | 20         | 12         |
| 458        |     | 22              | 01 37 53.4 | 38.41 S         | 178.32 E         | 12 R        | 4.2   | 1.4  | 13         | 10         |
| 459        |     | 22              | 02 10 10.2 | 38.52 S         | 178.44 E         | 12 R        | 3.6   | 1.4  | 10         | 6          |
| 460        |     | 22              | 14 33 37.7 | 34.30 S         | 179.96 W         | 257         | 4.4   | 1.4  | 12         | 8          |
| 461        |     | 22              | 15 41 55.4 | 39.30 S         | 176.37 E         | 66          | 3.7   | 0.9  | 15         | 11         |
| 462        |     | 22              | 17 16 41.6 | 33.86 S         | 179.26 W         | 221         | 6.1   | 2.3  | 24         | 16         |
| 463        |     | 22              | 20 05 48.0 | 41.49 S         | 173.31 E         | 33 R        | 3.8   | 1.4  | 19         | 10         |
| 464        |     | 22              | 21 11 54.3 | 34.15 S         | 179.80 W         | 263         | 4.3   | 1.9  | 10         | 8          |
| 465        |     | 23              | 02 18 49.4 | 37.66 S         | 177.20 E         | 136         | 4.5   | 1.9  | 20         | 14         |
| 466        |     | 25              | 03 39 48.5 | 39.09 S         | 174.71 E         | 214         | 4.5   | 1.4  | 17         | 10         |
| 467        |     | 25              | 14 56 33.8 | 33.06 S         | 178.30 W         | 318         | 4.6   | 1.2  | 10         | 7          |
| 468        |     | 27              | 07 20 02.2 | 33.73 S         | 179.21 W         | 255         | 4.4   | 1.7  | 13         | 9          |
| 469        |     | 27              | 14 07 43.9 | 51.69 S         | 164.25 E         | 33 R        | 4.9   | 2.9  | 17         | 11         |
| 470        |     | 29              | 06 28 10.7 | 41.18 S         | 172.16 E         | 12 R        | 3.9 F | 1.6  | 26         | 13         |
| 471        |     | 29              | 10 32 26.1 | 45.25 S         | 167.29 E         | 12 R        | 3.4   | 1.7  | 14         | 7          |
| 472        |     | 30              | 17 35 18.6 | 39.53 S         | 173.60 E         | 12 R        | 3.5   | 1.0  | 18         | 7          |
| 473        |     | 30              | 19 11 04.9 | 44.12 S         | 168.79 E         | 12 R        | 3.3   | 1.2  | 15         | 8          |
| 474        |     | 31              | 04 38 52.0 | 45.26 S         | 167.29 E         | 12 R        | 3.4   | 1.2  | 13         | 7          |
| 475        |     | 31              | 04 51 51.3 | 36.85 S         | 177.87 E         | 214         | 4.2   | 1.7  | 15         | 8          |
| 476        |     | 31              | 05 42 29.7 | 35.03 S         | 178.69 W         | 245         | 4.3   | 2.0  | 13         | 7          |
| 477        |     | 31              | 10 53 48.9 | 38.66 S         | 175.61 E         | 131         | 3.4   | 1.0  | 9          | 7          |
| 478        |     | 31              | 14 12 39.9 | 40.63 S         | 174.22 E         | 33 R        | 3.5   | 1.6  | 17         | 11         |
| 479        |     | 31              | 16 52 29.4 | 37.83 S         | 176.78 E         | 3           | 4.7 F | 1.6  | 20         | 13         |
| 480        | AUG | 01              | 00 54 56.8 | 39.70 S         | 176.40 E         | 12 R        | 4.0 F | 1.9  | 15         | 8          |
| 481        |     | 02              | 09 53 50.0 | 35.37 S         | 179.13 E         | 33 R        | 4.3   | 1.9  | 16         | 10         |
| 482        |     | 02              | 10 16 45.3 | 37.86 S         | 176.78 E         | 6           | 3.4   | 2.1  | 10         | 5          |
| 483        |     | 02              | 10 38 02.5 | 37.80 S         | 176.77 E         | 11          | 3.4   | 1.9  | 10         | 5          |
| 484        |     | 02              | 11 04 08.1 | 49.50 S         | 164.03 E         | 33 R        | 4.4   | 1.8  | 17         | 9          |
| 485        |     | 02              | 23 19 03.5 | 35.20 S         | 178.69 E         | 301         | 4.7   | 2.6  | 9          | 7          |
| 486        |     | 03              | 00 09 46.1 | 38.57 S         | 176.53 E         | 87          | 3.7   | 1.9  | 12         | 7          |
| 487        |     | 04              | 09 54 29.5 | 37.04 S         | 178.82 E         | 124         | 4.1   | 1.7  | 12         | 8          |
| 488        |     | 05              | 02 41 40.5 | 33.64 S         | 179.04 W         | 33 R        | 4.5   | 1.0  | 9          | 11         |
| 489        |     | 05              | 10 48 00.7 | 37.32 S         | 177.28 E         | 141         | 3.7   | 1.4  | 8          | 10         |
| 490        |     | 05              | 14 46 36.2 | 34.12 S         | 178.45 W         | 33 R        | 4.0   | 2.5  | 8          | 8          |
| 491        |     | 06              | 02 36 48.3 | 39.46 S         | 173.54 E         | 12 R        | 3.9   | 1.0  | 11         | 10         |
| 492        |     | 06              | 07 29 30.4 | 37.81 S         | 176.78 E         | 12 R        | 3.7   | 0.8  | 4          | 5          |
| 493        |     | 06              | 14 13 23.9 | 37.82 S         | 176.80 E         | 12 R        | 3.9   | 0.9  | 8          | 11         |
| 494        |     | 06              | 15 47 53.4 | 33.66 S         | 179.10 W         | 33 R        | 4.8   | 1.0  | 11         | 14         |
| 495        |     | 06              | 22 09 05.9 | 37.85 S         | 176.77 E         | 12 R        | 3.6   | 0.2  | 5          | 5          |
| 496        |     | 07              | 04 29 48.8 | 37.78 S         | 176.81 E         | 12 R        | 4.4 F | 1.0  | 11         | 15         |
| 497        |     | 07              | 04 34 38.8 | 37.84 S         | 176.79 E         | 12 R        | 3.5   | 0.6  | 6          | 7          |
| 498        |     | 07              | 04 54 04.7 | 37.83 S         | 176.84 E         | 12 R        | 3.8   | 0.7  | 7          | 9          |
| 499        |     | 07              | 05 08 45.1 | 37.81 S         | 176.81 E         | 12 R        | 3.5   | 0.4  | 8          | 8          |
| 500        |     | 07              | 05 56 17.1 | 37.79 S         | 176.84 E         | 12 R        | 3.4   | 1.2  | 6          | 6          |



| REF<br>NUM |     | ORIGIN<br>TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|-------------------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 501        | AUG | 07 07 02 59.6           | 37.79 S         | 176.80 E         | 12 R        | 3.6   | 1.0  | 8          | 8          |
| 502        |     | 07 07 58 27.3           | 37.81 S         | 176.83 E         | 12 R        | 3.4   | 0.6  | 7          | 8          |
| 503        |     | 07 09 46 11.4           | 37.86 S         | 176.84 E         | 12 R        | 3.7   | 1.2  | 6          | 9          |
| 504        |     | 07 11 15 58.8           | 37.82 S         | 176.81 E         | 12 R        | 3.6   | 0.9  | 7          | 10         |
| 505        |     | 07 11 21 49.8           | 37.85 S         | 176.84 E         | 12 R        | 3.5   | 1.0  | 6          | 6          |
| 506        |     | 08 09 51 09.5           | 38.03 S         | 176.80 E         | 122         | 4.1   | 0.5  | 10         | 18         |
| 507        |     | 09 10 41 07.6           | 33.68 S         | 179.08 W         | 12 R        | 4.3   | 1.4  | 8          | 10         |
| 508        |     | 10 00 36 10.4           | 40.50 S         | 177.03 E         | 12 R        | 3.7   | 1.8  | 16         | 14         |
| 509        |     | 10 09 40 41.5           | 37.57 S         | 177.51 E         | 98          | 3.2   | 0.9  | 6          | 9          |
| 510        |     | 11 14 47 56.9           | 38.35 S         | 175.54 E         | 257         | 5.6 F | 0.7  | 13         | 16         |
| 511        |     | 11 15 10 49.8           | 40.15 S         | 174.90 E         | 12 R        | 2.7 F | 0.9  | 10         | 6          |
| 512        |     | 13 03 03 38.1           | 45.05 S         | 167.65 E         | 100         | 4.7 F | 0.9  | 11         | 10         |
| 513        |     | 14 01 06 06.3           | 39.21 S         | 177.21 E         | 12 R        | 3.9   | 1.1  | 17         | 13         |
| 514        |     | 14 14 02 03.8           | 38.41 S         | 175.87 E         | 165         | 3.6   | 0.4  | 8          | 11         |
| 515        |     | 15 06 37 34.5           | 42.54 S         | 173.64 E         | 33 R        | 3.5   | 0.3  | 10         | 8          |
| 516        |     | 15 14 27 31.0           | 35.05 S         | 178.94 W         | 33 R        | 4.2   | 1.2  | 7          | 9          |
| 517        |     | 15 20 32 13.7           | 37.53 S         | 179.44 E         | 33 R        | 4.2   | 1.0  | 9          | 9          |
| 518        |     | 16 06 59 47.1           | 37.60 S         | 176.51 E         | 188         | 5.1 F | 0.6  | 12         | 17         |
| 519        |     | 16 13 26 20.2           | 39.98 S         | 175.06 E         | 33 R        | 3.5 F | 0.7  | 13         | 11         |
| 520        |     | 16 21 47 23.9           | 36.51 S         | 177.56 E         | 184         | 4.0   | 1.3  | 8          | 6          |
| 521        |     | 17 01 39 15.2           | 32.40 S         | 179.29 W         | 33 R        | 4.7   | 1.4  | 7          | 7          |
| 522        |     | 17 02 22 21.8           | 34.12 S         | 179.56 E         | 33 R        | 4.4   | 2.7  | 7          | 7          |
| 523        |     | 17 03 13 29.5           | 37.30 S         | 176.97 E         | 253         | 3.7   | 1.2  | 6          | 9          |
| 524        |     | 18 14 35 24.1           | 33.56 S         | 179.24 W         | 33 R        | 4.6   | 1.5  | 11         | 10         |
| 525        |     | 19 13 15 20.0           | 40.44 S         | 174.40 E         | 12 R        | 4.3 F | 1.5  | 22         | 15         |
| 526        |     | 19 16 33 26.3           | 37.04 S         | 177.51 E         | 201         | 4.1   | 1.3  | 14         | 10         |
| 527        |     | 19 23 34 25.3           | 37.42 S         | 177.38 E         | 167         | 4.0   | 1.5  | 12         | 8          |
| 528        |     | 20 06 59 23.5           | 45.85 S         | 166.90 E         | 111         | 4.6   | 1.5  | 11         | 7          |
| 529        |     | 20 23 21 39.7           | 38.73 S         | 176.08 E         | 139         | 4.1   | 1.4  | 19         | 10         |
| 530        |     | 21 11 28 19.7           | 32.89 S         | 179.80 W         | 448         | 5.2   | 1.9  | 17         | 10         |
| 531        |     | 21 21 12 20.0           | 42.97 S         | 171.54 E         | 0 R         | 3.1 F | 0.9  | 10         | 5          |
| 532        |     | 22 09 43 40.7           | 39.42 S         | 175.68 E         | 9           | 3.4   | 1.4  | 12         | 7          |
| 533        |     | 23 12 36 50.1           | 38.46 S         | 175.91 E         | 167         | 3.7   | 1.4  | 12         | 8          |
| 534        |     | 24 03 52 32.4           | 39.18 S         | 175.29 E         | 12 R        | 3.8   | 1.3  | 12         | 7          |
| 535        |     | 25 10 34 53.3           | 32.11 S         | 179.94 E         | 439         | 4.7   | 1.8  | 10         | 7          |
| 536        |     | 25 11 58 15.9           | 37.79 S         | 176.78 E         | 12 R        | 3.7   | 1.9  | 8          | 5          |
| 537        |     | 29 07 54 41.4           | 40.15 S         | 174.70 E         | 12 R        | 3.5   | 1.3  | 15         | 8          |
| 538        |     | 29 08 37 00.2           | 38.42 S         | 179.85 E         | 33 R        | 4.0   | 1.3  | 13         | 7          |
| 539        |     | 29 12 06 25.1           | 38.38 S         | 179.56 E         | 33 R        | 3.8   | 1.3  | 16         | 9          |
| 540        |     | 29 16 54 42.0           | 38.77 S         | 175.56 E         | 12 R        | 4.4 F | 1.2  | 14         | 13         |
| 541        |     | 29 18 42 26.3           | 38.39 S         | 179.66 E         | 33 R        | 4.0   | 1.5  | 16         | 10         |
| 542        |     | 29 22 04 33.7           | 38.22 S         | 176.39 E         | 94          | 3.7   | 2.4  | 14         | 8          |
| 543        |     | 31 01 37 13.5           | 38.81 S         | 174.03 E         | 12 R        | 3.7   | 1.6  | 13         | 7          |
| 544        |     | 31 06 12 45.6           | 46.18 S         | 165.27 E         | 33 R        | 3.9   | 2.0  | 9          | 5          |
| 545        |     | 31 09 36 32.3           | 37.70 S         | 176.33 E         | 222         | 4.2   | 1.8  | 14         | 10         |
| 546        |     | 31 14 16 07.3           | 44.97 S         | 167.67 E         | 111         | 3.5   | 0.7  | 8          | 5          |
| 547        |     | 31 22 24 07.1           | 38.74 S         | 174.01 E         | 12 R        | 4.5 F | 1.8  | 27         | 16         |
| 548        |     | 31 22 43 47.2           | 38.81 S         | 174.02 E         | 12 R        | 3.4   | 0.8  | 11         | 6          |
| 549        | SEP | 01 00 11 57.3           | 37.60 S         | 178.66 E         | 33 R        | 3.6   | 2.3  | 11         | 6          |
| 550        |     | 01 03 18 02.0           | 38.77 S         | 174.02 E         | 12 R        | 3.4   | 1.9  | 10         | 5          |

| REF<br>NUM | ORIGIN | TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|--------|---------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 551        | SEP    | 01 18 37 40.9 | 36.39 S         | 177.69 E         | 292         | 4.9   | 1.1  | 24         | 14         |
| 552        |        | 01 19 23 08.5 | 40.03 S         | 174.79 E         | 12 R        | 3.8   | 1.4  | 16         | 10         |
| 553        |        | 01 19 48 30.7 | 38.70 S         | 173.89 E         | 33 R        | 3.6   | 1.6  | 9          | 6          |
| 554        |        | 02 04 09 10.9 | 39.48 S         | 173.49 E         | 98          | 3.7   | 0.3  | 8          | 6          |
| 555        |        | 02 04 34 10.5 | 37.79 S         | 176.68 E         | 0           | 3.7   | 1.9  | 11         | 6          |
| 556        |        | 02 05 37 27.7 | 33.81 S         | 179.81 W         | 271         | 4.9   | 1.8  | 15         | 12         |
| 557        |        | 03 02 04 15.0 | 38.67 S         | 175.21 E         | 260         | 4.8   | 1.4  | 17         | 10         |
| 558        |        | 04 01 21 45.5 | 33.14 S         | 179.57 W         | 434         | 4.9   | 1.6  | 11         | 7          |
| 559        |        | 04 13 27 58.8 | 44.83 S         | 167.57 E         | 6           | 3.8   | 1.3  | 14         | 8          |
| 560        |        | 04 19 59 10.5 | 39.34 S         | 177.24 E         | 67          | 3.8   | 1.4  | 13         | 9          |
| 561        |        | 05 12 52 19.9 | 38.65 S         | 177.24 E         | 12 R        | 3.6   | 1.8  | 13         | 8          |
| 562        |        | 07 15 59 02.0 | 45.19 S         | 168.22 E         | 12 R        | 3.0   | 0.9  | 9          | 5          |
| 563        |        | 07 21 01 57.4 | 41.00 S         | 172.40 E         | 12 R        | 3.4 F | 1.1  | 4          | 2          |
| 564        |        | 08 05 49 30.9 | 38.91 S         | 175.65 E         | 12 R        | 3.8   | 1.3  | 15         | 8          |
| 565        |        | 08 06 19 31.2 | 38.93 S         | 175.77 E         | 12 R        | 3.5   | 1.3  | 13         | 9          |
| 566        |        | 08 06 27 10.8 | 38.84 S         | 175.74 E         | 12 R        | 3.5   | 1.8  | 10         | 7          |
| 567        |        | 08 10 12 23.8 | 41.01 S         | 172.40 E         | 12 R        | 3.6 F | 2.1  | 5          | 3          |
| 568        |        | 09 03 45 58.1 | 41.27 S         | 172.69 E         | 33 R        | 4.4 F | 1.6  | 28         | 16         |
| 569        |        | 09 05 22 55.6 | 45.26 S         | 168.25 E         | 12 R        | 4.0   | 1.5  | 14         | 7          |
| 570        |        | 09 17 35 47.1 | 38.39 S         | 179.27 E         | 12 R        | 3.7   | 1.3  | 12         | 7          |
| 571        |        | 10 16 55 06.2 | 45.09 S         | 167.69 E         | 77          | 3.3   | 0.5  | 12         | 7          |
| 572        |        | 10 22 18 11.2 | 37.80 S         | 176.73 E         | 4           | 3.9   | 0.8  | 10         | 7          |
| 573        |        | 11 01 42 17.9 | 36.91 S         | 176.82 E         | 321         | 4.1   | 1.7  | 12         | 8          |
| 574        |        | 11 05 47 47.5 | 33.15 S         | 178.92 E         | 528         | 4.6   | 2.1  | 9          | 7          |
| 575        |        | 11 09 32 38.0 | 44.59 S         | 167.57 E         | 12 R        | 3.7   | 1.2  | 12         | 7          |
| 576        |        | 12 01 53 37.8 | 41.22 S         | 172.79 E         | 194         | 4.3   | 1.8  | 17         | 10         |
| 577        |        | 12 10 49 29.3 | 38.41 S         | 179.31 E         | 12 R        | 4.9   | 1.2  | 22         | 14         |
| 578        |        | 12 10 59 40.2 | 38.26 S         | 179.27 E         | 12 R        | 3.8   | 1.9  | 12         | 8          |
| 579        |        | 12 14 24 09.4 | 41.68 S         | 171.98 E         | 12 R        | 3.6 F | 1.1  | 20         | 9          |
| 580        |        | 12 17 49 48.6 | 41.24 S         | 175.52 E         | 12          | 3.9 F | 1.0  | 18         | 18         |
| 581        |        | 12 18 11 01.9 | 41.20 S         | 175.43 E         | 12          | 3.7 F | 0.4  | 18         | 14         |
| 582        |        | 12 18 48 13.1 | 41.21 S         | 175.47 E         | 12          | 4.2 F | 1.2  | 19         | 24         |
| 583        |        | 14 17 15 07.9 | 39.34 S         | 175.12 E         | 12 R        | 3.4 F | 1.3  | 14         | 7          |
| 584        |        | 14 19 29 55.1 | 38.89 S         | 175.73 E         | 140         | 3.9   | 1.6  | 15         | 10         |
| 585        |        | 15 03 52 20.7 | 37.87 S         | 177.19 E         | 65          | 3.6   | 1.5  | 9          | 7          |
| 586        |        | 15 04 22 43.0 | 37.36 S         | 176.80 E         | 238         | 4.1   | 1.4  | 14         | 8          |
| 587        |        | 15 09 43 29.7 | 39.31 S         | 173.97 E         | 12 R        | 3.5   | 1.3  | 16         | 8          |
| 588        |        | 15 14 39 50.9 | 40.32 S         | 176.53 E         | 12 R        | 3.4   | 2.0  | 14         | 8          |
| 589        |        | 15 19 58 59.3 | 46.45 S         | 166.66 E         | 12 R        | 3.5   | 1.1  | 12         | 6          |
| 590        |        | 16 19 26 51.8 | 37.40 S         | 176.51 E         | 221         | 4.6   | 1.1  | 15         | 11         |
| 591        |        | 17 06 49 10.9 | 45.09 S         | 167.58 E         | 114         | 3.6   | 0.7  | 14         | 7          |
| 592        |        | 17 14 08 57.7 | 38.99 S         | 175.61 E         | 12 R        | 3.2   | 0.9  | 9          | 6          |
| 593        |        | 17 17 17 26.3 | 42.96 S         | 171.03 E         | 12 R        | 3.9   | 0.9  | 14         | 7          |
| 594        |        | 17 19 15 09.7 | 38.74 S         | 176.14 E         | 103         | 4.1   | 0.6  | 12         | 10         |
| 595        |        | 18 14 50 28.7 | 40.16 S         | 176.80 E         | 12 R        | 3.2 F | 1.3  | 12         | 8          |
| 596        |        | 19 20 59 05.7 | 35.01 S         | 179.79 E         | 33 R        | 4.2   | 1.2  | 6          | 5          |
| 597        |        | 19 21 07 29.7 | 38.78 S         | 175.90 E         | 138         | 4.4   | 0.9  | 14         | 11         |
| 598        |        | 20 04 12 35.4 | 32.96 S         | 178.87 W         | 33 R        | 4.6   | 0.6  | 8          | 7          |
| 599        |        | 20 10 35 36.5 | 39.25 S         | 176.37 E         | 61          | 3.7 F | 0.5  | 11         | 9          |
| 600        |        | 20 13 37 04.4 | 32.76 S         | 178.43 W         | 33 R        | 4.7   | 2.1  | 9          | 8          |

| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|----------------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 601        | SEP | 20 14 10 26.5        | 32.33 S         | 178.34 W         | 33 R        | 4.5   | 2.3  | 6          | 5          |
| 602        |     | 21 06 37 56.8        | 38.08 S         | 176.36 E         | 158         | 3.9   | 0.3  | 11         | 8          |
| 603        |     | 22 03 40 48.6        | 33.52 S         | 177.23 W         | 12 R        | 4.9   | 2.6  | 8          | 8          |
| 604        |     | 22 07 49 33.4        | 36.86 S         | 179.23 W         | 12 R        | 5.0   | 1.0  | 12         | 12         |
| 605        |     | 22 07 57 54.7        | 36.58 S         | 179.56 W         | 12 R        | 4.2   | 1.0  | 9          | 7          |
| 606        |     | 22 15 05 28.3        | 36.59 S         | 179.61 W         | 12 R        | 4.0   | 1.2  | 8          | 7          |
| 607        |     | 22 18 25 32.6        | 36.84 S         | 179.38 W         | 12 R        | 4.8   | 1.4  | 16         | 11         |
| 608        |     | 22 19 52 52.2        | 36.89 S         | 179.32 W         | 12 R        | 4.5   | 1.7  | 14         | 9          |
| 609        |     | 22 23 08 18.2        | 39.46 S         | 174.30 E         | 219         | 4.5   | 1.1  | 18         | 15         |
| 610        |     | 23 15 42 03.8        | 36.56 S         | 179.47 W         | 12 R        | 4.1   | 0.8  | 10         | 7          |
| 611        |     | 24 01 47 28.2        | 36.81 S         | 179.41 W         | 12 R        | 4.1   | 0.8  | 7          | 8          |
| 612        |     | 24 05 23 00.1        | 36.58 S         | 179.49 W         | 12 R        | 4.3   | 0.9  | 11         | 8          |
| 613        |     | 24 05 29 41.2        | 36.65 S         | 179.71 W         | 12 R        | 3.8   | 1.2  | 9          | 6          |
| 614        |     | 24 05 30 29.2        | 36.55 S         | 179.70 W         | 12 R        | 3.8   | 0.9  | 5          | 7          |
| 615        |     | 25 04 13 22.8        | 36.66 S         | 179.59 W         | 12 R        | 3.9   | 0.8  | 7          | 7          |
| 616        |     | 25 04 53 15.5        | 36.65 S         | 179.56 W         | 12 R        | 3.9   | 1.0  | 9          | 9          |
| 617        |     | 26 23 16 17.9        | 45.16 S         | 167.44 E         | 33 R        | 3.8   | 1.3  | 11         | 8          |
| 618        |     | 27 05 40 53.6        | 34.56 S         | 179.23 W         | 33 R        | 4.3   | 0.7  | 8          | 9          |
| 619        |     | 27 14 39 16.7        | 37.51 S         | 178.11 E         | 83          | 3.6   | 0.9  | 13         | 7          |
| 620        |     | 27 20 27 14.2        | 36.84 S         | 179.26 W         | 12 R        | 4.5   | 1.1  | 10         | 11         |
| 621        |     | 28 03 20 14.7        | 37.89 S         | 176.81 E         | 126         | 4.1   | 1.0  | 16         | 13         |
| 622        |     | 28 04 02 01.9        | 36.94 S         | 179.26 W         | 12 R        | 4.4   | 1.7  | 12         | 10         |
| 623        |     | 28 04 38 51.0        | 36.93 S         | 179.26 W         | 12 R        | 4.9   | 0.7  | 12         | 10         |
| 624        |     | 28 06 57 45.6        | 37.37 S         | 176.54 E         | 216         | 4.0   | 0.6  | 8          | 9          |
| 625        |     | 28 07 53 28.3        | 36.93 S         | 179.33 W         | 12 R        | 4.1   | 1.0  | 13         | 8          |
| 626        |     | 29 15 08 32.4        | 50.09 S         | 163.93 E         | 33 R        | 4.4   | 0.9  | 9          | 8          |
| 627        |     | 29 19 05 57.3        | 38.49 S         | 176.35 E         | 12 R        | 3.7   | 1.5  | 11         | 9          |
| 628        |     | 30 08 28 18.6        | 38.37 S         | 176.00 E         | 186         | 4.3   | 1.3  | 21         | 12         |
| 629        |     | 30 19 21 36.4        | 38.56 S         | 175.67 E         | 192         | 3.8   | 1.5  | 18         | 10         |
| 630        | OCT | 01 06 34 29.5        | 33.04 S         | 179.36 W         | 433         | 4.7   | 1.5  | 11         | 8          |
| 631        |     | 01 08 19 25.1        | 36.80 S         | 179.81 W         | 169         | 4.1   | 1.2  | 11         | 7          |
| 632        |     | 01 14 23 52.6        | 38.71 S         | 175.76 E         | 166         | 3.7   | 1.8  | 14         | 10         |
| 633        |     | 02 00 36 39.4        | 35.57 S         | 178.84 E         | 259         | 4.3   | 0.8  | 12         | 9          |
| 634        |     | 02 03 39 22.9        | 40.31 S         | 173.57 E         | 206         | 5.4 F | 1.7  | 27         | 19         |
| 635        |     | 03 08 08 27.4        | 38.34 S         | 176.58 E         | 261         | 3.9   | 2.2  | 9          | 6          |
| 636        |     | 04 02 53 21.5        | 43.26 S         | 176.45 E         | 33 R        | 4.4   | 1.1  | 16         | 14         |
| 637        |     | 04 06 40 17.0        | 31.96 S         | 179.44 W         | 367         | 5.3   | 2.0  | 18         | 12         |
| 638        |     | 04 07 40 34.1        | 37.44 S         | 176.69 E         | 231         | 4.3   | 1.3  | 19         | 10         |
| 639        |     | 04 09 32 24.6        | 44.52 S         | 167.66 E         | 12 R        | 4.3   | 1.6  | 10         | 6          |
| 640        |     | 04 10 20 36.9        | 44.60 S         | 169.78 E         | 5 R         | 3.9 F | 1.0  | 17         | 17         |
| 641        |     | 04 23 11 18.2        | 44.58 S         | 169.73 E         | 5 R         | 3.5   | 1.2  | 17         | 15         |
| 642        |     | 05 18 03 12.9        | 41.06 S         | 174.91 E         | 12 R        | 3.7 F | 1.3  | 12         | 10         |
| 643        |     | 06 00 38 20.1        | 46.24 S         | 166.06 E         | 12 R        | 4.0   | 1.2  | 12         | 7          |
| 644        |     | 06 15 00 30.3        | 35.50 S         | 177.97 E         | 273         | 4.2   | 1.7  | 11         | 7          |
| 645        |     | 06 18 19 50.4        | 47.20 S         | 166.05 E         | 33 R        | 3.9   | 1.3  | 11         | 6          |
| 646        |     | 07 16 33 36.8        | 45.48 S         | 166.48 E         | 12 R        | 3.6   | 1.8  | 10         | 5          |
| 647        |     | 08 09 58 41.5        | 38.70 S         | 176.08 E         | 12 R        | 2.3 F | 2.8  | 2          | 2          |
| 648        |     | 08 10 05 23.6        | 36.88 S         | 179.68 W         | 179         | 4.2   | 1.0  | 15         | 10         |
| 649        |     | 09 10 17 42.1        | 38.70 S         | 176.08 E         | 12 R        | F     | 3.7  | 2          | 1          |
| 650        |     | 09 22 32 11.1        | 36.82 S         | 179.32 W         | 33 R        | 4.1   | 1.1  | 7          | 5          |



| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 651        | OCT | 09              | 22 43 44.0 | 36.61 S         | 179.60 W         | 33 R        | 3.8   | 1.4  | 6          | 5          |
| 652        |     | 09              | 23 02 16.2 | 36.82 S         | 179.35 W         | 33 R        | 4.4   | 1.2  | 11         | 8          |
| 653        |     | 09              | 23 04 22.2 | 36.82 S         | 179.35 W         | 33 R        | 4.1   | 3.2  | 7          | 4          |
| 654        |     | 10              | 02 18 36.2 | 44.28 S         | 168.03 E         | 12 R        | 3.8   | 1.3  | 13         | 7          |
| 655        |     | 10              | 14 45 11.1 | 36.70 S         | 176.96 E         | 33 R        | 3.9   | 1.4  | 9          | 6          |
| 656        |     | 11              | 05 08 55.6 | 38.27 S         | 176.11 E         | 167         | 3.8   | 1.6  | 18         | 10         |
| 657        |     | 11              | 11 23 15.1 | 38.34 S         | 179.34 E         | 33 R        | 3.7   | 1.4  | 12         | 8          |
| 658        |     | 11              | 12 35 42.1 | 36.93 S         | 179.54 W         | 33 R        | 3.9   | 1.5  | 10         | 7          |
| 659        |     | 11              | 20 34 25.2 | 32.07 S         | 179.62 W         | 452         | 4.7   | 1.6  | 12         | 9          |
| 660        |     | 11              | 21 52 08.1 | 44.60 S         | 168.28 E         | 93          | 4.0   | 1.1  | 17         | 11         |
| 661        |     | 12              | 05 27 49.2 | 39.24 S         | 175.25 E         | 30          | 3.7   | 1.0  | 13         | 9          |
| 662        |     | 12              | 11 59 28.8 | 35.32 S         | 178.91 E         | 291         | 4.7   | 1.0  | 23         | 14         |
| 663        |     | 12              | 18 35 45.7 | 33.59 S         | 179.38 E         | 358         | 4.4   | 1.7  | 12         | 9          |
| 664        |     | 12              | 20 16 24.0 | 37.53 S         | 177.99 E         | 107         | 4.2   | 1.4  | 12         | 10         |
| 665        |     | 13              | 06 35 47.8 | 38.72 S         | 175.72 E         | 140         | 3.9   | 1.3  | 15         | 11         |
| 666        |     | 13              | 08 01 09.1 | 38.58 S         | 175.77 E         | 171         | 4.1   | 1.7  | 21         | 12         |
| 667        |     | 13              | 13 25 45.9 | 39.25 S         | 174.74 E         | 220         | 4.5   | 1.6  | 26         | 14         |
| 668        |     | 13              | 15 31 20.3 | 38.69 S         | 175.73 E         | 153         | 3.8   | 1.4  | 16         | 11         |
| 669        |     | 13              | 23 06 45.0 | 37.37 S         | 179.89 E         | 160         | 4.1   | 1.3  | 13         | 8          |
| 670        |     | 14              | 04 55 30.7 | 34.16 S         | 179.59 W         | 229         | 5.1   | 2.1  | 25         | 14         |
| 671        |     | 14              | 19 24 40.1 | 37.91 S         | 176.69 E         | 150         | 3.6   | 2.0  | 12         | 8          |
| 672        |     | 14              | 20 55 40.9 | 38.67 S         | 175.85 E         | 183         | 4.2   | 2.0  | 20         | 12         |
| 673        |     | 15              | 07 19 41.3 | 34.39 S         | 179.80 E         | 301         | 4.5   | 1.5  | 13         | 8          |
| 674        |     | 15              | 14 20 02.7 | 37.46 S         | 176.74 E         | 246         | 4.0   | 1.0  | 11         | 7          |
| 675        |     | 15              | 17 05 38.3 | 32.88 S         | 178.53 E         | 568         | 4.6   | 2.1  | 9          | 7          |
| 676        |     | 16              | 01 28 26.9 | 39.49 S         | 175.59 E         | 7           | 3.5   | 1.8  | 20         | 9          |
| 677        |     | 16              | 12 08 42.8 | 38.78 S         | 175.56 E         | 142         | 3.6   | 1.4  | 17         | 10         |
| 678        |     | 17              | 02 05 12.9 | 35.54 S         | 179.95 E         | 12 R        | 4.6   | 2.0  | 17         | 9          |
| 679        |     | 17              | 12 01 12.8 | 31.34 S         | 179.08 W         | 300         | 5.0   | 2.2  | 18         | 14         |
| 680        |     | 18              | 07 23 13.9 | 50.04 S         | 164.39 E         | 33 R        | 4.4   | 1.3  | 14         | 9          |
| 681        |     | 18              | 09 08 30.1 | 34.50 S         | 179.51 E         | 291         | 5.1   | 1.6  | 22         | 12         |
| 682        |     | 18              | 12 26 14.2 | 44.49 S         | 167.78 E         | 12 R        | 3.2   | 1.6  | 13         | 7          |
| 683        |     | 18              | 20 58 00.5 | 40.40 S         | 174.35 E         | 33 R        | 4.2   | 1.9  | 21         | 16         |
| 684        |     | 19              | 09 40 56.0 | 37.49 S         | 176.38 E         | 12 R        | 3.6   | 1.3  | 12         | 8          |
| 685        |     | 20              | 04 54 27.4 | 33.01 S         | 177.98 W         | 323         | 4.7   | 2.2  | 12         | 9          |
| 686        |     | 21              | 17 45 09.8 | 33.59 S         | 179.91 W         | 340         | 4.8   | 2.0  | 16         | 10         |
| 687        |     | 22              | 15 40 22.6 | 32.47 S         | 179.95 W         | 260         | 4.7   | 2.9  | 9          | 7          |
| 688        |     | 22              | 16 34 30.3 | 32.83 S         | 178.01 E         | 514         | 4.6   | 2.5  | 9          | 7          |
| 689        |     | 23              | 04 12 52.5 | 37.10 S         | 177.50 E         | 172         | 4.8   | 1.5  | 24         | 14         |
| 690        |     | 23              | 23 51 19.7 | 38.87 S         | 175.15 E         | 212         | 4.1   | 1.2  | 17         | 10         |
| 691        |     | 24              | 00 49 03.4 | 45.08 S         | 168.03 E         | 33 R        | 3.2   | 1.8  | 12         | 6          |
| 692        |     | 25              | 16 49 46.9 | 43.29 S         | 170.70 E         | 12 R        | 1.3   | 1.3  | 5          | 4          |
| 693        |     | 25              | 16 49 48.6 | 43.39 S         | 170.93 E         | 12 R        | 5.0 F | 1.9  | 26         | 23         |
| 694        |     | 25              | 16 55 13.4 | 43.33 S         | 171.00 E         | 12 R        | 3.9   | 1.5  | 18         | 9          |
| 695        |     | 25              | 22 36 37.3 | 43.31 S         | 170.89 E         | 12 R        | 4.0   | 1.5  | 20         | 9          |
| 696        |     | 26              | 01 03 39.8 | 43.27 S         | 170.70 E         | 12 R        | 5.1 F | 1.5  | 20         | 12         |
| 697        |     | 26              | 01 10 40.2 | 43.37 S         | 170.97 E         | 12 R        | 3.9   | 1.1  | 21         | 9          |
| 698        |     | 26              | 07 29 00.5 | 38.49 S         | 175.76 E         | 173         | 4.1   | 1.4  | 17         | 11         |
| 699        |     | 26              | 08 06 03.9 | 38.11 S         | 178.94 E         | 51          | 3.7   | 2.2  | 9          | 7          |
| 700        |     | 26              | 20 46 36.0 | 40.95 S         | 174.11 E         | 12 R        | 3.9 F | 1.6  | 26         | 11         |



| REF<br>NUM |     | ORIGIN TIME |    |    | LATITUDE | LONGITUDE | DEPTH | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|-------------|----|----|----------|-----------|-------|-------|------|------------|------------|
|            |     | h           | m  | s  | deg      | deg       | km    |       |      |            |            |
| 701        | OCT | 26          | 21 | 03 | 33.8     | 179.67 E  | 345   | 4.7   | 1.5  | 8          | 7          |
| 702        |     | 27          | 07 | 54 | 59.5     | 167.61 E  | 114   | 3.7   | 0.8  | 9          | 5          |
| 703        |     | 27          | 14 | 15 | 08.6     | 179.91 E  | 458   | 5.2   | 1.9  | 17         | 10         |
| 704        |     | 27          | 15 | 17 | 04.4     | 165.75 E  | 12 R  | 4.7   | 1.7  | 17         | 10         |
| 705        |     | 28          | 09 | 32 | 41.7     | 169.26 E  | 12 R  | 3.5   | 1.1  | 15         | 6          |
| 706        |     | 28          | 16 | 06 | 07.8     | 177.04 E  | 147   | 3.7   | 1.1  | 12         | 7          |
| 707        |     | 28          | 18 | 37 | 19.7     | 164.83 E  | 12 R  | 4.5   | 0.2  | 6          | 7          |
| 708        |     | 29          | 04 | 31 | 34.4     | 175.71 E  | 197   | 3.8   | 1.1  | 10         | 7          |
| 709        |     | 29          | 11 | 39 | 08.7     | 173.83 E  | 126   | 4.4 F | 1.3  | 16         | 15         |
| 710        |     | 29          | 18 | 41 | 00.3     | 165.27 E  | 12 R  | 3.9   | 0.7  | 6          | 5          |
| 711        |     | 29          | 19 | 06 | 49.1     | 165.47 E  | 12 R  | 3.9   | 1.1  | 6          | 4          |
| 712        |     | 29          | 19 | 15 | 13.1     | 165.32 E  | 12 R  | 3.8   | 1.1  | 7          | 4          |
| 713        |     | 29          | 20 | 17 | 22.2     | 165.23 E  | 12 R  | 4.2   | 0.2  | 6          | 6          |
| 714        |     | 29          | 21 | 58 | 13.1     | 165.17 E  | 12 R  | 4.5   | 0.8  | 8          | 7          |
| 715        |     | 29          | 22 | 20 | 36.8     | 165.11 E  | 12 R  | 5.0   | 0.9  | 8          | 7          |
| 716        |     | 30          | 00 | 57 | 42.3     | 176.89 E  | 33 R  | 5.0 F | 0.6  | 13         | 17         |
| 717        |     | 30          | 04 | 41 | 36.1     | 175.93 E  | 12 R  | 3.4 F | 0.1  | 6          | 8          |
| 718        |     | 30          | 04 | 43 | 12.9     | 175.92 E  | 12 R  | 3.0 F | 0.8  | 6          | 5          |
| 719        |     | 30          | 07 | 02 | 20.7     | 177.01 E  | 33 R  | 4.1 F | 1.1  | 16         | 15         |
| 720        |     | 30          | 15 | 13 | 05.2     | 170.70 E  | 12 R  | 3.6   | 1.1  | 11         | 8          |
| 721        |     | 30          | 20 | 47 | 05.6     | 173.43 E  | 33 R  | 4.2 F | 1.7  | 17         | 11         |
| 722        |     | 31          | 01 | 45 | 55.0     | 164.13 E  | 12 R  | 5.3   | 1.6  | 13         | 9          |
| 723        |     | 31          | 14 | 20 | 57.4     | 174.41 E  | 140   | 3.5   | 0.9  | 8          | 8          |
| 724        | NOV | 01          | 08 | 00 | 31.4     | 175.67 E  | 194   | 3.5   | 1.2  | 9          | 9          |
| 725        |     | 01          | 10 | 51 | 21.0     | 175.84 E  | 168   | 4.1   | 1.1  | 16         | 11         |
| 726        |     | 02          | 02 | 35 | 01.1     | 178.61 W  | 33 R  | 4.9   | 0.7  | 10         | 11         |
| 727        |     | 03          | 08 | 51 | 50.4     | 173.40 E  | 130   | 4.0   | 0.5  | 12         | 8          |
| 728        |     | 03          | 16 | 56 | 33.6     | 174.89 E  | 12 R  | 3.7   | 1.0  | 13         | 10         |
| 729        |     | 03          | 17 | 03 | 03.5     | 175.89 E  | 12 R  | 3.1 F | 0.5  | 8          | 4          |
| 730        |     | 03          | 18 | 05 | 30.8     | 177.36 E  | 71    | 3.6   | 0.8  | 12         | 12         |
| 731        |     | 04          | 21 | 33 | 51.8     | 176.19 E  | 202   | 3.9   | 0.9  | 10         | 10         |
| 732        |     | 05          | 14 | 07 | 37.2     | 171.52 E  | 12 R  | 3.9 F | 1.1  | 14         | 8          |
| 733        |     | 05          | 15 | 30 | 49.3     | 171.80 E  | 12 R  | 3.4   | 1.3  | 12         | 8          |
| 734        |     | 06          | 05 | 28 | 41.7     | 174.88 E  | 225   | 4.0   | 1.1  | 13         | 13         |
| 735        |     | 07          | 05 | 59 | 37.3     | 177.03 E  | 12 R  | 4.6   | 1.0  | 17         | 12         |
| 736        |     | 07          | 07 | 59 | 47.1     | 177.07 E  | 12 R  | 3.7   | 1.3  | 14         | 10         |
| 737        |     | 07          | 13 | 25 | 10.6     | 179.80 E  | 33 R  | 4.0   | 0.9  | 9          | 11         |
| 738        |     | 07          | 21 | 24 | 31.6     | 179.11 W  | 12 R  | 4.5   | 1.4  | 13         | 10         |
| 739        |     | 08          | 13 | 59 | 20.0     | 178.63 W  | 12 R  | 4.3   | 1.2  | 14         | 10         |
| 740        |     | 08          | 20 | 21 | 51.8     | 174.67 E  | 12 R  | 3.2   | 0.6  | 9          | 6          |
| 741        |     | 08          | 20 | 22 | 13.5     | 177.16 E  | 33 R  | 3.6   | 0.6  | 13         | 10         |
| 742        |     | 09          | 00 | 18 | 19.2     | 174.81 E  | 223   | 4.3   | 1.5  | 13         | 9          |
| 743        |     | 09          | 09 | 11 | 47.9     | 176.88 E  | 75    | 3.8   | 0.9  | 13         | 13         |
| 744        |     | 09          | 20 | 14 | 51.8     | 178.79 E  | 12 R  | 5.0   | 1.4  | 13         | 13         |
| 745        |     | 10          | 02 | 04 | 13.4     | 175.00 E  | 33 R  | 3.5 F | 0.4  | 11         | 11         |
| 746        |     | 10          | 04 | 15 | 08.7     | 179.02 E  | 12 R  | 5.1   | 1.5  | 15         | 11         |
| 747        |     | 10          | 06 | 51 | 17.1     | 179.02 W  | 12 R  | 4.4   | 1.0  | 9          | 9          |
| 748        |     | 10          | 07 | 08 | 31.5     | 178.42 E  | 12 R  | 4.4   | 1.0  | 12         | 10         |
| 749        |     | 11          | 04 | 23 | 21.2     | 178.96 E  | 530   | 5.0   | 1.7  | 8          | 5          |
| 750        |     | 11          | 08 | 58 | 15.1     | 173.39 E  | 63    | 3.6 F | 1.5  | 14         | 9          |

| REF<br>NUM | ORIGIN<br>h m s | TIME          | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG   | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----------------|---------------|-----------------|------------------|-------------|-------|------|------------|------------|
| 751        | NOV             | 11 09 52 56.4 | 36.87 S         | 178.77 E         | 111         | 3.7   | 1.1  | 7          | 4          |
| 752        |                 | 11 13 09 58.9 | 37.88 S         | 176.73 E         | 0           | 3.7   | 0.9  | 11         | 8          |
| 753        |                 | 11 14 28 26.0 | 40.10 S         | 174.92 E         | 12 R        | 4.1 F | 1.1  | 19         | 10         |
| 754        |                 | 11 17 17 11.6 | 37.83 S         | 176.77 E         | 0           | 4.4 F | 0.7  | 14         | 12         |
| 755        |                 | 11 17 57 11.6 | 37.80 S         | 176.80 E         | 0           | 4.0   | 0.5  | 10         | 9          |
| 756        |                 | 11 18 41 18.6 | 37.80 S         | 176.75 E         | 0           | 3.5 F | 0.8  | 7          | 5          |
| 757        |                 | 12 20 02 34.9 | 37.08 S         | 176.45 E         | 412         | 4.3   | 0.9  | 9          | 6          |
| 758        |                 | 13 03 39 32.8 | 37.82 S         | 176.86 E         | 0 R         | 3.4   | 0.7  | 6          | 5          |
| 759        |                 | 13 07 55 34.9 | 37.76 S         | 176.76 E         | 0 R         | 3.4   | 0.9  | 9          | 7          |
| 760        |                 | 13 07 57 51.5 | 37.81 S         | 176.78 E         | 0           | 3.8   | 0.4  | 11         | 8          |
| 761        |                 | 13 08 35 24.2 | 37.81 S         | 176.78 E         | 0           | 3.6   | 0.5  | 10         | 7          |
| 762        |                 | 13 08 51 51.0 | 40.19 S         | 173.62 E         | 163         | 4.0   | 1.1  | 11         | 7          |
| 763        |                 | 13 14 50 40.2 | 36.27 S         | 179.31 E         | 12 R        | 4.2   | 1.0  | 12         | 7          |
| 764        |                 | 15 05 29 48.7 | 37.92 S         | 177.16 E         | 64          | 3.7   | 1.4  | 14         | 9          |
| 765        |                 | 15 11 01 02.9 | 39.01 S         | 176.93 E         | 53          | 3.6   | 0.9  | 15         | 9          |
| 766        |                 | 15 18 25 19.4 | 37.57 S         | 177.10 E         | 33 R        | 3.6   | 1.1  | 6          | 4          |
| 767        |                 | 15 22 01 01.3 | 37.84 S         | 176.77 E         | 2           | 3.6   | 0.6  | 9          | 5          |
| 768        |                 | 16 01 23 54.2 | 39.12 S         | 174.82 E         | 197         | 4.0   | 1.7  | 10         | 6          |
| 769        |                 | 16 06 01 28.9 | 37.83 S         | 176.85 E         | 0 R         | 3.5   | 0.6  | 7          | 5          |
| 770        |                 | 16 07 33 48.3 | 40.06 S         | 176.75 E         | 12 R        | 3.7 F | 0.8  | 10         | 8          |
| 771        |                 | 16 07 33 53.9 | 40.20 S         | 176.10 E         | 12 R        | 3.5   | 1.3  | 9          | 7          |
| 772        |                 | 17 00 18 57.9 | 44.99 S         | 167.64 E         | 93          | 3.8   | 0.7  | 8          | 5          |
| 773        |                 | 17 09 54 01.3 | 39.01 S         | 175.05 E         | 213         | 4.5   | 1.3  | 21         | 13         |
| 774        |                 | 18 11 41 57.0 | 32.92 S         | 178.27 W         | 217         | 4.6   | 1.5  | 8          | 5          |
| 775        |                 | 19 16 53 00.7 | 36.43 S         | 177.72 E         | 12 R        | 4.4   | 1.5  | 22         | 11         |
| 776        |                 | 20 03 11 04.2 | 37.84 S         | 177.19 E         | 140         | 4.2   | 1.3  | 16         | 10         |
| 777        |                 | 21 03 23 27.4 | 36.95 S         | 177.57 E         | 212         | 5.3 F | 1.3  | 16         | 14         |
| 778        |                 | 21 09 52 37.3 | 31.75 S         | 178.98 W         | 349         | 6.1   | 1.6  | 17         | 13         |
| 779        |                 | 21 11 17 44.8 | 39.93 S         | 176.73 E         | 12 R        | 3.4 F | 1.1  | 11         | 9          |
| 780        |                 | 21 23 05 05.5 | 29.65 S         | 177.25 W         | 456         | 6.1 F | 2.0  | 14         | 11         |
| 781        |                 | 22 00 05 02.5 | 41.68 S         | 171.88 E         | 12 R        | 4.1 F | 1.0  | 10         | 7          |
| 782        |                 | 22 02 55 19.0 | 35.79 S         | 178.40 E         | 240         | 5.1   | 1.5  | 16         | 10         |
| 783        |                 | 22 13 13 47.0 | 41.79 S         | 174.53 E         | 33 R        | 3.7   | 0.7  | 11         | 7          |
| 784        |                 | 23 01 48 50.5 | 37.10 S         | 175.10 E         | 12 R        | F ND  |      | 1          | 1          |
| 785        |                 | 25 05 10 31.6 | 37.81 S         | 176.33 E         | 12 R        | 3.6 F | 1.5  | 10         | 7          |
| 786        |                 | 25 12 05 10.8 | 36.70 S         | 177.69 E         | 12 R        | 4.5   | 1.4  | 21         | 14         |
| 787        |                 | 26 02 11 37.4 | 36.69 S         | 179.62 W         | 144         | 4.0   | 1.4  | 13         | 7          |
| 788        |                 | 26 12 00 15.3 | 40.07 S         | 177.29 E         | 12 R        | 3.8   | 2.0  | 19         | 12         |
| 789        |                 | 26 18 16 27.2 | 45.62 S         | 167.30 E         | 12 R        | 4.1   | 0.8  | 10         | 5          |
| 790        |                 | 28 03 12 20.9 | 40.30 S         | 176.55 E         | 12 R        | 3.7   | 1.4  | 20         | 10         |
| 791        |                 | 28 16 01 01.8 | 37.81 S         | 177.24 E         | 132         | 3.6   | 1.6  | 14         | 9          |
| 792        |                 | 29 03 12 21.1 | 40.29 S         | 176.53 E         | 12 R        | 3.7   | 1.5  | 22         | 11         |
| 793        |                 | 29 05 51 15.4 | 37.62 S         | 176.88 E         | 158         | 4.2   | 1.1  | 17         | 10         |
| 794        |                 | 29 14 35 21.3 | 49.79 S         | 164.86 E         | 33 R        | 4.4   | 2.2  | 9          | 7          |
| 795        |                 | 29 17 27 45.5 | 38.77 S         | 175.03 E         | 251         | 4.1   | 1.2  | 11         | 7          |
| 796        |                 | 30 03 23 52.0 | 38.05 S         | 176.52 E         | 12 R        | 3.7   | 2.0  | 12         | 11         |
| 797        |                 | 30 05 48 18.9 | 37.96 S         | 176.52 E         | 176         | 3.7   | 1.3  | 11         | 7          |
| 798        |                 | 30 11 00 53.3 | 39.58 S         | 177.26 E         | 12 R        | 3.9   | 1.6  | 17         | 11         |
| 799        |                 | 30 19 00 38.0 | 33.35 S         | 179.63 W         | 438         | 4.9   | 1.9  | 17         | 11         |
| 800        |                 | 30 21 32 35.3 | 38.69 S         | 175.97 E         | 140         | 3.6   | 0.9  | 12         | 7          |



| REF<br>NUM |     | ORIGIN<br>TIME |            | LATITUDE | LONGITUDE | DEPTH | MAG  | S.E. | NUM<br>OBS | NUM<br>STN |
|------------|-----|----------------|------------|----------|-----------|-------|------|------|------------|------------|
|            |     | h m s          |            | deg      | deg       | km    |      |      |            |            |
| 801        | NOV | 30             | 22 34 21.5 | 37.29 S  | 177.77 E  | 152   | 4.0  | 1.5  | 15         | 10         |
| 802        |     | 30             | 23 00 08.6 | 40.40 S  | 176.25 E  | 12 R  | 3.4  | 1.7  | 15         | 8          |
| 803        | DEC | 01             | 00 00 20.4 | 32.45 S  | 178.41 W  | 336   | 5.1  | 1.2  | 19         | 12         |
| 804        |     | 01             | 07 40 30.5 | 37.93 S  | 176.87 E  | 6     | 3.4  | 1.0  | 12         | 9          |
| 805        |     | 02             | 06 37 16.1 | 39.16 S  | 174.94 E  | 218   | 4.0  | 0.8  | 13         | 8          |
| 806        |     | 03             | 18 11 15.7 | 40.29 S  | 176.47 E  | 12 R  | 3.6  | 1.5  | 19         | 10         |
| 807        |     | 03             | 22 22 54.1 | 37.79 S  | 176.76 E  | 0     | 3.4  | 1.3  | 10         | 7          |
| 808        |     | 03             | 22 23 34.1 | 37.81 S  | 176.84 E  | 10    | 3.3  | 1.5  | 7          | 6          |
| 809        |     | 04             | 01 44 52.0 | 37.89 S  | 176.86 E  | 5     | 4.1  | 1.2  | 16         | 11         |
| 810        |     | 04             | 01 50 33.5 | 37.83 S  | 176.87 E  | 5     | 3.3  | 1.8  | 11         | 9          |
| 811        |     | 04             | 09 30 09.7 | 37.90 S  | 176.72 E  | 0     | 3.5  | 1.4  | 14         | 9          |
| 812        |     | 04             | 16 30 37.5 | 37.83 S  | 176.83 E  | 0     | 4.0  | 1.3  | 15         | 11         |
| 813        |     | 05             | 05 21 04.3 | 40.28 S  | 176.83 E  | 12 R  | 4.3  | 1.0  | 17         | 10         |
| 814        |     | 06             | 04 16 39.5 | 37.74 S  | 176.59 E  | 12 R  | 3.4  | 1.3  | 8          | 5          |
| 815        |     | 06             | 04 32 19.4 | 37.06 S  | 177.28 E  | 234   | 4.1  | 1.4  | 10         | 8          |
| 816        |     | 06             | 08 20 37.0 | 36.99 S  | 177.11 E  | 224   | 4.0  | 1.7  | 12         | 7          |
| 817        |     | 06             | 17 19 10.6 | 40.23 S  | 176.39 E  | 12 R  | 3.7  | 1.1  | 16         | 9          |
| 818        |     | 07             | 01 15 42.2 | 40.25 S  | 176.50 E  | 12 R  | 3.7  | 1.5  | 17         | 9          |
| 819        |     | 08             | 18 15 18.6 | 32.56 S  | 179.84 E  | 467   | 5.6  | 1.9  | 19         | 10         |
| 820        |     | 11             | 05 08 16.4 | 42.43 S  | 173.80 E  | 12 R  | 3.8  | 1.5  | 6          | 7          |
| 821        |     | 11             | 05 21 06.4 | 42.57 S  | 173.93 E  | 12 R  | 3.9  | 0.5  | 4          | 6          |
| 822        |     | 11             | 05 32 02.6 | 42.49 S  | 173.85 E  | 12 R  | 3.9  | 1.4  | 6          | 6          |
| 823        |     | 11             | 19 37 51.8 | 40.05 S  | 176.68 E  | 33 R  | 4.2F | 1.4  | 16         | 12         |
| 824        |     | 13             | 05 12 15.8 | 38.96 S  | 175.40 E  | 143   | 4.6  | 1.0  | 17         | 12         |
| 825        |     | 14             | 17 57 19.0 | 39.09 S  | 175.06 E  | 12 R  | 3.8F | 1.6  | 10         | 7          |
| 826        |     | 15             | 13 34 05.9 | 39.09 S  | 175.10 E  | 12 R  | 3.8F | 1.2  | 13         | 10         |
| 827        |     | 15             | 22 04 45.3 | 42.76 S  | 171.60 E  | 12 R  | 4.8F | 1.0  | 11         | 9          |
| 828        |     | 16             | 09 56 50.1 | 39.13 S  | 175.08 E  | 12 R  | 3.9  | 1.2  | 12         | 11         |
| 829        |     | 18             | 05 33 50.5 | 37.25 S  | 179.01 E  | 33 R  | 3.9  | 1.1  | 9          | 9          |
| 830        |     | 18             | 17 49 28.5 | 36.01 S  | 178.23 E  | 12 R  | 4.1  | 0.7  | 9          | 9          |
| 831        |     | 18             | 20 31 05.4 | 45.45 S  | 167.22 E  | 96    | 4.5  | 0.8  | 10         | 8          |
| 832        |     | 19             | 17 15 50.7 | 38.15 S  | 175.76 E  | 278   | 4.2  | 1.2  | 12         | 10         |
| 833        |     | 19             | 17 54 49.1 | 37.06 S  | 179.72 W  | 33 R  | 4.0  | 0.5  | 7          | 10         |
| 834        |     | 21             | 03 38 00.1 | 41.05 S  | 175.64 E  | 12 R  | 3.9F | 1.1  | 11         | 10         |
| 835        |     | 21             | 10 19 15.6 | 41.02 S  | 174.64 E  | 59    | 3.5F | 0.5  | 18         | 19         |
| 836        |     | 22             | 00 04 29.7 | 40.32 S  | 173.43 E  | 173   | 4.4  | 1.1  | 13         | 12         |
| 837        |     | 22             | 14 43 57.6 | 39.42 S  | 174.23 E  | 257   | 3.8  | 1.0  | 14         | 12         |
| 838        |     | 22             | 18 59 32.0 | 41.08 S  | 172.43 E  | 12 R  | 3.9F | 1.2  | 13         | 9          |
| 839        |     | 23             | 00 40 08.3 | 41.68 S  | 173.88 E  | 12 R  | 3.7  | 1.5  | 11         | 8          |
| 840        |     | 23             | 05 40 00.2 | 44.83 S  | 167.67 E  | 132   | 4.5  | 1.6  | 9          | 5          |
| 841        |     | 24             | 04 15 30.5 | 36.97 S  | 179.59 W  | 33 R  | 4.1  | 1.1  | 14         | 8          |
| 842        |     | 24             | 14 30 17.1 | 37.52 S  | 179.29 E  | 33 R  | 3.8  | 1.8  | 14         | 8          |
| 843        |     | 25             | 04 35 54.8 | 42.05 S  | 178.27 E  | 33 R  | 4.5  | 1.0  | 14         | 10         |
| 844        |     | 25             | 18 17 53.1 | 41.07 S  | 174.10 E  | 33 R  | 3.7  | 1.9  | 11         | 10         |
| 845        |     | 26             | 05 59 41.0 | 43.48 S  | 171.33 E  | 12 R  | 3.9  | 1.9  | 16         | 11         |
| 846        |     | 26             | 07 44 33.6 | 37.64 S  | 178.22 E  | 49    | 4.2  | 0.6  | 13         | 13         |
| 847        |     | 26             | 17 35 07.6 | 38.13 S  | 175.85 E  | 277   | 4.0  | 1.6  | 15         | 10         |
| 848        |     | 27             | 05 01 39.9 | 40.24 S  | 176.51 E  | 33 R  | 3.4  | 1.6  | 16         | 11         |
| 849        |     | 27             | 14 36 47.8 | 36.86 S  | 177.84 E  | 214   | 4.2  | 1.2  | 15         | 9          |
| 850        |     | 27             | 18 47 55.8 | 43.43 S  | 170.84 E  | 12 R  | 4.1  | 1.3  | 16         | 8          |

| REF<br>NUM |     | ORIGIN | TIME |    | LATITUDE | LONGITUDE | DEPTH    | MAG  | S.E.  | NUM | NUM |    |
|------------|-----|--------|------|----|----------|-----------|----------|------|-------|-----|-----|----|
|            |     |        | h    | m  | s        | deg       | deg      | km   |       | OBS | STN |    |
| 851        | DEC | 28     | 09   | 00 | 47.3     | 50.11 S   | 163.87 E | 33 R | 4.9   | 1.1 | 12  | 9  |
| 852        |     | 28     | 09   | 20 | 13.6     | 36.92 S   | 177.63 E | 202  | 3.9   | 1.7 | 10  | 6  |
| 853        |     | 29     | 03   | 37 | 20.6     | 37.99 S   | 176.69 E | 12 R | 3.0 F | 0.9 | 5   | 3  |
| 854        |     | 29     | 05   | 24 | 32.9     | 44.89 S   | 167.50 E | 99   | 4.2   | 1.5 | 14  | 8  |
| 855        |     | 29     | 10   | 30 | 21.5     | 44.07 S   | 168.65 E | 12 R | 4.0   | 1.4 | 16  | 8  |
| 856        |     | 30     | 08   | 02 | 55.8     | 42.70 S   | 171.67 E | 12 R | 4.6 F | 1.7 | 27  | 14 |
| 857        |     | 30     | 11   | 12 | 31.1     | 31.49 S   | 179.65 W | 504  | 4.8   | 1.8 | 11  | 8  |





### PUKAKI NETWORK

The origins listed in this section have been determined from data provided by the stations of the Pukaki network, details of which are given in an earlier section of the Report. For some large events, an alternative solution using stations of the standard network may also appear in the appropriate section. Because of the close spacing of the Pukaki network and the use of well-established velocities appropriate to the region, the origins given below are to be preferred for most studies of tectonic setting and structure, but for statistical work involving a larger part of the country, the results from the standard network will provide more homogeneous data.

The velocities and crustal thicknesses used in this section are:

| Depth<br>km | P-velocity<br>km/s | S-velocity<br>km/s |
|-------------|--------------------|--------------------|
| 0 - 1.7     | 4.44               | 2.60               |
| 1.7 - 9.6   | 5.88               | 3.44               |
| 9.6 - 3.2   | 6.5                | 3.8                |
| 32 -        | 8.1                | 4.7                |

The origins listed below have been determined by using a slightly modified version of the micro-earthquake programme HYPO 71 (Lee and Lahr, U.S. Geological Survey, 1972). The use of this programme is a temporary measure until computing operations can be transferred completely to the PDP 11/34 computer used for all other earthquake locations. Origins determined by the two programmes appear to be virtually indistinguishable.

The format of the list is the same as that for the data from the standard network, except that the epicentral coordinates and focal depths are given with greater precision.

Several explosions which were detonated in the vicinity of the network have been analysed as earthquakes and included at the end of the list.

| REF<br>NUM |     | ORIGIN TIME |    |    | LATITUDE | LONGITUDE | DEPTH     | MAG  | S.E. | NUM |    |
|------------|-----|-------------|----|----|----------|-----------|-----------|------|------|-----|----|
|            |     | h           | m  | s  | deg      | deg       | km        |      |      | OBS |    |
| P 001      | JAN | 01          | 01 | 01 | 14.2     | 44.509 S  | 169.875 E | 7.6  | 0.9  | 0.0 | 8  |
| P 002      |     | 02          | 08 | 26 | 26.1     | 44.428 S  | 169.711 E | 1.0  | 0.7  | 0.1 | 8  |
| P 003      |     | 02          | 14 | 19 | 23.7     | 44.261 S  | 169.857 E | 9.4  | 0.8  | 0.1 | 9  |
| P 004      |     | 03          | 18 | 08 | 22.8     | 44.020 S  | 170.363 E | 6.6  | 1.4  | 0.2 | 14 |
| P 005      |     | 03          | 20 | 34 | 34.5     | 44.351 S  | 170.088 E | 8.7  | 1.7  | 0.1 | 16 |
| P 006      |     | 06          | 21 | 14 | 59.6     | 43.543 S  | 170.284 E | 2.4  | 2.0  | 0.1 | 11 |
| P 007      |     | 10          | 04 | 17 | 34.8     | 44.410 S  | 170.187 E | 7.5  | 0.7  | 0.1 | 10 |
| P 008      |     | 11          | 06 | 14 | 53.8     | 43.968 S  | 169.660 E | 4.1  | 0.8  | 0.0 | 5  |
| P 009      |     | 11          | 14 | 21 | 48.9     | 44.020 S  | 170.378 E | 7.6  | 0.6  | 0.1 | 6  |
| P 010      |     | 13          | 04 | 42 | 18.7     | 44.567 S  | 169.967 E | 10.0 | 1.0  | ND  | 4  |
| P 011      |     | 13          | 19 | 41 | 17.1     | 44.019 S  | 170.381 E | 6.5  | 1.8  | 0.1 | 13 |
| P 012      |     | 14          | 19 | 04 | 14.1     | 44.086 S  | 169.996 E | 12.7 | 0.4  | ND  | 4  |
| P 013      |     | 14          | 19 | 04 | 14.1     | 44.086 S  | 169.996 E | 12.7 | 0.4  | ND  | 4  |
| P 014      |     | 15          | 09 | 20 | 00.5     | 44.021 S  | 170.373 E | 8.2  | 0.5  | 0.1 | 6  |
| P 015      |     | 15          | 09 | 20 | 00.5     | 44.021 S  | 170.373 E | 8.2  | 0.5  | 0.1 | 6  |
| P 016      |     | 16          | 10 | 40 | 00.7     | 44.031 S  | 169.670 E | 4.9  | 1.8  | 0.1 | 11 |
| P 017      |     | 16          | 23 | 18 | 39.2     | 44.020 S  | 170.373 E | 7.7  | 0.9  | 0.1 | 9  |
| P 018      |     | 17          | 02 | 47 | 53.7     | 44.023 S  | 170.378 E | 6.2  | 1.9  | 0.1 | 14 |
| P 019      |     | 17          | 19 | 50 | 49.3     | 44.092 S  | 169.922 E | 8.6  | 0.9  | 0.1 | 6  |
| P 020      |     | 17          | 20 | 07 | 16.4     | 44.081 S  | 169.919 E | 1.3  | 0.1  | ND  | 4  |
| P 021      |     | 17          | 22 | 32 | 53.7     | 44.503 S  | 169.883 E | 6.8  | 1.9  | 0.1 | 10 |
| P 022      |     | 18          | 08 | 50 | 07.1     | 44.535 S  | 170.094 E | 5.0  | 1.4  | 0.1 | 12 |
| P 023      |     | 20          | 09 | 43 | 55.4     | 44.386 S  | 170.433 E | 9.1  | 1.1  | 0.2 | 12 |
| P 024      |     | 20          | 09 | 44 | 28.7     | 44.416 S  | 170.458 E | 6.7  | 1.2  | 0.1 | 11 |
| P 025      |     | 20          | 09 | 44 | 32.0     | 44.417 S  | 170.461 E | 5.9  | 1.2  | 0.1 | 10 |
| P 026      |     | 21          | 03 | 25 | 57.0     | 44.300 S  | 169.995 E | 0.0  | 0.5  | ND  | 3  |
| P 027      |     | 21          | 11 | 56 | 51.9     | 44.372 S  | 169.780 E | 5.0  | 0.5  | ND  | 4  |
| P 028      |     | 21          | 15 | 58 | 05.6     | 43.940 S  | 170.423 E | 9.7  | 0.9  | 0.1 | 10 |
| P 029      |     | 21          | 18 | 01 | 07.9     | 44.198 S  | 169.304 E | 2.8  | 1.4  | 0.2 | 9  |
| P 030      |     | 22          | 15 | 36 | 50.1     | 44.622 S  | 169.471 E | 5.0  | 1.3  | 0.1 | 6  |
| P 031      |     | 22          | 15 | 57 | 50.7     | 43.559 S  | 170.321 E | 0.1  | 2.0  | 0.2 | 14 |
| P 032      |     | 22          | 21 | 44 | 29.0     | 44.490 S  | 168.632 E | 0.7  | 2.5  | 0.3 | 16 |
| P 033      |     | 23          | 16 | 01 | 13.5     | 43.838 S  | 169.677 E | 5.0  | 1.3  | 0.3 | 11 |
| P 034      |     | 24          | 00 | 33 | 31.5     | 43.957 S  | 169.610 E | 2.4  | 1.2  | 0.2 | 6  |
| P 035      |     | 24          | 00 | 37 | 21.8     | 43.956 S  | 169.609 E | 2.2  | 1.0  | 0.2 | 6  |
| P 036      |     | 24          | 12 | 19 | 41.0     | 44.772 S  | 170.069 E | 1.0  | 1.3  | 0.1 | 5  |
| P 037      |     | 24          | 20 | 18 | 16.4     | 43.995 S  | 170.434 E | 14.3 | 0.6  | ND  | 4  |
| P 038      |     | 24          | 20 | 18 | 28.0     | 44.000 S  | 170.394 E | 8.6  | 0.8  | ND  | 4  |
| P 039      |     | 27          | 23 | 19 | 03.7     | 44.343 S  | 170.239 E | 5.3  | 0.5  | 0.1 | 7  |
| P 040      |     | 29          | 01 | 00 | 37.3     | 44.102 S  | 169.925 E | 2.7  | 0.7  | 0.2 | 13 |
| P 041      | FEB | 31          | 22 | 45 | 18.7     | 44.448 S  | 169.814 E | 9.6  | 1.1  | 0.2 | 10 |
| P 042      |     | 03          | 00 | 10 | 40.2     | 44.253 S  | 170.448 E | 10.9 | 0.9  | 0.3 | 7  |
| P 043      |     | 04          | 13 | 06 | 27.6     | 44.405 S  | 169.422 E | 2.9  | 1.3  | 0.2 | 10 |
| P 044      |     | 06          | 02 | 05 | 35.3     | 43.997 S  | 169.321 E | 7.6  | 1.7  | 0.3 | 8  |
| P 045      |     | 08          | 18 | 33 | 55.8     | 44.274 S  | 169.848 E | 7.8  | 2.2  | 0.1 | 7  |
| P 046      |     | 09          | 03 | 29 | 40.9     | 44.525 S  | 169.893 E | 7.3  | 1.8  | 0.1 | 10 |
| P 047      |     | 09          | 22 | 45 | 38.0     | 44.008 S  | 169.616 E | 5.0  | 1.0  | 0.2 | 7  |
| P 048      |     | 12          | 06 | 12 | 26.6     | 44.422 S  | 170.434 E | 1.1  | 0.6  | 0.1 | 8  |
| P 049      |     | 12          | 13 | 13 | 53.6     | 44.601 S  | 169.863 E | 6.2  | 0.5  | 0.1 | 5  |
| P 050      |     | 12          | 13 | 24 | 00.1     | 43.436 S  | 170.200 E | 0.0  | 1.2  | 0.3 | 7  |

| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-----|------|------------|
| P 051      | FEB | 17              | 18 58 41.0 | 44.428 S        | 169.718 E        | 2.9         | 0.3 | 0.0  | 5          |
| P 052      |     | 19              | 14 41 12.8 | 43.682 S        | 169.635 E        | 5.2         | 1.5 | 0.2  | 7          |
| P 053      |     | 20              | 20 48 03.1 | 43.701 S        | 169.644 E        | 2.4         | 1.6 | 0.3  | 10         |
| P 054      |     | 20              | 22 25 02.3 | 43.892 S        | 169.587 E        | 5.0         | 1.3 | 0.4  | 13         |
| P 055      |     | 21              | 18 20 46.3 | 44.452 S        | 169.550 E        | 2.8         | 1.7 | 0.2  | 8          |
| P 056      |     | 21              | 18 20 47.8 | 44.452 S        | 169.542 E        | 5.0         | 2.7 | 0.2  | 12         |
| P 057      |     | 22              | 11 42 20.2 | 43.980 S        | 169.630 E        | 5.0         | 0.9 | 0.2  | 9          |
| P 058      |     | 23              | 01 36 43.6 | 44.375 S        | 170.281 E        | 8.6         | 0.5 | 0.2  | 7          |
| P 059      |     | 24              | 01 09 26.2 | 44.104 S        | 169.997 E        | 10.9        | 0.6 | 0.0  | 5          |
| P 060      |     | 24              | 07 25 51.3 | 43.912 S        | 169.549 E        | 0.0         | 1.1 | 0.1  | 7          |
| P 061      |     | 24              | 13 06 52.4 | 44.388 S        | 170.305 E        | 7.6         | 1.5 | 0.1  | 16         |
| P 062      |     | 25              | 14 26 26.0 | 43.837 S        | 169.378 E        | 6.7         | 1.4 | 0.2  | 12         |
| P 063      |     | 25              | 14 29 05.4 | 43.831 S        | 169.349 E        | 5.0         | 1.8 | 0.5  | 16         |
| P 064      |     | 25              | 21 39 54.7 | 44.233 S        | 169.344 E        | 2.9         | 1.4 | 0.2  | 10         |
| P 065      |     | 27              | 08 59 09.0 | 44.407 S        | 170.445 E        | 7.6         | 1.0 | 0.1  | 7          |
| P 066      | MAR | 01              | 05 31 40.3 | 43.695 S        | 169.633 E        | 2.1         | 1.4 | 0.3  | 9          |
| P 067      |     | 01              | 07 35 32.6 | 44.033 S        | 170.080 E        | 8.8         | 0.7 | 0.1  | 7          |
| P 068      |     | 01              | 15 55 46.2 | 43.575 S        | 170.560 E        | 3.8         | 2.1 | 0.1  | 12         |
| P 069      |     | 03              | 06 58 42.7 | 44.264 S        | 170.057 E        | 2.0         | 0.5 | 0.1  | 5          |
| P 070      |     | 04              | 05 20 53.2 | 43.637 S        | 170.508 E        | 2.3         | 1.8 | 0.2  | 13         |
| P 071      |     | 05              | 19 44 35.8 | 44.328 S        | 169.548 E        | 10.2        | 1.1 | 0.2  | 13         |
| P 072      |     | 06              | 02 45 41.3 | 44.356 S        | 170.071 E        | 8.1         | 0.2 | 0.1  | 8          |
| P 073      |     | 09              | 09 31 21.9 | 43.757 S        | 169.647 E        | 3.0         | 1.6 | 0.2  | 13         |
| P 074      |     | 10              | 08 03 11.4 | 44.356 S        | 170.016 E        | 10.9        | 0.4 | 0.0  | 7          |
| P 075      |     | 11              | 14 47 31.7 | 44.415 S        | 169.718 E        | 8.7         | 0.7 | 0.1  | 7          |
| P 076      |     | 11              | 19 02 05.0 | 43.558 S        | 170.057 E        | 0.8         | 1.2 | 0.4  | 5          |
| P 077      |     | 12              | 11 49 37.6 | 44.399 S        | 170.280 E        | 5.0         | 0.4 | 0.1  | 5          |
| P 078      |     | 12              | 11 49 37.6 | 44.399 S        | 170.280 E        | 5.0         | 0.4 | 0.1  | 5          |
| P 079      |     | 13              | 10 21 52.6 | 44.427 S        | 169.722 E        | 1.7         | 0.4 | ND   | 4          |
| P 080      |     | 17              | 01 46 07.6 | 44.380 S        | 169.760 E        | 9.3         | 1.1 | 0.1  | 10         |
| P 081      |     | 19              | 07 54 05.3 | 43.895 S        | 169.509 E        | 1.8         | 1.4 | 0.1  | 7          |
| P 082      |     | 19              | 08 06 33.6 | 43.897 S        | 169.509 E        | 2.6         | 1.5 | 0.1  | 7          |
| P 083      |     | 19              | 10 26 33.6 | 43.900 S        | 169.513 E        | 1.5         | 1.4 | 0.1  | 7          |
| P 084      |     | 20              | 09 19 10.0 | 44.513 S        | 170.018 E        | 2.4         | 0.6 | 0.1  | 8          |
| P 085      |     | 21              | 19 11 05.2 | 44.280 S        | 170.116 E        | 0.2         | 0.4 | 0.2  | 9          |
| P 086      |     | 23              | 05 25 06.8 | 44.452 S        | 169.531 E        | 8.5         | 1.0 | 0.0  | 5          |
| P 087      |     | 24              | 00 23 18.5 | 44.656 S        | 169.690 E        | 5.0         | 1.1 | 0.1  | 8          |
| P 088      |     | 26              | 11 32 12.3 | 43.845 S        | 170.377 E        | 2.3         | 2.2 | 0.2  | 9          |
| P 089      |     | 28              | 18 02 37.4 | 44.122 S        | 169.370 E        | 1.8         | 1.2 | 0.2  | 10         |
| P 090      |     | 30              | 10 48 15.3 | 43.845 S        | 170.389 E        | 0.3         | 2.0 | 0.3  | 9          |
| P 091      |     | 30              | 15 52 27.6 | 44.498 S        | 169.815 E        | 1.9         | 0.3 | 0.3  | 5          |
| P 092      |     | 31              | 09 55 14.4 | 44.175 S        | 170.370 E        | 7.0         | 0.8 | 0.3  | 10         |
| P 093      |     | 31              | 16 35 17.1 | 43.712 S        | 170.419 E        | 5.9         | 1.0 | ND   | 4          |
| P 094      | APR | 01              | 16 33 25.0 | 44.172 S        | 170.014 E        | 4.6         | 1.9 | 0.0  | 10         |
| P 095      |     | 02              | 00 39 06.0 | 43.523 S        | 170.258 E        | 0.3         | 2.0 | 0.1  | 10         |
| P 096      |     | 02              | 06 45 20.2 | 44.171 S        | 170.014 E        | 4.2         | 1.3 | 0.0  | 11         |
| P 097      |     | 02              | 09 29 14.4 | 43.795 S        | 170.144 E        | 5.2         | 1.0 | 0.1  | 10         |
| P 098      |     | 02              | 09 30 33.4 | 43.796 S        | 170.124 E        | 6.2         | 0.9 | 0.1  | 10         |
| P 099      |     | 02              | 09 59 10.8 | 44.312 S        | 169.537 E        | 7.2         | 1.1 | 0.1  | 12         |
| P 100      |     | 02              | 17 17 57.5 | 44.799 S        | 170.215 E        | 1.4         | 0.8 | 0.1  | 5          |



| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|----------------------|-----------------|------------------|-------------|-----|------|------------|
| P 101      | APR | 03 07 34 56.6        | 44.406 S        | 169.433 E        | 3.8         | 1.2 | 0.1  | 11         |
| P 102      |     | 03 23 53 11.7        | 44.332 S        | 169.964 E        | 11.2        | 0.9 | 0.1  | 12         |
| P 103      |     | 04 09 58 40.4        | 44.364 S        | 170.089 E        | 6.2         | 1.1 | 0.1  | 11         |
| P 104      |     | 04 12 00 25.1        | 44.334 S        | 169.936 E        | 10.1        | 0.6 | 0.0  | 7          |
| P 105      |     | 04 22 54 36.4        | 43.819 S        | 170.134 E        | 6.5         | 1.4 | 0.2  | 16         |
| P 106      |     | 05 00 08 28.8        | 43.825 S        | 170.148 E        | 5.9         | 1.4 | 0.2  | 9          |
| P 107      |     | 05 17 44 07.9        | 43.767 S        | 169.919 E        | 3.0         | 1.0 | 0.1  | 10         |
| P 108      |     | 06 05 22 36.5        | 44.308 S        | 169.974 E        | 5.0         | 1.1 | 0.2  | 12         |
| P 109      |     | 06 10 20 57.8        | 44.081 S        | 169.745 E        | 6.8         | 0.7 | 0.2  | 8          |
| P 110      |     | 06 12 13 20.6        | 44.014 S        | 169.943 E        | 9.5         | 1.5 | 0.2  | 16         |
| P 111      |     | 07 16 22 40.9        | 43.524 S        | 170.312 E        | 0.9         | 1.5 | 0.2  | 10         |
| P 112      |     | 08 22 03 43.8        | 44.135 S        | 169.987 E        | 6.3         | 1.5 | 0.1  | 12         |
| P 113      |     | 09 07 42 12.8        | 44.138 S        | 170.024 E        | 5.0         | 0.6 | 0.1  | 14         |
| P 114      |     | 09 19 53 19.6        | 44.141 S        | 169.997 E        | 6.6         | 1.2 | 0.1  | 16         |
| P 115      |     | 12 10 35 05.4        | 43.855 S        | 169.358 E        | 5.0         | 2.0 | 0.4  | 11         |
| P 116      |     | 12 12 06 53.4        | 43.960 S        | 170.026 E        | 6.5         | 1.4 | 0.1  | 14         |
| P 117      |     | 12 19 04 20.8        | 44.162 S        | 169.535 E        | 5.0         | 1.0 | ND   | 4          |
| P 118      |     | 12 21 27 31.2        | 44.405 S        | 170.266 E        | 8.2         | 1.1 | 0.1  | 7          |
| P 119      |     | 13 15 44 26.2        | 44.559 S        | 170.037 E        | 7.8         | 0.8 | 0.2  | 9          |
| P 120      |     | 14 19 00 32.4        | 43.512 S        | 170.286 E        | 2.4         | 1.9 | 0.2  | 13         |
| P 121      |     | 16 16 38 13.9        | 43.759 S        | 170.506 E        | 5.2         | 2.2 | 0.1  | 12         |
| P 122      |     | 17 02 12 59.5        | 43.555 S        | 170.315 E        | 2.3         | 1.2 | ND   | 4          |
| P 123      |     | 17 08 33 30.6        | 44.613 S        | 169.976 E        | 1.7         | 0.4 | ND   | 4          |
| P 124      |     | 18 01 54 41.2        | 43.740 S        | 169.562 E        | 1.1         | 2.7 | 0.2  | 15         |
| P 125      |     | 18 08 12 21.9        | 43.441 S        | 170.297 E        | 9.2         | 1.7 | 0.2  | 11         |
| P 126      |     | 18 11 08 43.1        | 44.623 S        | 169.609 E        | 5.0         | 1.3 | 0.2  | 7          |
| P 127      |     | 20 13 37 54.0        | 44.253 S        | 169.341 E        | 2.3         | 1.7 | 0.2  | 11         |
| P 128      |     | 20 18 08 33.5        | 44.269 S        | 169.948 E        | 9.5         | 0.4 | 0.1  | 7          |
| P 129      |     | 21 17 42 37.3        | 43.753 S        | 170.017 E        | 4.4         | 1.6 | 0.1  | 13         |
| P 130      |     | 21 18 44 50.6        | 43.971 S        | 169.706 E        | 5.0         | 0.9 | ND   | 4          |
| P 131      |     | 22 09 39 10.7        | 44.429 S        | 169.790 E        | 7.1         | 0.3 | 0.0  | 5          |
| P 132      |     | 22 22 32 59.7        | 44.342 S        | 169.529 E        | 10.9        | 1.3 | 0.2  | 8          |
| P 133      |     | 23 13 23 52.9        | 44.287 S        | 169.920 E        | 9.0         | 0.6 | 0.1  | 11         |
| P 134      |     | 24 00 18 42.2        | 43.961 S        | 169.716 E        | 4.1         | 0.9 | 0.0  | 6          |
| P 135      |     | 24 04 50 44.3        | 44.049 S        | 170.175 E        | 8.5         | 1.0 | 0.2  | 11         |
| P 136      |     | 24 05 19 07.8        | 44.192 S        | 169.549 E        | 3.8         | 1.4 | 0.2  | 14         |
| P 137      |     | 24 18 25 04.7        | 44.301 S        | 170.385 E        | 8.7         | 1.2 | 0.2  | 12         |
| P 138      |     | 24 18 48 26.5        | 44.465 S        | 169.979 E        | 8.0         | 0.7 | 0.2  | 10         |
| P 139      |     | 26 03 08 24.6        | 43.774 S        | 170.255 E        | 1.4         | 1.7 | 0.3  | 8          |
| P 140      |     | 27 12 30 21.6        | 44.695 S        | 170.160 E        | 7.0         | 2.2 | 0.4  | 17         |
| P 141      |     | 28 00 37 10.4        | 43.747 S        | 169.990 E        | 4.1         | 0.7 | ND   | 4          |
| P 142      |     | 28 12 56 03.4        | 44.056 S        | 169.601 E        | 4.0         | 1.0 | 0.2  | 11         |
| P 143      |     | 28 14 11 39.3        | 44.092 S        | 170.402 E        | 7.1         | 1.3 | 0.1  | 12         |
| P 144      |     | 28 14 43 09.4        | 44.005 S        | 169.632 E        | 5.9         | 0.9 | 0.1  | 6          |
| P 145      |     | 28 16 55 01.0        | 43.898 S        | 169.367 E        | 9.9         | 1.0 | ND   | 4          |
| P 146      |     | 28 16 56 02.3        | 43.925 S        | 169.327 E        | 3.3         | 1.4 | 0.3  | 13         |
| P 147      |     | 29 21 23 23.0        | 44.309 S        | 169.595 E        | 5.0         | 3.2 | 0.2  | 10         |
| P 148      |     | 30 00 20 50.2        | 44.308 S        | 169.572 E        | 5.0         | 2.4 | 0.1  | 11         |
| P 149      |     | 30 17 50 24.5        | 44.310 S        | 169.586 E        | 4.8         | 1.1 | 0.2  | 7          |
| P 150      |     | 30 20 26 24.4        | 43.766 S        | 170.447 E        | 0.8         | 1.7 | 0.2  | 8          |

| REF<br>NUM | ORIGIN | TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|--------|---------------|-----------------|------------------|-------------|-----|------|------------|
| P 151      | MAY    | 01 07 47 03.5 | 43.727 S        | 170.037 E        | 4.0         | 1.5 | 0.2  | 13         |
| P 152      |        | 01 08 55 35.1 | 44.138 S        | 169.623 E        | 0.3         | 0.8 | 0.5  | 6          |
| P 153      |        | 01 16 23 36.6 | 44.315 S        | 169.560 E        | 6.8         | 1.2 | 0.1  | 12         |
| P 154      |        | 03 07 26 58.8 | 44.093 S        | 170.392 E        | 7.5         | 0.9 | 0.2  | 11         |
| P 155      |        | 03 09 23 08.5 | 43.992 S        | 169.759 E        | 3.7         | 0.9 | ND   | 4          |
| P 156      |        | 04 19 10 05.2 | 43.994 S        | 169.211 E        | 2.8         | 1.4 | 0.1  | 7          |
| P 157      |        | 09 14 08 36.6 | 43.516 S        | 170.731 E        | 5.0         | 1.8 | 0.1  | 6          |
| P 158      |        | 09 15 52 25.0 | 43.843 S        | 170.393 E        | 2.1         | 1.2 | 0.2  | 7          |
| P 159      |        | 10 07 47 40.1 | 44.303 S        | 169.567 E        | 7.4         | 1.9 | 0.3  | 16         |
| P 160      |        | 11 18 04 44.0 | 44.241 S        | 170.108 E        | 9.3         | 1.5 | 0.1  | 11         |
| P 161      |        | 11 19 15 11.4 | 44.179 S        | 169.523 E        | 5.0         | 1.7 | 0.2  | 10         |
| P 162      |        | 12 06 36 49.8 | 44.260 S        | 170.290 E        | 7.7         | 0.4 | 0.0  | 5          |
| P 163      |        | 12 12 12 43.3 | 43.587 S        | 170.475 E        | 7.8         | 1.2 | ND   | 4          |
| P 164      |        | 13 00 26 48.0 | 44.370 S        | 169.753 E        | 10.0        | 0.2 | 0.1  | 6          |
| P 165      |        | 13 16 10 39.4 | 44.000 S        | 170.358 E        | 7.7         | 0.3 | 0.2  | 8          |
| P 166      |        | 14 00 14 15.4 | 44.385 S        | 170.253 E        | 6.7         | 1.2 | 0.3  | 17         |
| P 167      |        | 15 17 56 59.4 | 44.252 S        | 170.269 E        | 9.9         | 1.2 | 0.0  | 7          |
| P 168      |        | 19 09 47 04.5 | 44.526 S        | 170.107 E        | 5.0         | 1.4 | 0.1  | 14         |
| P 169      |        | 21 17 57 44.2 | 43.984 S        | 170.474 E        | 9.8         | 0.4 | 0.0  | 5          |
| P 170      |        | 21 22 16 51.1 | 43.756 S        | 170.382 E        | 5.6         | 1.2 | ND   | 4          |
| P 171      |        | 22 23 54 23.8 | 43.763 S        | 170.423 E        | 5.0         | 1.3 | 0.2  | 6          |
| P 172      |        | 23 06 48 14.6 | 44.395 S        | 170.007 E        | 9.7         | 0.6 | 0.1  | 9          |
| P 173      |        | 25 08 46 38.0 | 43.830 S        | 170.419 E        | 2.0         | 1.8 | 0.2  | 8          |
| P 174      |        | 26 01 31 53.6 | 44.727 S        | 169.676 E        | 1.0         | 1.8 | 0.2  | 9          |
| P 175      |        | 27 04 04 38.3 | 44.113 S        | 170.123 E        | 7.4         | 0.3 | 0.0  | 6          |
| P 176      |        | 28 02 36 15.3 | 44.119 S        | 170.128 E        | 4.6         | 1.6 | 0.1  | 9          |
| P 177      |        | 28 22 33 59.8 | 43.952 S        | 169.642 E        | 5.0         | 1.3 | 0.1  | 7          |
| P 178      |        | 29 04 15 18.9 | 43.958 S        | 170.013 E        | 5.0         | 0.6 | 0.1  | 7          |
| P 179      |        | 31 09 10 38.8 | 44.409 S        | 169.654 E        | 5.0         | 1.3 | 0.1  | 8          |
| P 180      | JUN    | 01 01 43 07.9 | 43.931 S        | 169.853 E        | 5.0         | 1.4 | 0.3  | 11         |
| P 181      |        | 05 15 53 34.8 | 43.665 S        | 169.606 E        | 1.8         | 2.1 | 0.2  | 16         |
| P 182      |        | 05 23 54 32.4 | 44.018 S        | 170.531 E        | 8.1         | 0.7 | 0.1  | 6          |
| P 183      |        | 06 04 03 51.9 | 43.972 S        | 170.461 E        | 9.7         | 0.7 | 0.2  | 5          |
| P 184      |        | 09 05 50 58.6 | 44.181 S        | 169.538 E        | 2.3         | 1.0 | 0.2  | 9          |
| P 185      |        | 10 06 51 03.5 | 44.367 S        | 170.285 E        | 8.2         | 1.7 | 0.2  | 17         |
| P 186      |        | 10 12 39 07.3 | 44.465 S        | 170.220 E        | 6.8         | 1.4 | 0.2  | 15         |
| P 187      |        | 10 20 40 02.9 | 43.726 S        | 170.521 E        | 3.5         | 1.6 | 0.1  | 11         |
| P 188      |        | 11 01 00 34.1 | 43.548 S        | 170.605 E        | 1.2         | 1.4 | 0.2  | 10         |
| P 189      |        | 11 20 51 18.2 | 44.399 S        | 170.282 E        | 5.5         | 0.6 | 0.1  | 7          |
| P 190      |        | 12 18 06 05.7 | 43.673 S        | 169.939 E        | 0.3         | 1.8 | 0.2  | 8          |
| P 191      |        | 13 09 19 25.2 | 44.114 S        | 170.038 E        | 9.8         | 0.5 | 0.2  | 6          |
| P 192      |        | 13 18 34 30.9 | 43.974 S        | 170.478 E        | 4.1         | 1.0 | 0.2  | 14         |
| P 193      |        | 13 19 28 42.8 | 44.411 S        | 169.536 E        | 15.1        | 1.3 | 0.1  | 10         |
| P 194      |        | 15 00 24 58.4 | 44.541 S        | 170.035 E        | 1.3         | 1.1 | 0.1  | 10         |
| P 195      |        | 15 14 33 47.0 | 44.172 S        | 170.016 E        | 3.9         | 2.1 | 0.0  | 10         |
| P 196      |        | 16 03 49 00.6 | 43.946 S        | 170.480 E        | 5.0         | 1.3 | 0.1  | 11         |
| P 197      |        | 17 22 26 32.4 | 44.341 S        | 169.957 E        | 10.1        | 0.9 | 0.1  | 8          |
| P 198      |        | 19 05 23 07.3 | 44.229 S        | 170.344 E        | 10.1        | 1.3 | 0.1  | 10         |
| P 199      |        | 19 09 38 51.4 | 43.733 S        | 170.150 E        | 2.6         | 1.2 | 0.2  | 10         |
| P 200      |        | 20 06 31 26.1 | 43.840 S        | 170.388 E        | 2.5         | 1.7 | 0.2  | 9          |

| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|----------------------|-----------------|------------------|-------------|-----|------|------------|
| P 201      | JUN | 20 21 31 27.7        | 43.931 S        | 169.707 E        | 3.3         | 0.9 | 0.2  | 5          |
| P 202      |     | 21 22 22 31.8        | 44.375 S        | 169.491 E        | 5.0         | 1.4 | 0.3  | 9          |
| P 203      |     | 25 14 09 23.2        | 44.552 S        | 170.088 E        | 2.3         | 1.4 | 0.1  | 8          |
| P 204      |     | 25 21 46 57.1        | 43.802 S        | 170.722 E        | 5.0         | 1.2 | 0.6  | 6          |
| P 205      |     | 30 03 30 34.8        | 44.411 S        | 170.169 E        | 7.8         | 0.7 | 0.3  | 13         |
| P 206      | JUL | 03 09 30 28.5        | 44.354 S        | 169.975 E        | 13.7        | 1.0 | 0.2  | 6          |
| P 207      |     | 03 14 16 24.3        | 43.729 S        | 169.645 E        | 5.0         | 1.4 | 0.3  | 9          |
| P 208      |     | 08 02 15 27.4        | 43.529 S        | 170.535 E        | 3.0         | 2.0 | 0.1  | 9          |
| P 209      |     | 09 05 39 56.8        | 43.909 S        | 170.561 E        | 0.3         | 0.7 | 0.2  | 8          |
| P 210      |     | 09 09 36 26.9        | 44.530 S        | 170.029 E        | 5.0         | 1.8 | 0.2  | 16         |
| P 211      |     | 12 12 31 50.5        | 44.001 S        | 170.422 E        | 11.6        | 0.7 | 0.0  | 5          |
| P 212      |     | 12 13 31 23.0        | 44.121 S        | 169.876 E        | 8.8         | 0.6 | 0.1  | 10         |
| P 213      |     | 12 13 55 49.8        | 43.998 S        | 170.420 E        | 12.0        | 0.5 | 0.0  | 5          |
| P 214      |     | 13 15 26 04.9        | 44.005 S        | 170.364 E        | 7.8         | 0.7 | 0.1  | 8          |
| P 215      |     | 14 04 44 24.1        | 43.555 S        | 170.585 E        | 1.6         | 1.4 | 0.0  | 6          |
| P 216      |     | 14 13 37 14.6        | 44.186 S        | 169.673 E        | 6.6         | 0.8 | 0.2  | 7          |
| P 217      |     | 15 15 16 10.6        | 44.691 S        | 169.603 E        | 5.0         | 1.4 | 0.1  | 5          |
| P 218      |     | 15 17 54 33.3        | 43.804 S        | 169.484 E        | 5.9         | 1.3 | 0.0  | 5          |
| P 219      |     | 16 03 16 02.8        | 44.541 S        | 170.027 E        | 5.0         | 1.8 | 0.1  | 12         |
| P 220      |     | 16 05 44 26.4        | 44.391 S        | 169.908 E        | 7.7         | 1.0 | 0.0  | 8          |
| P 221      |     | 16 08 09 54.2        | 44.002 S        | 170.422 E        | 11.6        | 0.7 | 0.1  | 6          |
| P 222      |     | 17 03 31 12.2        | 44.487 S        | 169.946 E        | 5.8         | 1.0 | 0.1  | 12         |
| P 223      |     | 18 14 07 48.4        | 44.476 S        | 170.219 E        | 7.7         | 1.2 | 0.2  | 15         |
| P 224      |     | 19 03 12 18.0        | 43.735 S        | 169.727 E        | 2.4         | 1.5 | 0.1  | 9          |
| P 225      |     | 20 11 54 46.8        | 44.288 S        | 170.913 E        | 5.0         | 1.1 | 0.2  | 6          |
| P 226      |     | 21 23 21 21.8        | 43.993 S        | 170.461 E        | 5.0         | 1.5 | 0.3  | 10         |
| P 227      |     | 23 20 12 31.9        | 43.661 S        | 170.443 E        | 5.0         | 1.3 | 0.1  | 7          |
| P 228      |     | 24 12 49 39.5        | 43.723 S        | 170.014 E        | 5.0         | 0.9 | 0.1  | 5          |
| P 229      |     | 24 17 03 39.2        | 44.295 S        | 170.063 E        | 9.3         | 1.0 | 0.2  | 18         |
| P 230      |     | 25 18 34 28.7        | 43.832 S        | 170.827 E        | 4.5         | 2.1 | 0.2  | 9          |
| P 231      |     | 26 10 33 36.7        | 44.132 S        | 169.901 E        | 8.4         | 0.9 | 0.1  | 11         |
| P 232      |     | 28 13 19 34.7        | 43.782 S        | 169.689 E        | 6.6         | 1.1 | 0.2  | 9          |
| P 233      |     | 28 20 22 49.8        | 44.001 S        | 169.247 E        | 57.1        | 2.9 | 0.1  | 13         |
| P 234      |     | 28 22 16 53.7        | 44.571 S        | 170.046 E        | 5.0         | 1.0 | 0.1  | 9          |
| P 235      |     | 28 22 17 09.1        | 44.556 S        | 170.011 E        | 4.4         | 0.5 | ND   | 4          |
| P 236      |     | 28 23 39 16.3        | 44.046 S        | 169.284 E        | 6.7         | 1.6 | 0.2  | 11         |
| P 237      |     | 31 00 33 13.3        | 44.360 S        | 169.528 E        | 5.0         | 1.2 | 0.2  | 9          |
| P 238      | AUG | 04 06 24 56.5        | 43.642 S        | 169.887 E        | 0.4         | 1.7 | 0.3  | 10         |
| P 239      |     | 06 10 29 03.9        | 44.360 S        | 170.093 E        | 7.8         | 1.6 | 0.1  | 12         |
| P 240      |     | 08 13 43 38.5        | 43.706 S        | 170.298 E        | 5.0         | 1.0 | 0.2  | 6          |
| P 241      |     | 10 17 05 39.6        | 43.765 S        | 170.435 E        | 3.9         | 1.6 | 0.1  | 8          |
| P 242      |     | 11 19 10 17.4        | 43.998 S        | 170.378 E        | 1.9         | 1.1 | 0.1  | 10         |
| P 243      |     | 12 04 10 50.1        | 44.229 S        | 169.532 E        | 5.0         | 1.7 | 0.1  | 7          |
| P 244      |     | 17 13 23 21.5        | 43.765 S        | 169.661 E        | 2.6         | 1.4 | 0.2  | 11         |
| P 245      |     | 18 09 47 25.8        | 44.252 S        | 169.424 E        | 2.6         | 1.7 | 0.3  | 11         |
| P 246      |     | 20 01 15 30.7        | 43.704 S        | 170.089 E        | 1.1         | 1.6 | 0.2  | 11         |
| P 247      |     | 21 11 33 27.3        | 43.977 S        | 170.340 E        | 5.0         | 0.6 | 0.2  | 5          |
| P 248      |     | 21 16 39 17.0        | 44.405 S        | 170.418 E        | 7.7         | 0.7 | 0.1  | 6          |
| P 249      |     | 22 22 52 32.9        | 43.452 S        | 170.719 E        | 8.4         | 1.3 | ND   | 4          |
| P 250      |     | 23 17 43 51.2        | 44.476 S        | 169.370 E        | 0.5         | 1.6 | 0.4  | 12         |



| REF<br>NUM |     | ORIGIN<br>TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|-------------------------|-----------------|------------------|-------------|-----|------|------------|
| P 251      | AUG | 27 11 02 10.4           | 43.668 S        | 170.444 E        | 8.8         | 1.6 | 0.2  | 9          |
| P 252      |     | 27 22 27 35.7           | 44.410 S        | 169.644 E        | 6.0         | 1.6 | 0.2  | 14         |
| P 253      |     | 28 03 15 05.7           | 44.003 S        | 170.435 E        | 11.8        | 0.7 | 0.1  | 5          |
| P 254      |     | 28 06 15 23.4           | 44.507 S        | 169.705 E        | 8.0         | 0.7 | 0.0  | 5          |
| P 255      |     | 28 14 42 36.1           | 43.993 S        | 170.430 E        | 12.7        | 0.7 | ND   | 4          |
| P 256      |     | 28 14 47 01.4           | 43.993 S        | 170.438 E        | 14.0        | 0.5 | ND   | 4          |
| P 257      |     | 28 15 22 01.1           | 44.135 S        | 169.978 E        | 6.3         | 0.6 | 0.1  | 6          |
| P 258      |     | 28 18 24 39.5           | 44.022 S        | 170.416 E        | 6.9         | 0.9 | 0.1  | 6          |
| P 259      |     | 29 11 10 29.3           | 44.005 S        | 170.430 E        | 11.4        | 0.9 | 0.1  | 6          |
| P 260      |     | 30 03 45 40.3           | 43.745 S        | 170.169 E        | 3.3         | 1.3 | 0.2  | 8          |
| P 261      |     | 31 00 16 57.4           | 44.531 S        | 169.851 E        | 10.8        | 0.5 | ND   | 4          |
| P 262      |     | 31 09 17 02.4           | 44.222 S        | 170.300 E        | 3.8         | 0.6 | 0.1  | 8          |
| P 263      |     | 31 10 02 43.4           | 44.017 S        | 170.383 E        | 6.0         | 2.1 | 0.1  | 11         |
| P 264      |     | 31 10 42 15.0           | 44.014 S        | 170.385 E        | 6.8         | 1.8 | 0.2  | 14         |
| P 265      | SEP | 01 09 10 55.8           | 44.271 S        | 169.944 E        | 9.0         | 0.5 | 0.0  | 6          |
| P 266      |     | 01 13 41 45.5           | 44.388 S        | 170.255 E        | 1.4         | 0.4 | ND   | 4          |
| P 267      |     | 02 02 15 51.5           | 44.338 S        | 169.659 E        | 1.1         | 0.6 | 0.3  | 6          |
| P 268      |     | 04 10 52 39.6           | 43.970 S        | 169.395 E        | 3.2         | 1.4 | 0.3  | 10         |
| P 269      |     | 05 10 02 03.8           | 43.618 S        | 170.486 E        | 5.0         | 1.6 | 0.1  | 9          |
| P 270      |     | 05 15 05 01.9           | 44.215 S        | 169.885 E        | 8.9         | 1.0 | 0.1  | 13         |
| P 271      |     | 07 03 37 40.8           | 43.742 S        | 170.404 E        | 6.1         | 1.8 | 0.1  | 8          |
| P 272      |     | 08 09 47 44.6           | 44.137 S        | 169.923 E        | 2.6         | 0.2 | ND   | 4          |
| P 273      |     | 08 22 34 49.5           | 44.250 S        | 169.984 E        | 9.5         | 0.7 | 0.2  | 9          |
| P 274      |     | 09 13 33 26.8           | 44.317 S        | 169.977 E        | 9.6         | 0.8 | 0.1  | 10         |
| P 275      |     | 09 16 28 03.1           | 43.829 S        | 169.598 E        | 1.4         | 0.9 | 0.2  | 6          |
| P 276      |     | 09 21 00 40.8           | 44.160 S        | 170.170 E        | 5.0         | 1.4 | 0.1  | 16         |
| P 277      |     | 14 08 23 57.1           | 44.394 S        | 170.241 E        | 5.0         | 0.5 | 0.2  | 8          |
| P 278      |     | 14 21 59 47.1           | 43.792 S        | 169.516 E        | 1.1         | 1.4 | 0.1  | 6          |
| P 279      |     | 18 06 16 35.9           | 43.963 S        | 170.506 E        | 11.3        | 0.7 | ND   | 4          |
| P 280      |     | 18 06 23 54.8           | 44.271 S        | 169.419 E        | 5.0         | 1.3 | 0.2  | 15         |
| P 281      |     | 18 12 15 42.2           | 44.337 S        | 170.019 E        | 10.6        | 1.0 | 0.1  | 16         |
| P 282      |     | 18 22 01 29.5           | 44.189 S        | 169.745 E        | 5.0         | 0.5 | 0.3  | 5          |
| P 283      |     | 18 22 11 06.7           | 44.367 S        | 169.531 E        | 8.4         | 1.3 | 0.3  | 13         |
| P 284      |     | 18 22 59 30.2           | 43.864 S        | 170.728 E        | 0.0         | 1.4 | 0.2  | 10         |
| P 285      |     | 20 20 12 49.4           | 44.378 S        | 169.628 E        | 4.6         | 1.5 | 0.1  | 11         |
| P 286      |     | 21 16 52 33.9           | 43.991 S        | 169.816 E        | 5.0         | 1.2 | 0.1  | 9          |
| P 287      |     | 23 18 56 17.7           | 44.540 S        | 169.965 E        | 8.6         | 0.7 | ND   | 4          |
| P 288      |     | 26 00 16 58.9           | 44.265 S        | 170.695 E        | 5.0         | 1.6 | 0.1  | 9          |
| P 289      | OCT | 01 10 24 19.8           | 44.345 S        | 169.534 E        | 6.7         | 1.3 | 0.2  | 15         |
| P 290      |     | 01 11 01 59.1           | 43.782 S        | 170.637 E        | 1.5         | 1.7 | 0.2  | 10         |
| P 291      |     | 04 05 00 54.3           | 43.988 S        | 170.384 E        | 7.9         | 1.0 | 0.0  | 5          |
| P 292      |     | 04 06 58 41.7           | 43.697 S        | 170.435 E        | 5.5         | 1.7 | ND   | 4          |
| P 293      |     | 04 10 20 37.6           | 44.570 S        | 169.787 E        | 3.9         | 3.4 | 0.1  | 9          |
| P 294      |     | 04 10 35 28.5           | 44.507 S        | 169.890 E        | 5.0         | 0.1 | ND   | 3          |
| P 295      |     | 04 14 54 20.2           | 44.609 S        | 169.782 E        | 5.1         | 1.2 | 0.1  | 7          |
| P 296      |     | 05 01 39 32.9           | 43.944 S        | 170.494 E        | 0.0         | 0.7 | ND   | 4          |
| P 297      |     | 05 17 58 02.3           | 44.615 S        | 169.781 E        | 1.4         | 2.3 | 0.1  | 14         |
| P 298      |     | 06 06 49 18.1           | 43.837 S        | 169.915 E        | 5.1         | 1.1 | 0.1  | 12         |
| P 299      |     | 07 06 40 43.1           | 43.986 S        | 169.763 E        | 1.5         | 0.8 | 0.2  | 5          |
| P 300      |     | 08 17 25 28.2           | 44.116 S        | 169.983 E        | 10.2        | 0.7 | 0.0  | 5          |



| REF<br>NUM |     | ORIGIN<br>h m s | TIME | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|-----------------|------|-----------------|------------------|-------------|-----|------|------------|
| P 301      | OCT | 09 08 50        | 54.8 | 43.732 S        | 170.091 E        | 2.8         | 1.5 | 0.1  | 9          |
| P 302      |     | 09 10 32        | 36.8 | 43.785 S        | 170.489 E        | 3.7         | 1.3 | 0.6  | 9          |
| P 303      |     | 09 13 26        | 41.8 | 44.420 S        | 170.286 E        | 7.9         | 0.7 | 0.1  | 6          |
| P 304      |     | 09 14 00        | 32.1 | 43.634 S        | 170.003 E        | 5.0         | 1.1 | 0.1  | 5          |
| P 305      |     | 12 12 37        | 07.7 | 44.284 S        | 169.651 E        | 13.1        | 0.7 | 0.1  | 6          |
| P 306      |     | 12 15 44        | 32.4 | 43.745 S        | 169.567 E        | 0.7         | 1.5 | 0.2  | 12         |
| P 307      |     | 13 03 20        | 31.6 | 44.518 S        | 169.762 E        | 0.4         | 1.3 | 0.1  | 8          |
| P 308      |     | 13 19 39        | 34.1 | 44.428 S        | 169.624 E        | 5.0         | 1.2 | 0.2  | 9          |
| P 309      |     | 14 20 25        | 37.3 | 43.796 S        | 169.519 E        | 5.0         | 1.8 | 0.3  | 9          |
| P 310      |     | 16 15 46        | 16.3 | 44.462 S        | 169.714 E        | 10.3        | 1.2 | 0.2  | 9          |
| P 311      |     | 18 20 02        | 43.1 | 44.568 S        | 169.593 E        | 5.0         | 0.5 | ND   | 4          |
| P 312      |     | 19 10 21        | 25.8 | 43.933 S        | 169.237 E        | 1.1         | 1.6 | 0.2  | 12         |
| P 313      |     | 20 19 19        | 17.1 | 44.332 S        | 169.695 E        | 5.0         | 0.8 | 0.0  | 5          |
| P 314      |     | 22 05 41        | 57.0 | 44.476 S        | 169.288 E        | 5.0         | 2.3 | 0.2  | 9          |
| P 315      |     | 22 23 02        | 24.3 | 43.566 S        | 170.316 E        | 1.7         | 1.6 | 0.2  | 12         |
| P 316      |     | 23 06 27        | 44.9 | 44.335 S        | 169.676 E        | 1.1         | 2.2 | 0.1  | 12         |
| P 317      |     | 23 06 28        | 54.9 | 44.330 S        | 169.710 E        | 0.6         | 1.0 | 0.1  | 5          |
| P 318      |     | 23 06 29        | 32.7 | 44.334 S        | 169.681 E        | 5.0         | 0.9 | 0.1  | 6          |
| P 319      |     | 23 06 38        | 38.0 | 44.341 S        | 169.677 E        | 5.0         | 0.9 | 0.2  | 7          |
| P 320      |     | 24 15 37        | 43.2 | 43.737 S        | 170.444 E        | 0.8         | 1.5 | 0.1  | 9          |
| P 321      |     | 25 00 20        | 48.7 | 44.216 S        | 169.892 E        | 2.9         | 2.0 | 0.2  | 15         |
| P 322      |     | 25 14 39        | 07.0 | 44.060 S        | 169.100 E        | 5.0         | 1.3 | 0.1  | 5          |
| P 323      |     | 26 18 29        | 37.2 | 44.111 S        | 169.948 E        | 3.5         | 0.7 | 0.2  | 5          |
| P 324      |     | 27 05 39        | 57.3 | 44.461 S        | 169.963 E        | 5.6         | 1.2 | 0.1  | 10         |
| P 325      |     | 28 02 06        | 05.0 | 44.316 S        | 169.567 E        | 6.9         | 2.5 | 0.2  | 14         |
| P 326      |     | 28 09 32        | 43.0 | 44.446 S        | 169.359 E        | 1.2         | 2.8 | 0.2  | 13         |
| P 327      |     | 28 14 36        | 26.0 | 44.136 S        | 169.725 E        | 1.8         | 0.7 | 0.1  | 6          |
| P 328      | NOV | 01 15 13        | 04.0 | 44.113 S        | 169.933 E        | 6.9         | 0.7 | 0.1  | 11         |
| P 329      |     | 06 09 35        | 31.0 | 44.341 S        | 169.684 E        | 4.0         | 1.3 | 0.1  | 6          |
| P 330      |     | 06 10 01        | 31.6 | 44.343 S        | 169.694 E        | 5.0         | 1.0 | 0.2  | 5          |
| P 331      |     | 06 13 11        | 10.2 | 44.349 S        | 169.660 E        | 0.4         | 0.9 | 0.1  | 6          |
| P 332      |     | 07 02 33        | 36.1 | 44.249 S        | 169.614 E        | 5.0         | 1.3 | 0.1  | 7          |
| P 333      |     | 07 07 03        | 33.4 | 43.894 S        | 169.720 E        | 0.2         | 1.5 | 0.1  | 5          |
| P 334      |     | 08 03 21        | 18.1 | 44.336 S        | 169.685 E        | 1.2         | 2.4 | 0.1  | 9          |
| P 335      |     | 08 03 22        | 12.5 | 44.336 S        | 169.712 E        | 1.1         | 1.0 | 0.1  | 5          |
| P 336      |     | 08 03 26        | 18.6 | 44.336 S        | 169.694 E        | 1.3         | 0.8 | 0.1  | 5          |
| P 337      |     | 08 03 42        | 00.9 | 44.342 S        | 169.680 E        | 4.2         | 1.6 | 0.1  | 8          |
| P 338      |     | 08 16 20        | 55.7 | 44.333 S        | 169.687 E        | 2.5         | 1.0 | 0.1  | 8          |
| P 339      |     | 08 20 59        | 45.8 | 44.333 S        | 169.687 E        | 2.5         | 0.9 | 0.1  | 5          |
| P 340      |     | 09 13 21        | 40.0 | 43.545 S        | 170.667 E        | 9.8         | 1.5 | 0.2  | 5          |
| P 341      |     | 09 16 48        | 49.8 | 44.341 S        | 169.680 E        | 2.2         | 1.1 | 0.1  | 9          |
| P 342      |     | 10 09 20        | 45.5 | 44.222 S        | 169.901 E        | 8.5         | 0.9 | 0.0  | 11         |
| P 343      |     | 12 17 56        | 34.6 | 43.899 S        | 169.591 E        | 11.2        | 1.8 | 0.4  | 12         |
| P 344      |     | 13 00 51        | 34.7 | 43.972 S        | 170.352 E        | 3.9         | 0.7 | 0.1  | 5          |
| P 345      |     | 13 02 48        | 52.9 | 43.977 S        | 170.348 E        | 3.7         | 0.9 | 0.2  | 6          |
| P 346      |     | 13 06 55        | 35.1 | 43.976 S        | 170.348 E        | 3.2         | 0.7 | 0.1  | 5          |
| P 347      |     | 14 05 43        | 03.0 | 43.977 S        | 170.342 E        | 3.7         | 1.7 | 0.1  | 5          |
| P 348      |     | 14 14 54        | 24.7 | 43.650 S        | 170.202 E        | 5.0         | 1.4 | 0.2  | 11         |
| P 349      |     | 14 21 37        | 06.8 | 43.985 S        | 170.342 E        | 3.5         | 0.8 | 0.1  | 5          |
| P 350      |     | 21 06 57        | 27.3 | 44.090 S        | 170.032 E        | 10.0        | 1.4 | 0.1  | 13         |

| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-----|------|------------|
| P 351      | NOV | 23              | 10 45 03.2 | 44.305 S        | 169.528 E        | 8.0         | 1.3 | 0.2  | 11         |
| P 352      |     | 23              | 18 48 04.3 | 43.855 S        | 169.334 E        | 5.0         | 2.2 | 0.3  | 13         |
| P 353      |     | 25              | 21 48 40.4 | 44.426 S        | 169.829 E        | 12.6        | 0.6 | ND   | 4          |
| P 354      |     | 29              | 07 46 10.7 | 44.389 S        | 170.257 E        | 9.4         | 0.6 | 0.2  | 10         |
| P 355      |     | 30              | 12 22 54.3 | 44.183 S        | 169.902 E        | 0.7         | 0.2 | ND   | 4          |
| P 356      |     | 30              | 21 25 07.2 | 44.589 S        | 169.883 E        | 11.5        | 0.8 | ND   | 4          |
| P 357      | DEC | 04              | 14 36 24.1 | 44.792 S        | 170.286 E        | 1.7         | 1.5 | 0.3  | 13         |
| P 358      |     | 05              | 08 00 20.4 | 43.477 S        | 170.729 E        | 5.0         | 2.1 | 0.1  | 10         |
| P 359      |     | 06              | 09 36 01.7 | 44.032 S        | 169.951 E        | 5.0         | 1.1 | 0.3  | 14         |
| P 360      |     | 06              | 10 16 34.4 | 43.916 S        | 170.489 E        | 7.7         | 1.2 | 0.2  | 12         |
| P 361      |     | 06              | 17 36 32.4 | 44.445 S        | 169.830 E        | 9.8         | 0.7 | 0.1  | 7          |
| P 362      |     | 07              | 03 53 17.8 | 43.939 S        | 170.461 E        | 5.6         | 1.2 | 0.2  | 12         |
| P 363      |     | 07              | 03 53 51.4 | 43.946 S        | 170.454 E        | 9.1         | 0.9 | 0.1  | 7          |
| P 364      |     | 07              | 10 20 24.6 | 43.926 S        | 169.745 E        | 5.9         | 1.0 | 0.2  | 7          |
| P 365      |     | 07              | 17 03 19.4 | 44.267 S        | 169.418 E        | 2.6         | 1.5 | 0.2  | 16         |
| P 366      |     | 08              | 14 07 11.4 | 43.665 S        | 170.678 E        | 2.0         | 1.0 | 0.3  | 5          |
| P 367      |     | 10              | 06 04 36.8 | 44.510 S        | 169.595 E        | 5.0         | 1.6 | 0.2  | 11         |
| P 368      |     | 12              | 05 48 38.7 | 44.022 S        | 169.944 E        | 8.4         | 1.6 | 0.1  | 16         |
| P 369      |     | 12              | 08 14 55.4 | 44.022 S        | 169.952 E        | 9.6         | 0.8 | ND   | 4          |
| P 370      |     | 12              | 08 38 13.3 | 44.019 S        | 169.950 E        | 9.1         | 1.0 | ND   | 4          |
| P 371      |     | 12              | 10 03 42.1 | 44.009 S        | 169.945 E        | 6.6         | 0.5 | 0.0  | 5          |
| P 372      |     | 12              | 14 36 48.3 | 44.018 S        | 169.949 E        | 8.7         | 0.6 | 0.2  | 10         |
| P 373      |     | 14              | 02 13 25.7 | 43.668 S        | 170.022 E        | 0.6         | 1.2 | 0.1  | 7          |
| P 374      |     | 14              | 03 14 10.5 | 43.789 S        | 169.529 E        | 2.4         | 1.8 | 0.3  | 13         |
| P 375      |     | 14              | 15 21 04.7 | 44.159 S        | 169.313 E        | 1.1         | 1.5 | 0.2  | 8          |
| P 376      |     | 18              | 01 36 18.1 | 44.215 S        | 169.729 E        | 5.0         | 1.0 | 0.2  | 12         |
| P 377      |     | 19              | 20 54 18.4 | 43.875 S        | 169.713 E        | 1.8         | 1.1 | 0.1  | 6          |
| P 378      |     | 20              | 10 19 18.4 | 44.210 S        | 169.706 E        | 7.5         | 0.8 | 0.1  | 15         |
| P 379      |     | 21              | 23 31 30.0 | 43.999 S        | 170.413 E        | 1.3         | 0.5 | 0.1  | 8          |
| P 380      |     | 22              | 09 05 51.2 | 43.708 S        | 170.024 E        | 1.1         | 1.3 | 0.1  | 9          |
| P 381      |     | 22              | 09 27 11.9 | 43.709 S        | 170.035 E        | 1.2         | 1.1 | 0.0  | 7          |
| P 382      |     | 22              | 14 36 27.7 | 43.835 S        | 169.616 E        | 3.9         | 1.6 | 0.2  | 14         |
| P 383      |     | 23              | 12 57 51.4 | 43.787 S        | 169.363 E        | 1.0         | 2.0 | 0.1  | 8          |
| P 384      |     | 23              | 17 05 48.8 | 44.269 S        | 169.522 E        | 6.0         | 1.0 | 0.1  | 10         |
| P 385      |     | 23              | 20 47 06.0 | 43.816 S        | 170.546 E        | 5.0         | 1.3 | 0.1  | 9          |
| P 386      |     | 24              | 04 42 03.3 | 44.656 S        | 169.961 E        | 4.6         | 1.5 | 0.1  | 13         |
| P 387      |     | 25              | 16 57 50.2 | 44.262 S        | 169.538 E        | 6.0         | 1.3 | 0.2  | 15         |
| P 388      |     | 26              | 16 50 23.6 | 44.267 S        | 169.534 E        | 5.1         | 1.2 | 0.2  | 13         |
| P 389      |     | 27              | 02 35 24.9 | 43.805 S        | 169.427 E        | 1.4         | 1.5 | 0.3  | 9          |
| P 390      |     | 28              | 10 17 41.0 | 44.372 S        | 170.401 E        | 9.1         | 0.8 | 0.2  | 9          |
| P 391      |     | 28              | 10 32 48.9 | 44.483 S        | 170.027 E        | 5.0         | 0.6 | 0.2  | 5          |
| P 392      |     | 28              | 22 06 37.8 | 44.348 S        | 169.679 E        | 1.1         | 0.6 | 0.2  | 7          |
| P 393      |     | 29              | 03 35 29.9 | 44.371 S        | 169.557 E        | 6.0         | 1.2 | 0.3  | 10         |
| P 394      |     | 29              | 09 36 56.4 | 44.250 S        | 169.826 E        | 5.0         | 1.4 | 0.2  | 17         |
| P 395      |     | 29              | 14 27 26.8 | 44.323 S        | 170.414 E        | 8.0         | 0.6 | 0.0  | 8          |
| P 396      |     | 31              | 16 09 00.6 | 44.356 S        | 169.536 E        | 5.0         | 1.0 | 0.2  | 11         |

## EXPLOSIONS

| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|----------------------|-----------------|------------------|-------------|-----|------|------------|
| P 397      | MAR | 3 04 12 23.3         | 44.285 S        | 170.088 E        | 0.0         | 0.4 | 0.2  | 10         |
| P 398      |     | 15 03 37 02.4        | 43.948 S        | 170.545 E        | 0.0         | 2.1 | 0.2  | 10         |
| P 399      |     | 15 23 55 02.9        | 44.143 S        | 170.137 E        | 0.0         | 2.0 | 0.4  | 9          |
| P 400      |     | 16 03 52 03.0        | 44.277 S        | 169.920 E        | 0.0         | 1.9 | 0.1  | 9          |
| P 401      |     | 17 04 43 09.6        | 44.458 S        | 170.212 E        | 0.0         | 2.2 | 0.1  | 10         |
| P 402      |     | 17 06 16 03.6        | 44.546 S        | 170.181 E        | 0.0         | 2.3 | 0.5  | 10         |
| P 403      |     | 17 06 43 02.8        | 44.546 S        | 170.181 E        | 0.0         | 1.9 | 0.5  | 10         |
| P 404      |     | 18 00 06 02.7        | 44.535 S        | 170.076 E        | 0.0         | 1.6 | 0.4  | 9          |
| P 405      |     | 18 01 28 03.0        | 44.546 S        | 170.181 E        | 0.0         | 2.0 | 0.3  | 9          |
| P 406      |     | 18 04 01 03.5        | 44.400 S        | 170.209 E        | 0.0         | 1.4 | 0.2  | 9          |
| P 407      |     | 18 04 34 03.2        | 44.400 S        | 170.209 E        | 0.0         | 0.7 | 0.2  | 7          |

### WELLINGTON NETWORK

The origins listed in this section have been determined from data provided by the stations of the Wellington network, details of which are given in an earlier section of the report. For some large events, an alternative solution using stations of the standard network may also exist, and the remarks given in the introduction to the Pukaki network results apply.

The velocities and crustal thicknesses used in this section are:

| Depth<br>km | P-velocity<br>km/s | S-velocity<br>km/s |
|-------------|--------------------|--------------------|
| 0 - 0.4     | 4.40               | 2.55               |
| 0.4 - 4.9   | 5.40               | 3.12               |
| 4.9 - 13.1  | 6.21               | 3.59               |
| 13.1 - 35.7 | 6.46               | 3.73               |
| 35.7 -      | 8.04               | 4.64               |

The programme used for locating the origins is the same as is used for the standard network, except that it uses the above crustal model and has more stringent convergence criteria.

The format of the list is identical to that of the Pukaki list.



| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS 4 |
|------------|-----|----------------------|-----------------|------------------|-------------|-----|------|--------------|
| W 001      | JAN | 01 02 23 11.4        | 41.406 S        | 174.753 E        | 33.2        | 1.6 | 0.1  | 5            |
| W 002      |     | 01 12 29 23.0        | 41.326 S        | 174.738 E        | 31.1        | 2.2 | 0.0  | 6            |
| W 003      |     | 03 16 49 34.4        | 41.403 S        | 175.114 E        | 2.4         | 1.2 | 0.1  | 6            |
| W 004      |     | 03 18 14 44.4        | 41.209 S        | 174.979 E        | 34.8        | 1.9 | 0.0  | 6            |
| W 005      |     | 04 02 44 32.4        | 41.056 S        | 175.347 E        | 27.0        | 2.2 | 0.0  | 5            |
| W 006      |     | 04 21 47 17.8        | 41.182 S        | 175.118 E        | 4.2         | 1.2 | 0.1  | 8            |
| W 007      |     | 05 13 39 04.7        | 41.117 S        | 174.876 E        | 34.0        | 2.0 | 0.1  | 6            |
| W 008      |     | 05 15 10 42.5        | 41.313 S        | 175.318 E        | 25.6        | 2.0 | 0.0  | 6            |
| W 009      |     | 06 05 48 08.5        | 41.679 S        | 174.599 E        | 31.3        | 2.4 | 0.1  | 6            |
| W 010      |     | 06 10 12 53.3        | 41.299 S        | 174.567 E        | 29.3        | 1.7 | 0.1  | 6            |
| W 011      |     | 07 03 38 30.4        | 41.350 S        | 174.589 E        | 35.0        | 1.9 | 0.0  | 6            |
| W 012      |     | 09 03 07 58.2        | 41.482 S        | 174.698 E        | 54.9        | 2.6 | 0.0  | 5            |
| W 013      |     | 09 03 12 58.7        | 41.501 S        | 174.667 E        | 59.4        | 2.8 | 0.0  | 6            |
| W 014      |     | 09 06 28 25.0        | 41.307 S        | 175.327 E        | 23.5        | 2.5 | 0.1  | 6            |
| W 015      |     | 10 11 59 05.5        | 41.196 S        | 174.280 E        | 43.0        | 2.6 | 0.0  | 7            |
| W 016      |     | 10 15 47 47.9        | 41.027 S        | 175.429 E        | 24.4        | 2.4 | 0.1  | 6            |
| W 017      |     | 10 15 48 58.6        | 41.118 S        | 175.172 E        | 11.5        | 1.6 | ND   | 4            |
| W 018      |     | 10 16 07 34.3        | 41.473 S        | 174.707 E        | 51.6        | 3.8 | 0.0  | 6            |
| W 019      |     | 11 02 43 06.2        | 41.529 S        | 174.861 E        | 23.1        | 4.7 | 0.0  | 6            |
| W 020      |     | 11 23 37 00.6        | 40.882 S        | 174.756 E        | 16.7        | 2.3 | 0.1  | 6            |
| W 021      |     | 19 21 24 30.1        | 41.234 S        | 174.387 E        | 36.6        | 2.5 | 0.0  | 5            |
| W 022      |     | 20 14 36 09.0        | 41.124 S        | 175.400 E        | 23.1        | 2.4 | 0.1  | 7            |
| W 023      |     | 20 23 10 41.2        | 41.297 S        | 175.002 E        | 30.3        | 1.7 | 0.0  | 5            |
| W 024      |     | 23 03 58 48.9        | 41.329 S        | 174.796 E        | 28.1        | 1.5 | 0.0  | 5            |
| W 025      |     | 24 06 18 15.9        | 41.282 S        | 175.064 E        | 12.8        | 2.0 | 0.0  | 6            |
| W 026      |     | 25 20 47 15.4        | 41.555 S        | 174.495 E        | 29.8        | 2.6 | 0.1  | 6            |
| W 027      |     | 26 09 30 37.5        | 41.398 S        | 174.971 E        | 13.2        | 0.9 | 0.0  | 5            |
| W 028      |     | 26 11 07 54.0        | 41.342 S        | 175.003 E        | 30.9        | 1.6 | 0.0  | 5            |
| W 029      |     | 27 03 36 17.1        | 41.430 S        | 174.975 E        | 7.4         | 1.4 | 0.1  | 5            |
| W 030      |     | 27 14 28 47.4        | 41.324 S        | 175.243 E        | 25.5        | 2.1 | 0.0  | 8            |
| W 031      |     | 29 21 56 56.1        | 41.440 S        | 175.010 E        | 26.4        | 1.7 | 0.1  | 7            |
| W 032      | FEB | 01 01 21 52.4        | 41.239 S        | 175.208 E        | 19.0        | 1.6 | 0.0  | 8            |
| W 033      |     | 01 16 16 13.8        | 40.936 S        | 174.833 E        | 40.0        | 2.9 | 0.0  | 7            |
| W 034      |     | 03 23 04 08.4        | 41.368 S        | 174.236 E        | 35.7        | 2.5 | 0.1  | 5            |
| W 035      |     | 04 13 05 20.8        | 41.393 S        | 175.155 E        | 26.2        | 1.4 | 0.0  | 5            |
| W 036      |     | 06 00 04 58.4        | 41.425 S        | 174.196 E        | 22.7        | 2.4 | 0.0  | 5            |
| W 037      |     | 07 05 51 22.8        | 41.366 S        | 175.155 E        | 26.3        | 2.2 | 0.0  | 6            |
| W 038      |     | 07 09 58 33.7        | 41.446 S        | 174.417 E        | 62.0        | 2.3 | 0.1  | 5            |
| W 039      |     | 07 12 02 30.4        | 41.397 S        | 174.305 E        | 34.9        | 3.1 | 0.0  | 5            |
| W 040      |     | 08 06 03 20.8        | 41.534 S        | 174.750 E        | 29.1        | 2.0 | 0.0  | 5            |
| W 041      |     | 08 07 25 11.2        | 41.484 S        | 174.998 E        | 26.8        | 2.0 | 0.0  | 5            |
| W 042      |     | 08 18 41 16.0        | 40.882 S        | 174.726 E        | 46.3        | 2.3 | 0.0  | 5            |
| W 043      |     | 09 16 15 06.7        | 40.901 S        | 174.381 E        | 6.2         | 3.0 | 0.1  | 5            |
| W 044      |     | 09 20 23 49.0        | 41.528 S        | 174.943 E        | 25.6        | 2.4 | 0.0  | 6            |
| W 045      |     | 15 14 58 06.6        | 41.625 S        | 174.665 E        | 31.2        | 2.5 | 0.0  | 6            |
| W 046      |     | 15 15 15 45.6        | 41.301 S        | 175.309 E        | 23.6        | 2.1 | 0.0  | 5            |
| W 047      |     | 17 03 27 11.9        | 41.128 S        | 174.759 E        | 64.2        | 2.4 | 0.0  | 5            |
| W 048      |     | 18 07 40 42.8        | 41.335 S        | 174.546 E        | 28.8        | 1.9 | 0.0  | 5            |
| W 049      |     | 19 07 17 39.7        | 41.037 S        | 174.757 E        | 36.1        | 3.1 | 0.1  | 5            |
| W 050      |     | 21 23 20 55.8        | 41.417 S        | 174.924 E        | 29.9        | 2.0 | 0.0  | 5            |

| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS 4 |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-----|------|--------------|
| W 051      | FEB | 23              | 14 28 55.2 | 41.372 S        | 174.381 E        | 12.6        | 1.8 | 0.0  | 5            |
| W 052      |     | 25              | 03 35 17.9 | 41.000 S        | 175.386 E        | 29.5        | 2.4 | 0.0  | 5            |
| W 053      |     | 25              | 08 20 20.4 | 40.993 S        | 175.030 E        | 45.0        | 2.5 | 0.1  | 6            |
| W 054      |     | 26              | 19 53 37.3 | 41.315 S        | 175.031 E        | 34.8        | 1.5 | 0.0  | 5            |
| W 055      |     | 27              | 03 48 01.5 | 41.262 S        | 175.293 E        | 24.7        | 2.3 | 0.0  | 5            |
| W 056      |     | 27              | 04 50 48.3 | 41.264 S        | 175.281 E        | 24.1        | 2.2 | 0.0  | 5            |
| W 057      |     | 27              | 05 04 56.2 | 41.270 S        | 175.289 E        | 24.3        | 2.0 | 0.1  | 5            |
| W 058      |     | 27              | 05 07 50.6 | 41.345 S        | 174.807 E        | 28.6        | 1.5 | 0.1  | 5            |
| W 059      |     | 27              | 10 52 33.8 | 41.266 S        | 175.288 E        | 24.7        | 2.1 | 0.0  | 5            |
| W 060      |     | 27              | 10 55 34.2 | 41.270 S        | 175.289 E        | 24.8        | 2.2 | 0.0  | 5            |
| W 061      |     | 28              | 04 47 07.8 | 41.301 S        | 175.354 E        | 24.4        | 2.5 | 0.1  | 6            |
| W 062      |     | 28              | 08 31 23.9 | 41.270 S        | 175.076 E        | 20.3        | 1.5 | 0.1  | 8            |
| W 063      |     | 28              | 09 09 23.6 | 41.106 S        | 174.733 E        | 57.4        | 2.6 | 0.0  | 6            |
| W 064      | MAR | 02              | 19 24 26.8 | 41.123 S        | 175.531 E        | 24.6        | 2.7 | 0.1  | 8            |
| W 065      |     | 02              | 22 24 37.3 | 41.299 S        | 175.232 E        | 22.9        | 2.1 | 0.0  | 6            |
| W 066      |     | 03              | 19 30 19.0 | 41.183 S        | 174.733 E        | 30.7        | 1.6 | 0.0  | 6            |
| W 067      |     | 04              | 03 01 13.2 | 41.184 S        | 175.135 E        | 1.6         | 1.2 | 0.1  | 6            |
| W 068      |     | 04              | 07 16 01.2 | 41.082 S        | 175.543 E        | 5.3         | 2.5 | 0.2  | 6            |
| W 069      |     | 04              | 21 20 58.3 | 41.265 S        | 175.282 E        | 24.4        | 1.7 | 0.1  | 5            |
| W 070      |     | 04              | 21 35 37.0 | 41.261 S        | 175.283 E        | 25.5        | 1.8 | 0.0  | 6            |
| W 071      |     | 05              | 05 27 16.7 | 41.412 S        | 174.520 E        | 29.3        | 2.0 | 0.0  | 5            |
| W 072      |     | 06              | 00 39 39.5 | 40.985 S        | 175.622 E        | 16.8        | 3.1 | 0.1  | 6            |
| W 073      |     | 07              | 21 13 10.3 | 41.644 S        | 174.748 E        | 23.3        | 2.2 | 0.0  | 5            |
| W 074      |     | 10              | 09 43 50.8 | 41.316 S        | 174.958 E        | 28.8        | 1.7 | 0.0  | 6            |
| W 075      |     | 11              | 00 14 40.3 | 40.872 S        | 175.145 E        | 33.2        | 2.4 | 0.1  | 6            |
| W 076      |     | 11              | 17 24 53.8 | 41.299 S        | 175.321 E        | 20.1        | 2.1 | 0.0  | 6            |
| W 077      |     | 12              | 15 40 53.3 | 41.303 S        | 175.284 E        | 19.1        | 1.8 | 0.0  | 5            |
| W 078      |     | 13              | 01 09 54.4 | 40.913 S        | 174.838 E        | 48.1        | 2.5 | 0.0  | 6            |
| W 079      |     | 13              | 18 52 27.3 | 41.287 S        | 174.992 E        | 28.4        | 2.1 | 0.0  | 6            |
| W 080      |     | 14              | 18 43 51.0 | 41.020 S        | 174.819 E        | 68.4        | 2.3 | 0.0  | 6            |
| W 081      |     | 14              | 21 48 23.2 | 41.447 S        | 174.756 E        | 31.9        | 1.9 | 0.1  | 6            |
| W 082      |     | 15              | 03 10 49.1 | 41.185 S        | 175.126 E        | 1.7         | 1.2 | 0.1  | 6            |
| W 083      |     | 15              | 14 39 15.8 | 41.135 S        | 175.361 E        | 18.1        | 2.0 | 0.0  | 5            |
| W 084      |     | 15              | 22 46 51.8 | 41.519 S        | 174.414 E        | 19.1        | 2.1 | 0.1  | 6            |
| W 085      |     | 19              | 12 59 06.2 | 41.366 S        | 175.147 E        | 26.5        | 1.6 | 0.0  | 6            |
| W 086      |     | 20              | 13 26 26.7 | 41.500 S        | 175.012 E        | 27.0        | 1.8 | 0.0  | 5            |
| W 087      |     | 21              | 08 21 02.4 | 41.098 S        | 175.081 E        | 36.2        | 1.8 | 0.0  | 8            |
| W 088      |     | 21              | 23 32 22.6 | 41.443 S        | 174.621 E        | 22.2        | 1.7 | 0.1  | 6            |
| W 089      |     | 22              | 00 19 32.9 | 41.289 S        | 174.847 E        | 33.6        | 1.7 | 0.1  | 6            |
| W 090      |     | 23              | 06 51 35.3 | 41.406 S        | 174.584 E        | 30.2        | 2.0 | 0.0  | 6            |
| W 091      |     | 24              | 09 02 09.8 | 41.321 S        | 175.306 E        | 24.2        | 2.4 | 0.0  | 6            |
| W 092      |     | 24              | 12 10 34.0 | 41.367 S        | 174.845 E        | 42.7        | 1.8 | 0.1  | 6            |
| W 093      |     | 25              | 20 04 26.4 | 41.270 S        | 174.679 E        | 35.5        | 2.6 | 0.0  | 6            |
| W 094      |     | 27              | 05 09 02.0 | 41.384 S        | 174.570 E        | 14.3        | 1.6 | 0.0  | 6            |
| W 095      |     | 27              | 10 32 18.1 | 41.073 S        | 175.631 E        | 11.9        | 2.8 | 0.0  | 5            |
| W 096      |     | 28              | 16 35 09.5 | 41.343 S        | 174.837 E        | 41.5        | 2.0 | 0.1  | 7            |
| W 097      |     | 28              | 22 42 53.9 | 41.238 S        | 174.457 E        | 37.7        | 2.4 | 0.1  | 6            |
| W 098      |     | 30              | 11 59 10.5 | 40.924 S        | 174.827 E        | 62.2        | 2.7 | 0.0  | 7            |
| W 099      |     | 30              | 20 53 33.2 | 41.078 S        | 174.813 E        | 30.5        | 2.0 | 0.1  | 8            |
| W 100      |     | 31              | 17 32 31.0 | 41.321 S        | 174.108 E        | 37.3        | 2.5 | 0.2  | 6            |

| REF<br>NUM | ORIGIN | TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS 4 |
|------------|--------|---------------|-----------------|------------------|-------------|-----|------|--------------|
| W 101      | MAR    | 31 21 45 06.8 | 41.473 S        | 175.052 E        | 23.6        | 1.8 | ND   | 4            |
| W 102      | APR    | 01 04 12 42.2 | 41.303 S        | 174.374 E        | 57.5        | 2.6 | 0.1  | 6            |
| W 103      |        | 01 14 14 59.1 | 41.089 S        | 174.966 E        | 33.0        | 1.9 | 0.0  | 6            |
| W 104      |        | 02 11 17 04.1 | 41.098 S        | 175.234 E        | 27.6        | 2.7 | 0.1  | 7            |
| W 105      |        | 02 13 00 23.7 | 40.950 S        | 174.991 E        | 45.7        | 2.7 | 0.0  | 7            |
| W 106      |        | 03 18 35 49.5 | 41.123 S        | 174.693 E        | 58.6        | 2.3 | 0.0  | 6            |
| W 107      |        | 03 22 24 39.0 | 41.414 S        | 175.134 E        | 27.9        | 2.0 | 0.1  | 6            |
| W 108      |        | 05 10 41 17.5 | 41.272 S        | 174.659 E        | 31.2        | 1.7 | 0.0  | 6            |
| W 109      |        | 05 19 34 09.8 | 40.938 S        | 174.596 E        | 54.0        | 2.4 | 0.0  | 5            |
| W 110      |        | 06 01 20 12.5 | 41.100 S        | 175.056 E        | 34.0        | 1.9 | 0.0  | 5            |
| W 111      |        | 06 15 46 36.3 | 40.909 S        | 175.324 E        | 35.4        | 2.8 | 0.1  | 6            |
| W 112      |        | 06 16 18 02.0 | 41.622 S        | 174.652 E        | 32.3        | 2.4 | 0.1  | 8            |
| W 113      |        | 07 12 57 10.5 | 41.401 S        | 174.636 E        | 18.2        | 1.2 | 0.0  | 6            |
| W 114      |        | 07 18 38 19.5 | 41.311 S        | 174.454 E        | 56.0        | 2.3 | 0.1  | 6            |
| W 115      |        | 08 15 34 47.1 | 40.915 S        | 175.107 E        | 35.3        | 2.6 | 0.0  | 6            |
| W 116      |        | 09 09 01 04.9 | 41.361 S        | 175.388 E        | 4.9         | 1.9 | 0.1  | 5            |
| W 117      |        | 09 22 25 49.4 | 41.096 S        | 174.872 E        | 59.7        | 2.5 | 0.1  | 6            |
| W 118      |        | 12 00 39 08.0 | 40.955 S        | 174.633 E        | 34.9        | 2.1 | 0.1  | 5            |
| W 119      |        | 12 14 38 08.2 | 40.855 S        | 174.716 E        | 7.4         | 2.1 | 0.1  | 5            |
| W 120      |        | 13 07 10 20.1 | 40.913 S        | 174.645 E        | 40.8        | 2.3 | 0.0  | 7            |
| W 121      |        | 13 12 33 15.3 | 40.856 S        | 174.719 E        | 4.9         | 2.3 | 0.1  | 7            |
| W 122      |        | 13 17 24 28.1 | 41.644 S        | 174.495 E        | 29.9        | 2.5 | 0.1  | 7            |
| W 123      |        | 15 09 00 27.3 | 40.864 S        | 174.741 E        | 12.3        | 2.4 | 0.0  | 6            |
| W 124      |        | 16 13 12 30.4 | 41.165 S        | 174.836 E        | 39.1        | 2.0 | 0.0  | 5            |
| W 125      |        | 20 09 21 51.8 | 41.231 S        | 175.320 E        | 25.5        | 2.4 | 0.0  | 7            |
| W 126      |        | 20 22 34 36.9 | 41.496 S        | 174.456 E        | 19.6        | 1.9 | 0.0  | 6            |
| W 127      |        | 21 09 12 39.5 | 41.341 S        | 174.808 E        | 27.5        | 1.7 | 0.1  | 6            |
| W 128      |        | 21 10 14 58.3 | 41.341 S        | 174.816 E        | 27.9        | 1.5 | 0.1  | 7            |
| W 129      |        | 22 00 41 43.4 | 41.343 S        | 174.812 E        | 29.0        | 1.3 | 0.1  | 7            |
| W 130      |        | 22 02 32 01.3 | 41.353 S        | 174.803 E        | 24.2        | 1.7 | 0.1  | 6            |
| W 131      |        | 22 13 46 12.9 | 41.268 S        | 175.005 E        | 25.5        | 1.5 | 0.0  | 7            |
| W 132      |        | 22 13 47 58.2 | 41.250 S        | 174.990 E        | 24.1        | 1.8 | 0.1  | 9            |
| W 133      |        | 22 17 37 03.3 | 41.431 S        | 174.286 E        | 11.9        | 1.9 | 0.1  | 7            |
| W 134      |        | 22 23 53 15.9 | 41.176 S        | 174.994 E        | 10.0        | 1.2 | 0.2  | 7            |
| W 135      |        | 23 19 09 05.5 | 40.930 S        | 174.691 E        | 40.1        | 2.3 | 0.0  | 7            |
| W 136      |        | 24 17 13 17.5 | 40.905 S        | 174.223 E        | 64.4        | 3.9 | 0.1  | 8            |
| W 137      |        | 25 08 14 58.6 | 40.840 S        | 175.296 E        | 36.4        | 2.8 | 0.1  | 7            |
| W 138      |        | 26 13 25 06.1 | 41.393 S        | 175.142 E        | 26.9        | 2.0 | 0.1  | 7            |
| W 139      |        | 28 04 00 07.9 | 41.069 S        | 174.439 E        | 43.0        | 2.4 | 0.0  | 6            |
| W 140      |        | 28 07 35 18.9 | 41.352 S        | 174.574 E        | 30.5        | 2.0 | 0.0  | 7            |
| W 141      |        | 28 12 09 08.7 | 40.891 S        | 174.749 E        | 25.0        | 2.2 | 0.1  | 6            |
| W 142      |        | 29 04 14 19.7 | 41.147 S        | 175.198 E        | 29.1        | 2.2 | 0.1  | 9            |
| W 143      |        | 29 08 03 03.0 | 41.144 S        | 175.257 E        | 33.6        | 2.1 | 0.0  | 6            |
| W 144      |        | 29 09 50 59.9 | 41.154 S        | 175.192 E        | 28.1        | 2.0 | 0.0  | 6            |
| W 145      |        | 29 21 17 54.8 | 41.742 S        | 174.899 E        | 28.7        | 2.7 | 0.1  | 9            |
| W 146      |        | 30 02 29 00.8 | 40.875 S        | 174.747 E        | 13.1        | 1.9 | 0.1  | 6            |
| W 147      |        | 30 23 17 00.1 | 41.289 S        | 175.242 E        | 18.3        | 1.6 | 0.0  | 8            |
| W 148      | MAY    | 01 12 45 18.5 | 41.417 S        | 174.371 E        | 30.0        | 2.6 | 0.0  | 7            |
| W 149      |        | 01 21 42 38.9 | 41.596 S        | 174.486 E        | 52.3        | 2.7 | 0.1  | 7            |
| W 150      |        | 02 12 00 03.3 | 41.261 S        | 174.997 E        | 25.4        | 1.9 | 0.0  | 6            |



| REF<br>NUM | ORIGIN | TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|--------|---------------|-----------------|------------------|-------------|-----|------|------------|
| W 151      | MAY    | 04 18 50 09.3 | 41.410 S        | 174.648 E        | 32.5        | 2.2 | 0.0  | 8          |
| W 152      |        | 04 22 34 21.0 | 40.847 S        | 174.479 E        | 50.8        | 2.5 | 0.1  | 8          |
| W 153      |        | 05 12 31 42.2 | 41.123 S        | 174.737 E        | 32.3        | 2.2 | 0.0  | 6          |
| W 154      |        | 07 05 36 21.0 | 41.026 S        | 174.866 E        | 32.6        | 2.4 | 0.0  | 6          |
| W 155      |        | 07 20 16 44.7 | 41.018 S        | 174.739 E        | 61.9        | 2.6 | 0.0  | 6          |
| W 156      |        | 08 07 43 20.0 | 41.091 S        | 175.018 E        | 34.9        | 2.7 | 0.1  | 6          |
| W 157      |        | 10 01 13 35.6 | 41.320 S        | 174.318 E        | 67.8        | 2.8 | 0.1  | 5          |
| W 158      |        | 10 12 27 11.5 | 41.289 S        | 174.462 E        | 16.3        | 1.7 | 0.0  | 5          |
| W 159      |        | 10 15 21 58.2 | 40.916 S        | 175.596 E        | 27.1        | 2.8 | 0.1  | 7          |
| W 160      |        | 10 16 08 23.1 | 41.315 S        | 175.219 E        | 27.2        | 2.2 | 0.0  | 5          |
| W 161      |        | 11 09 40 15.0 | 41.387 S        | 175.150 E        | 28.7        | 1.9 | 0.0  | 5          |
| W 162      |        | 11 11 05 34.6 | 41.330 S        | 174.802 E        | 27.4        | 3.3 | 0.0  | 5          |
| W 163      |        | 11 19 21 42.4 | 40.782 S        | 174.680 E        | 50.7        | 2.8 | 0.1  | 6          |
| W 164      |        | 13 10 11 10.4 | 41.376 S        | 174.760 E        | 32.9        | 2.1 | 0.0  | 5          |
| W 165      |        | 16 18 16 29.9 | 41.070 S        | 175.088 E        | 34.4        | 2.9 | 0.0  | 5          |
| W 166      |        | 19 19 33 24.6 | 41.263 S        | 175.047 E        | 31.8        | 2.3 | 0.0  | 5          |
| W 167      |        | 22 07 14 59.1 | 41.004 S        | 174.940 E        | 48.6        | 2.4 | 0.0  | 5          |
| W 168      |        | 22 23 43 53.9 | 41.332 S        | 175.053 E        | 29.8        | 1.9 | 0.1  | 8          |
| W 169      |        | 23 16 50 20.3 | 41.115 S        | 175.555 E        | 14.3        | 2.6 | 0.0  | 5          |
| W 170      |        | 28 02 24 35.0 | 41.373 S        | 174.819 E        | 33.3        | 1.7 | 0.0  | 5          |
| W 171      |        | 28 15 31 28.6 | 41.260 S        | 174.593 E        | 33.1        | 2.0 | 0.0  | 6          |
| W 172      |        | 29 00 17 41.7 | 41.087 S        | 175.620 E        | 11.1        | 2.4 | 0.1  | 6          |
| W 173      |        | 29 03 51 46.3 | 41.400 S        | 174.994 E        | 25.0        | 2.7 | 0.0  | 6          |
| W 174      |        | 29 06 47 44.9 | 41.425 S        | 174.984 E        | 28.8        | 1.7 | 0.0  | 5          |
| W 175      | JUN    | 01 11 10 14.0 | 41.102 S        | 175.074 E        | 32.3        | 2.0 | 0.1  | 6          |
| W 176      |        | 01 14 16 04.7 | 41.497 S        | 174.326 E        | 33.6        | 2.3 | 0.0  | 5          |
| W 177      |        | 02 00 44 17.8 | 41.216 S        | 175.391 E        | 11.6        | 3.7 | 0.0  | 6          |
| W 178      |        | 02 07 15 59.2 | 41.368 S        | 174.602 E        | 31.8        | 2.1 | 0.0  | 6          |
| W 179      |        | 03 11 15 26.5 | 41.587 S        | 175.490 E        | 30.3        | 3.3 | 0.0  | 6          |
| W 180      |        | 03 21 28 39.7 | 40.873 S        | 174.744 E        | 13.2        | 2.5 | 0.0  | 5          |
| W 181      |        | 03 21 31 08.5 | 41.437 S        | 175.059 E        | 27.8        | 2.0 | 0.1  | 7          |
| W 182      |        | 04 16 51 12.4 | 41.377 S        | 174.989 E        | 29.7        | 1.5 | 0.1  | 7          |
| W 183      |        | 07 00 07 23.5 | 41.225 S        | 174.052 E        | 60.0        | 4.9 | 0.1  | 7          |
| W 184      |        | 08 13 30 11.6 | 41.781 S        | 174.786 E        | 33.6        | 2.6 | ND   | 4          |
| W 185      |        | 08 15 27 22.8 | 41.123 S        | 175.169 E        | 31.3        | 2.0 | 0.1  | 7          |
| W 186      |        | 09 15 51 26.0 | 41.384 S        | 175.072 E        | 38.7        | 2.3 | 0.0  | 5          |
| W 187      |        | 09 19 44 11.2 | 41.124 S        | 174.500 E        | 65.2        | 2.5 | 0.1  | 6          |
| W 188      |        | 10 03 30 27.5 | 40.946 S        | 174.654 E        | 41.7        | 2.2 | 0.0  | 5          |
| W 189      |        | 10 10 11 08.6 | 40.877 S        | 174.755 E        | 20.0        | 2.1 | 0.1  | 7          |
| W 190      |        | 10 13 02 51.0 | 41.320 S        | 175.167 E        | 22.8        | 1.3 | 0.0  | 5          |
| W 191      |        | 11 03 34 31.7 | 41.532 S        | 174.742 E        | 20.3        | 1.4 | 0.0  | 5          |
| W 192      |        | 11 10 42 07.4 | 41.231 S        | 175.324 E        | 13.1        | 1.9 | 0.0  | 5          |
| W 193      |        | 11 13 09 41.3 | 41.296 S        | 174.556 E        | 4.2         | 1.0 | 0.0  | 6          |
| W 194      |        | 11 19 46 58.1 | 41.708 S        | 174.608 E        | 34.5        | 2.3 | 0.1  | 7          |
| W 195      |        | 12 01 35 11.2 | 40.972 S        | 174.959 E        | 69.3        | 4.4 | 0.1  | 7          |
| W 196      |        | 12 16 28 24.1 | 41.331 S        | 174.794 E        | 28.5        | 1.4 | 0.0  | 5          |
| W 197      |        | 13 23 33 21.0 | 41.319 S        | 174.094 E        | 47.9        | 2.8 | 0.1  | 5          |
| W 198      |        | 16 10 25 27.6 | 41.763 S        | 174.500 E        | 40.0        | 2.5 | 0.1  | 7          |
| W 199      |        | 18 02 45 34.6 | 41.703 S        | 174.500 E        | 40.0        | 2.3 | 0.2  | 7          |
| W 200      |        | 18 06 25 29.8 | 41.771 S        | 174.191 E        | 37.1        | 2.5 | 0.2  | 6          |



| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|----------------------|-----------------|------------------|-------------|-----|------|------------|
| W 201      | JUN | 19 17 05 37.7        | 41.461 S        | 174.981 E        | 11.6        | 1.1 | 0.1  | 6          |
| W 202      |     | 20 06 17 59.8        | 41.314 S        | 174.289 E        | 31.6        | 2.4 | 0.1  | 6          |
| W 203      |     | 20 15 04 36.9        | 40.874 S        | 174.702 E        | 55.7        | 2.5 | 0.0  | 6          |
| W 204      |     | 21 17 03 19.3        | 41.373 S        | 174.749 E        | 29.8        | 1.7 | 0.0  | 5          |
| W 205      |     | 23 10 25 40.1        | 41.226 S        | 174.683 E        | 31.9        | 1.8 | 0.0  | 6          |
| W 206      |     | 23 18 32 46.0        | 41.634 S        | 174.650 E        | 50.0        | 3.2 | 0.1  | 6          |
| W 207      |     | 23 19 55 59.3        | 41.714 S        | 174.546 E        | 36.6        | 3.4 | 0.1  | 6          |
| W 208      |     | 24 15 02 58.5        | 41.755 S        | 174.490 E        | 34.3        | 2.7 | 0.0  | 5          |
| W 209      |     | 25 01 59 28.9        | 41.030 S        | 174.785 E        | 35.3        | 2.5 | 0.0  | 6          |
| W 210      |     | 26 18 29 54.1        | 41.195 S        | 175.133 E        | 24.0        | 1.7 | 0.0  | 6          |
| W 211      |     | 27 22 56 33.1        | 41.218 S        | 174.469 E        | 31.6        | 2.1 | 0.1  | 5          |
| W 212      |     | 29 08 25 04.5        | 41.804 S        | 174.418 E        | 36.8        | 4.6 | 0.1  | 6          |
| W 213      |     | 29 12 36 45.0        | 41.022 S        | 174.817 E        | 51.7        | 2.4 | 0.1  | 6          |
| W 214      |     | 29 16 48 50.3        | 41.362 S        | 175.020 E        | 18.4        | 2.0 | 0.0  | 5          |
| W 215      | JUL | 01 12 43 11.5        | 41.205 S        | 174.867 E        | 58.0        | 2.2 | 0.1  | 7          |
| W 216      |     | 01 13 09 19.3        | 41.148 S        | 174.351 E        | 24.6        | 3.2 | 0.2  | 5          |
| W 217      |     | 01 19 21 48.6        | 41.446 S        | 175.022 E        | 27.0        | 2.1 | 0.1  | 6          |
| W 218      |     | 06 08 09 10.7        | 41.275 S        | 174.991 E        | 29.4        | 1.9 | 0.1  | 6          |
| W 219      |     | 06 08 44 20.5        | 41.000 S        | 175.483 E        | 4.7         | 4.0 | 0.0  | 6          |
| W 220      |     | 06 10 16 36.3        | 41.597 S        | 174.557 E        | 54.8        | 2.4 | 0.0  | 6          |
| W 221      |     | 06 12 37 43.4        | 40.999 S        | 174.837 E        | 38.5        | 2.0 | 0.0  | 5          |
| W 222      |     | 06 23 42 30.2        | 41.226 S        | 174.637 E        | 53.5        | 2.3 | 0.0  | 5          |
| W 223      |     | 07 01 10 18.3        | 41.088 S        | 174.908 E        | 69.9        | 3.0 | 0.1  | 5          |
| W 224      |     | 07 14 42 22.7        | 40.995 S        | 175.163 E        | 31.2        | 2.0 | 0.0  | 5          |
| W 225      |     | 08 14 17 29.6        | 41.207 S        | 174.304 E        | 36.9        | 2.5 | 0.0  | 5          |
| W 226      |     | 09 19 49 19.5        | 41.119 S        | 174.682 E        | 60.4        | 2.2 | 0.1  | 5          |
| W 227      |     | 10 06 45 49.4        | 41.234 S        | 174.782 E        | 54.9        | 2.5 | 0.1  | 5          |
| W 228      |     | 10 19 49 23.2        | 41.638 S        | 174.841 E        | 26.8        | 2.3 | 0.0  | 5          |
| W 229      |     | 10 22 44 32.6        | 41.119 S        | 174.473 E        | 39.6        | 3.3 | 0.0  | 5          |
| W 230      |     | 11 02 44 18.5        | 41.169 S        | 174.324 E        | 36.0        | 3.2 | 0.0  | 6          |
| W 231      |     | 12 11 04 31.5        | 41.066 S        | 174.838 E        | 56.3        | 2.6 | 0.1  | 5          |
| W 232      |     | 14 02 31 25.7        | 41.645 S        | 174.849 E        | 26.7        | 2.8 | 0.0  | 5          |
| W 233      |     | 14 12 25 26.8        | 41.407 S        | 174.644 E        | 21.6        | 1.7 | 0.0  | 5          |
| W 234      |     | 15 08 19 36.1        | 41.296 S        | 175.033 E        | 20.8        | 1.8 | ND   | 4          |
| W 235      |     | 16 19 17 31.2        | 41.182 S        | 175.288 E        | 29.3        | 2.5 | 0.0  | 5          |
| W 236      |     | 17 03 12 38.9        | 41.743 S        | 174.515 E        | 35.8        | 4.4 | 0.1  | 6          |
| W 237      |     | 17 14 16 15.1        | 41.490 S        | 175.017 E        | 25.5        | 1.7 | 0.0  | 5          |
| W 238      |     | 19 07 09 25.5        | 41.517 S        | 174.452 E        | 26.9        | 2.1 | 0.1  | 5          |
| W 239      |     | 19 08 24 55.3        | 41.206 S        | 174.581 E        | 26.2        | 2.0 | 0.0  | 5          |
| W 240      |     | 21 11 03 12.8        | 41.649 S        | 174.572 E        | 28.7        | 2.3 | 0.1  | 5          |
| W 241      |     | 22 08 23 45.2        | 41.765 S        | 174.527 E        | 35.0        | 2.7 | 0.1  | 5          |
| W 242      |     | 22 15 48 45.9        | 41.045 S        | 174.540 E        | 64.5        | 2.6 | 0.1  | 5          |
| W 243      |     | 22 22 02 09.1        | 41.161 S        | 174.474 E        | 35.4        | 1.9 | 0.0  | 5          |
| W 244      |     | 24 06 38 38.5        | 40.981 S        | 174.721 E        | 34.8        | 2.1 | 0.0  | 5          |
| W 245      |     | 24 08 05 27.2        | 41.561 S        | 174.302 E        | 11.6        | 2.6 | 0.0  | 5          |
| W 246      |     | 25 13 25 37.0        | 41.256 S        | 175.032 E        | 31.7        | 1.6 | 0.0  | 5          |
| W 247      |     | 26 16 17 39.2        | 41.379 S        | 174.872 E        | 32.8        | 1.9 | 0.1  | 6          |
| W 248      |     | 26 18 53 27.2        | 40.950 S        | 175.056 E        | 48.3        | 2.2 | 0.0  | 5          |
| W 249      |     | 28 07 08 53.6        | 41.377 S        | 174.960 E        | 31.2        | 2.1 | 0.0  | 5          |
| W 250      |     | 29 10 55 05.9        | 41.286 S        | 174.551 E        | 36.6        | 3.0 | 0.0  | 5          |

| REF<br>NUM |     | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|-----------------|------------|-----------------|------------------|-------------|-----|------|------------|
| W 251      | JUL | 29              | 11 48 19.2 | 41.288 S        | 174.559 E        | 36.6        | 1.6 | 0.0  | 5          |
| W 252      |     | 30              | 04 15 08.4 | 41.183 S        | 174.536 E        | 41.8        | 2.6 | 0.0  | 6          |
| W 253      |     | 31              | 06 21 20.6 | 41.091 S        | 175.572 E        | 24.8        | 3.4 | 0.1  | 7          |
| W 254      |     | 31              | 07 03 30.8 | 41.733 S        | 174.504 E        | 34.5        | 3.1 | 0.0  | 5          |
| W 255      |     | 31              | 11 13 53.1 | 40.841 S        | 174.978 E        | 47.2        | 2.8 | 0.0  | 5          |
| W 256      |     | 31              | 15 06 22.0 | 41.450 S        | 175.004 E        | 24.7        | 2.2 | 0.0  | 6          |
| W 257      |     | 31              | 15 14 57.8 | 41.423 S        | 174.984 E        | 22.0        | 2.0 | 0.0  | 6          |
| W 258      |     | 31              | 15 15 25.1 | 41.498 S        | 174.911 E        | 25.3        | 1.8 | 0.0  | 5          |
| W 259      | AUG | 01              | 06 28 33.9 | 41.471 S        | 174.916 E        | 22.2        | 1.9 | 0.1  | 6          |
| W 260      |     | 01              | 11 25 25.0 | 41.446 S        | 175.006 E        | 24.6        | 1.9 | 0.0  | 5          |
| W 261      |     | 01              | 21 15 33.2 | 40.774 S        | 174.564 E        | 50.3        | 2.8 | 0.0  | 6          |
| W 262      |     | 01              | 21 49 25.7 | 41.098 S        | 174.223 E        | 39.2        | 2.8 | 0.0  | 6          |
| W 263      |     | 02              | 00 12 22.2 | 41.044 S        | 174.798 E        | 34.5        | 2.2 | 0.0  | 5          |
| W 264      |     | 02              | 06 17 58.4 | 41.777 S        | 174.540 E        | 34.3        | 2.4 | 0.0  | 5          |
| W 265      |     | 02              | 08 33 32.1 | 41.402 S        | 175.027 E        | 29.0        | 2.9 | 0.0  | 5          |
| W 266      |     | 02              | 08 56 02.7 | 41.405 S        | 175.025 E        | 31.9        | 1.8 | 0.0  | 5          |
| W 267      |     | 02              | 12 47 46.5 | 40.969 S        | 174.829 E        | 38.4        | 2.0 | 0.0  | 6          |
| W 268      |     | 03              | 01 43 25.6 | 41.578 S        | 174.447 E        | 23.4        | 2.3 | 0.0  | 5          |
| W 269      |     | 03              | 03 42 18.3 | 41.251 S        | 174.870 E        | 35.4        | 2.8 | 0.1  | 6          |
| W 270      |     | 03              | 10 13 51.0 | 41.772 S        | 174.459 E        | 35.5        | 2.5 | 0.0  | 5          |
| W 271      |     | 03              | 14 04 08.3 | 41.578 S        | 174.319 E        | 12.7        | 3.0 | 0.1  | 6          |
| W 272      |     | 05              | 14 08 07.6 | 41.815 S        | 174.524 E        | 39.7        | 4.2 | 0.1  | 6          |
| W 273      |     | 05              | 15 29 40.5 | 40.966 S        | 175.694 E        | 27.6        | 2.8 | 0.0  | 5          |
| W 274      |     | 07              | 23 20 48.6 | 41.249 S        | 174.861 E        | 31.4        | 1.9 | 0.0  | 5          |
| W 275      |     | 08              | 14 51 09.2 | 41.266 S        | 175.284 E        | 25.1        | 1.7 | 0.0  | 5          |
| W 276      |     | 08              | 19 45 47.4 | 41.220 S        | 174.603 E        | 13.9        | 2.0 | 0.0  | 5          |
| W 277      |     | 09              | 06 39 05.2 | 41.426 S        | 174.960 E        | 31.7        | 1.6 | 0.0  | 5          |
| W 278      |     | 09              | 07 18 02.0 | 41.290 S        | 175.004 E        | 26.3        | 1.7 | 0.0  | 5          |
| W 279      |     | 09              | 11 49 15.4 | 41.014 S        | 174.619 E        | 63.6        | 2.7 | 0.0  | 5          |
| W 280      |     | 09              | 15 55 04.4 | 41.014 S        | 174.552 E        | 76.7        | 2.7 | 0.0  | 5          |
| W 281      |     | 09              | 18 12 38.8 | 41.311 S        | 174.835 E        | 30.0        | 1.3 | 0.0  | 5          |
| W 282      |     | 09              | 23 30 29.3 | 41.213 S        | 175.408 E        | 22.9        | 2.3 | 0.0  | 5          |
| W 283      |     | 12              | 00 31 11.1 | 41.361 S        | 174.359 E        | 34.6        | 2.9 | 0.0  | 5          |
| W 284      |     | 16              | 12 43 18.1 | 41.027 S        | 174.517 E        | 55.0        | 2.2 | 0.1  | 6          |
| W 285      |     | 17              | 10 14 48.5 | 41.205 S        | 174.629 E        | 57.9        | 2.3 | 0.1  | 6          |
| W 286      |     | 17              | 13 50 52.8 | 41.568 S        | 174.323 E        | 20.4        | 2.0 | 0.1  | 6          |
| W 287      |     | 17              | 19 02 45.3 | 40.831 S        | 174.638 E        | 5.6         | 3.2 | 0.1  | 7          |
| W 288      |     | 18              | 05 28 17.1 | 41.368 S        | 175.084 E        | 31.1        | 2.0 | 0.0  | 5          |
| W 289      |     | 18              | 05 54 37.7 | 41.543 S        | 175.122 E        | 14.2        | 2.2 | 0.0  | 6          |
| W 290      |     | 18              | 08 04 38.9 | 40.954 S        | 174.830 E        | 50.7        | 2.2 | 0.0  | 5          |
| W 291      |     | 19              | 10 34 59.6 | 41.285 S        | 175.242 E        | 25.2        | 1.8 | 0.0  | 5          |
| W 292      |     | 19              | 17 16 09.9 | 40.872 S        | 175.283 E        | 31.2        | 2.6 | 0.1  | 6          |
| W 293      |     | 19              | 17 39 59.7 | 40.883 S        | 175.579 E        | 29.9        | 3.4 | 0.1  | 7          |
| W 294      |     | 19              | 18 00 53.6 | 40.905 S        | 175.535 E        | 30.0        | 2.6 | 0.1  | 7          |
| W 295      |     | 19              | 18 29 56.3 | 40.882 S        | 175.528 E        | 28.8        | 2.7 | 0.1  | 6          |
| W 296      |     | 19              | 19 25 02.2 | 41.314 S        | 174.907 E        | 22.4        | 1.2 | 0.0  | 5          |
| W 297      |     | 20              | 00 41 58.6 | 40.953 S        | 174.781 E        | 56.4        | 2.3 | 0.1  | 6          |
| W 298      |     | 20              | 07 25 52.6 | 40.899 S        | 174.126 E        | 53.4        | 2.6 | 0.0  | 6          |
| W 299      |     | 20              | 09 45 04.4 | 41.122 S        | 174.641 E        | 59.7        | 2.2 | 0.0  | 5          |
| W 300      |     | 20              | 17 28 31.3 | 41.821 S        | 174.873 E        | 12.5        | 2.4 | 0.0  | 6          |

| REF<br>NUM |     | ORIGIN<br>TIME | LATITUDE | LONGITUDE | DEPTH | MAG | S.E. | NUM<br>OBS |
|------------|-----|----------------|----------|-----------|-------|-----|------|------------|
|            |     | h m s          | deg      | deg       | km    |     |      |            |
| W 301      | AUG | 21 18 29 09.7  | 41.728 S | 174.464 E | 33.9  | 3.3 | 0.0  | 6          |
| W 302      |     | 21 19 53 57.0  | 41.083 S | 175.518 E | 32.5  | 2.4 | 0.1  | 6          |
| W 303      |     | 22 08 20 11.2  | 41.762 S | 174.085 E | 25.5  | 2.3 | 0.0  | 6          |
| W 304      |     | 22 10 27 16.1  | 41.102 S | 174.743 E | 58.4  | 2.2 | 0.0  | 5          |
| W 305      |     | 22 17 26 59.3  | 41.375 S | 174.148 E | 36.2  | 2.2 | 0.1  | 5          |
| W 306      |     | 23 17 12 37.3  | 40.835 S | 174.079 E | 20.0  | 2.7 | 0.7  | 6          |
| W 307      |     | 23 17 12 36.2  | 41.185 S | 173.916 E | 60.2  | 2.7 | 0.1  | 6          |
| W 308      |     | 24 01 55 04.2  | 41.157 S | 174.627 E | 35.3  | 2.0 | 0.0  | 6          |
| W 309      |     | 24 07 01 08.9  | 41.816 S | 174.478 E | 34.4  | 2.8 | 0.0  | 6          |
| W 310      |     | 24 13 08 49.3  | 41.724 S | 174.483 E | 34.3  | 2.3 | 0.0  | 6          |
| W 311      |     | 25 12 34 33.7  | 41.247 S | 174.861 E | 32.0  | 1.8 | 0.0  | 5          |
| W 312      |     | 25 19 41 20.3  | 41.132 S | 174.805 E | 51.5  | 2.5 | 0.1  | 7          |
| W 313      |     | 26 01 10 37.2  | 41.547 S | 174.415 E | 58.0  | 2.7 | 0.1  | 5          |
| W 314      |     | 27 05 59 45.8  | 41.136 S | 174.479 E | 71.8  | 2.6 | 0.2  | 5          |
| W 315      |     | 27 23 18 55.9  | 41.138 S | 174.547 E | 52.0  | 2.2 | 0.1  | 6          |
| W 316      |     | 27 23 36 32.0  | 40.689 S | 175.256 E | 52.0  | 2.6 | 0.1  | 7          |
| W 317      |     | 28 01 35 18.5  | 40.860 S | 174.712 E | 8.3   | 2.6 | 0.1  | 7          |
| W 318      |     | 28 08 53 34.9  | 40.833 S | 175.302 E | 36.1  | 2.7 | 0.1  | 7          |
| W 319      |     | 28 11 02 25.9  | 41.457 S | 174.493 E | 57.3  | 2.5 | 0.1  | 6          |
| W 320      |     | 29 13 22 36.6  | 41.261 S | 175.289 E | 17.8  | 3.4 | 0.0  | 7          |
| W 321      |     | 29 22 23 45.6  | 41.266 S | 175.285 E | 15.9  | 3.5 | 0.0  | 6          |
| W 322      |     | 30 20 49 35.1  | 41.444 S | 174.543 E | 28.9  | 2.3 | 0.1  | 5          |
| W 323      |     | 31 10 00 08.1  | 41.718 S | 174.540 E | 33.0  | 2.3 | 0.1  | 6          |
| W 324      |     | 31 19 52 34.0  | 41.310 S | 175.248 E | 20.6  | 1.9 | 0.0  | 6          |
| W 325      | SEP | 01 17 26 25.0  | 40.991 S | 174.923 E | 45.6  | 2.0 | 0.0  | 5          |
| W 326      |     | 01 22 28 43.1  | 41.510 S | 174.429 E | 21.2  | 2.1 | 0.1  | 6          |
| W 327      |     | 01 23 19 10.6  | 41.314 S | 175.000 E | 30.1  | 2.0 | 0.1  | 6          |
| W 328      |     | 04 03 15 22.9  | 41.396 S | 174.602 E | 31.0  | 1.3 | 0.1  | 6          |
| W 329      |     | 05 22 09 11.9  | 41.279 S | 175.150 E | 22.3  | 1.8 | 0.0  | 6          |
| W 330      |     | 06 13 59 48.7  | 41.371 S | 174.345 E | 61.1  | 2.5 | 0.1  | 7          |
| W 331      |     | 08 10 18 59.6  | 41.280 S | 174.640 E | 28.2  | 1.6 | 0.0  | 6          |
| W 332      |     | 09 02 35 56.2  | 41.318 S | 174.507 E | 55.8  | 3.4 | 0.0  | 6          |
| W 333      |     | 10 01 57 46.0  | 41.126 S | 174.730 E | 65.2  | 2.6 | 0.0  | 5          |
| W 334      |     | 11 05 04 50.5  | 41.051 S | 174.864 E | 34.7  | 2.2 | 0.1  | 7          |
| W 335      |     | 11 20 11 55.8  | 41.425 S | 175.100 E | 31.2  | 1.9 | 0.1  | 7          |
| W 336      |     | 12 04 03 37.7  | 40.895 S | 174.120 E | 52.5  | 2.7 | 0.1  | 5          |
| W 337      |     | 12 09 19 54.9  | 41.543 S | 174.477 E | 21.5  | 2.2 | 0.1  | 6          |
| W 338      |     | 12 17 16 59.0  | 41.461 S | 174.661 E | 27.6  | 1.6 | 0.1  | 6          |
| W 339      |     | 12 17 49 49.0  | 41.213 S | 175.493 E | 15.8  | 4.2 | 0.1  | 7          |
| W 340      |     | 12 18 09 17.5  | 41.208 S | 175.478 E | 17.8  | 2.4 | 0.1  | 6          |
| W 341      |     | 12 18 11 01.3  | 41.202 S | 175.484 E | 17.4  | 3.7 | 0.1  | 7          |
| W 342      |     | 12 18 36 07.2  | 41.216 S | 175.488 E | 15.1  | 2.7 | 0.1  | 7          |
| W 343      |     | 12 18 48 13.8  | 41.200 S | 175.461 E | 16.6  | 4.6 | 0.1  | 7          |
| W 344      |     | 12 20 40 21.4  | 41.206 S | 175.445 E | 14.7  | 2.4 | 0.1  | 7          |
| W 345      |     | 12 21 05 35.1  | 41.211 S | 175.406 E | 16.8  | 3.4 | 0.1  | 7          |
| W 346      |     | 13 11 32 18.6  | 41.205 S | 175.442 E | 19.0  | 2.4 | 0.1  | 6          |
| W 347      |     | 15 10 44 59.9  | 40.967 S | 174.678 E | 66.0  | 2.8 | 0.0  | 7          |
| W 348      |     | 19 05 37 51.4  | 41.698 S | 174.511 E | 34.8  | 2.6 | 0.0  | 6          |
| W 349      |     | 19 06 31 25.7  | 41.029 S | 174.738 E | 59.7  | 2.4 | 0.0  | 5          |
| W 350      |     | 20 01 16 03.6  | 41.303 S | 175.058 E | 28.3  | 2.0 | 0.0  | 6          |



| REF<br>NUM | ORIGIN | TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|--------|---------------|-----------------|------------------|-------------|-----|------|------------|
| W 351      | SEP    | 20 04 24 43.7 | 41.440 S        | 174.995 E        | 23.3        | 2.2 | 0.0  | 7          |
| W 352      |        | 20 11 25 18.4 | 41.012 S        | 174.618 E        | 44.1        | 2.5 | 0.1  | 7          |
| W 353      |        | 21 10 00 46.4 | 40.952 S        | 175.256 E        | 29.9        | 2.6 | 0.0  | 5          |
| W 354      |        | 22 08 06 37.7 | 41.173 S        | 174.500 E        | 37.2        | 2.2 | 0.0  | 6          |
| W 355      |        | 22 14 54 19.4 | 41.644 S        | 175.267 E        | 25.8        | 2.4 | 0.0  | 6          |
| W 356      |        | 23 15 06 12.8 | 41.478 S        | 174.681 E        | 20.6        | 2.2 | 0.1  | 6          |
| W 357      |        | 23 18 50 23.0 | 41.158 S        | 174.729 E        | 8.3         | 2.0 | 0.1  | 7          |
| W 358      |        | 23 20 08 42.3 | 40.729 S        | 174.843 E        | 60.8        | 3.0 | 0.1  | 7          |
| W 359      |        | 23 23 08 04.1 | 41.090 S        | 174.458 E        | 0.1         | 1.8 | 0.0  | 6          |
| W 360      |        | 24 06 02 36.7 | 41.142 S        | 174.448 E        | 39.9        | 2.2 | 0.0  | 6          |
| W 361      |        | 24 22 43 10.2 | 40.896 S        | 174.757 E        | 14.6        | 2.1 | 0.0  | 5          |
| W 362      |        | 25 14 33 34.1 | 41.130 S        | 174.433 E        | 57.5        | 2.7 | 0.0  | 6          |
| W 363      |        | 25 16 28 46.6 | 41.199 S        | 174.477 E        | 38.7        | 2.8 | 0.1  | 7          |
| W 364      |        | 25 21 37 31.6 | 41.181 S        | 174.451 E        | 38.5        | 2.2 | 0.1  | 7          |
| W 365      |        | 27 06 42 40.3 | 41.382 S        | 175.131 E        | 27.5        | 1.6 | 0.0  | 5          |
| W 366      |        | 27 16 10 38.5 | 41.549 S        | 174.644 E        | 46.8        | 2.5 | 0.1  | 6          |
| W 367      |        | 27 16 33 23.2 | 41.569 S        | 174.642 E        | 48.5        | 2.5 | 0.1  | 6          |
| W 368      |        | 28 09 10 17.3 | 41.038 S        | 174.398 E        | 68.0        | 3.0 | 0.1  | 6          |
| W 369      |        | 29 05 08 11.5 | 40.917 S        | 174.730 E        | 67.4        | 2.6 | 0.1  | 7          |
| W 370      |        | 29 12 05 16.1 | 41.096 S        | 174.605 E        | 47.1        | 2.4 | 0.2  | 6          |
| W 371      | OCT    | 01 05 38 32.2 | 41.655 S        | 174.645 E        | 32.8        | 2.4 | 0.1  | 7          |
| W 372      |        | 01 08 32 35.9 | 40.878 S        | 175.354 E        | 34.5        | 2.4 | 0.1  | 5          |
| W 373      |        | 01 09 23 09.5 | 41.747 S        | 174.467 E        | 34.8        | 2.6 | 0.1  | 6          |
| W 374      |        | 01 17 27 19.1 | 41.413 S        | 175.077 E        | 27.8        | 1.9 | 0.2  | 6          |
| W 375      |        | 01 17 39 18.5 | 41.404 S        | 175.059 E        | 28.5        | 1.9 | 0.1  | 6          |
| W 376      |        | 01 17 42 43.7 | 41.395 S        | 175.059 E        | 27.5        | 2.2 | 0.0  | 6          |
| W 377      |        | 01 19 00 59.4 | 41.497 S        | 174.608 E        | 53.5        | 2.2 | 0.1  | 5          |
| W 378      |        | 03 03 21 33.2 | 41.447 S        | 174.328 E        | 34.3        | 2.2 | 0.1  | 6          |
| W 379      |        | 04 07 36 27.0 | 41.275 S        | 175.220 E        | 27.6        | 2.0 | 0.1  | 5          |
| W 380      |        | 04 14 14 17.9 | 40.786 S        | 175.388 E        | 33.4        | 2.9 | 0.1  | 6          |
| W 381      |        | 05 05 56 55.6 | 41.062 S        | 175.083 E        | 31.0        | 2.2 | 0.1  | 5          |
| W 382      |        | 06 00 57 18.8 | 40.958 S        | 174.602 E        | 62.9        | 2.4 | 0.0  | 5          |
| W 383      |        | 06 06 03 54.0 | 41.174 S        | 175.169 E        | 33.8        | 2.5 | 0.1  | 5          |
| W 384      |        | 07 07 47 28.6 | 41.792 S        | 174.486 E        | 33.8        | 2.6 | 0.1  | 6          |
| W 385      |        | 07 08 52 11.5 | 41.282 S        | 175.324 E        | 25.6        | 1.9 | 0.0  | 5          |
| W 386      |        | 07 11 36 23.8 | 41.467 S        | 174.642 E        | 32.0        | 2.3 | 0.0  | 6          |
| W 387      |        | 07 11 42 04.8 | 41.740 S        | 174.460 E        | 34.4        | 2.4 | 0.1  | 6          |
| W 388      |        | 08 20 32 18.4 | 41.712 S        | 174.441 E        | 33.3        | 2.0 | 0.2  | 6          |
| W 389      |        | 09 05 19 21.4 | 40.872 S        | 174.536 E        | 68.3        | 3.8 | 0.0  | 7          |
| W 390      |        | 09 07 59 52.2 | 41.248 S        | 175.394 E        | 9.9         | 2.1 | 0.1  | 6          |
| W 391      |        | 09 15 38 43.7 | 41.331 S        | 174.802 E        | 29.1        | 1.5 | 0.0  | 6          |
| W 392      |        | 10 16 42 15.2 | 41.664 S        | 174.561 E        | 31.8        | 2.5 | 0.0  | 6          |
| W 393      |        | 10 19 08 11.8 | 41.042 S        | 175.573 E        | 31.3        | 3.0 | 0.1  | 6          |
| W 394      |        | 12 19 57 43.1 | 41.557 S        | 174.586 E        | 16.0        | 1.8 | 0.1  | 6          |
| W 395      |        | 13 05 42 21.7 | 41.001 S        | 174.727 E        | 72.6        | 3.1 | 0.0  | 6          |
| W 396      |        | 13 20 33 43.6 | 41.752 S        | 174.477 E        | 34.9        | 3.0 | 0.1  | 6          |
| W 397      |        | 14 00 30 46.6 | 41.172 S        | 175.106 E        | 27.6        | 2.2 | 0.1  | 7          |
| W 398      |        | 14 05 28 03.7 | 41.174 S        | 175.369 E        | 24.3        | 2.4 | 0.1  | 7          |
| W 399      |        | 15 15 16 25.1 | 41.007 S        | 174.746 E        | 30.8        | 2.0 | 0.1  | 5          |
| W 400      |        | 15 18 38 23.2 | 40.862 S        | 174.730 E        | 12.4        | 2.1 | 0.0  | 6          |



| REF<br>NUM |     | ORIGIN TIME<br>h m s | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----|----------------------|-----------------|------------------|-------------|-----|------|------------|
| W 401      | OCT | 16 08 52 06.5        | 41.798 S        | 174.490 E        | 34.2        | 2.5 | 0.0  | 5          |
| W 402      |     | 16 08 55 27.8        | 41.695 S        | 174.463 E        | 34.3        | 2.5 | 0.0  | 5          |
| W 403      |     | 16 13 58 58.1        | 41.050 S        | 174.850 E        | 62.1        | 2.5 | 0.1  | 5          |
| W 404      |     | 17 06 00 55.2        | 41.011 S        | 174.749 E        | 28.9        | 1.9 | 0.1  | 6          |
| W 405      |     | 18 02 36 45.2        | 41.131 S        | 174.807 E        | 31.7        | 2.2 | 0.1  | 7          |
| W 406      |     | 18 23 39 09.8        | 41.237 S        | 175.345 E        | 29.0        | 2.0 | 0.1  | 5          |
| W 407      |     | 19 09 41 52.6        | 41.280 S        | 175.264 E        | 25.5        | 2.3 | 0.1  | 6          |
| W 408      |     | 20 08 52 44.8        | 41.713 S        | 174.297 E        | 21.0        | 2.2 | 0.2  | 6          |
| W 409      |     | 20 12 13 50.4        | 41.466 S        | 175.319 E        | 10.5        | 2.2 | 0.1  | 6          |
| W 410      |     | 20 12 35 46.7        | 41.464 S        | 175.309 E        | 2.0         | 2.2 | 0.0  | 6          |
| W 411      |     | 20 20 24 51.9        | 41.475 S        | 175.342 E        | 10.9        | 2.2 | 0.0  | 5          |
| W 412      |     | 20 20 27 36.2        | 41.220 S        | 174.450 E        | 56.3        | 2.3 | 0.2  | 6          |
| W 413      |     | 20 23 35 49.4        | 41.680 S        | 174.342 E        | 12.1        | 2.4 | 0.2  | 5          |
| W 414      |     | 21 14 57 19.2        | 41.098 S        | 174.421 E        | 36.1        | 2.1 | 0.0  | 5          |
| W 415      |     | 21 18 35 16.6        | 41.208 S        | 174.562 E        | 37.1        | 1.9 | 0.1  | 7          |
| W 416      |     | 21 20 50 42.1        | 41.723 S        | 174.479 E        | 34.3        | 2.4 | 0.1  | 6          |
| W 417      |     | 21 23 13 28.0        | 41.035 S        | 174.716 E        | 64.4        | 3.1 | 0.1  | 6          |
| W 418      |     | 22 13 13 51.3        | 41.086 S        | 174.919 E        | 40.2        | 2.2 | 0.2  | 5          |
| W 419      |     | 22 14 08 59.3        | 41.654 S        | 174.267 E        | 28.1        | 2.3 | 0.2  | 6          |
| W 420      |     | 24 18 34 14.7        | 40.743 S        | 174.653 E        | 38.4        | 2.6 | 0.1  | 6          |
| W 421      |     | 24 23 50 04.6        | 41.686 S        | 174.298 E        | 19.4        | 2.6 | 0.1  | 5          |
| W 422      |     | 25 03 13 16.6        | 41.068 S        | 174.737 E        | 32.4        | 1.9 | 0.1  | 5          |
| W 423      |     | 25 09 09 51.7        | 41.308 S        | 174.147 E        | 38.8        | 2.2 | 0.1  | 5          |
| W 424      |     | 26 20 46 34.7        | 41.034 S        | 174.126 E        | 59.2        | 4.1 | 0.1  | 6          |
| W 425      |     | 27 07 20 12.5        | 41.108 S        | 175.187 E        | 25.1        | 1.6 | 0.1  | 5          |
| W 426      |     | 27 23 22 51.7        | 41.116 S        | 174.567 E        | 40.7        | 2.6 | 0.1  | 6          |
| W 427      |     | 28 02 26 43.2        | 41.130 S        | 174.566 E        | 44.5        | 3.5 | 0.2  | 6          |
| W 428      |     | 28 05 40 47.9        | 41.798 S        | 174.491 E        | 33.2        | 2.7 | 0.0  | 7          |
| W 429      |     | 30 02 35 45.3        | 41.675 S        | 174.751 E        | 28.1        | 2.3 | 0.1  | 5          |
| W 430      |     | 30 03 52 39.4        | 40.939 S        | 174.688 E        | 53.1        | 2.3 | 0.0  | 5          |
| W 431      |     | 30 06 05 32.1        | 41.022 S        | 174.641 E        | 68.6        | 2.6 | 0.1  | 6          |
| W 432      |     | 30 23 27 27.4        | 41.531 S        | 174.754 E        | 20.8        | 2.2 | 0.1  | 6          |
| W 433      |     | 31 03 31 34.0        | 41.106 S        | 174.742 E        | 53.3        | 2.8 | 0.1  | 6          |
| W 434      |     | 31 08 30 35.5        | 40.899 S        | 174.373 E        | 58.0        | 2.6 | 0.2  | 6          |
| W 435      |     | 31 16 40 37.9        | 41.762 S        | 174.467 E        | 32.6        | 2.4 | 0.1  | 5          |
| W 436      | NOV | 01 05 20 15.4        | 40.892 S        | 174.797 E        | 48.8        | 3.7 | 0.0  | 6          |
| W 437      |     | 01 12 08 42.9        | 41.291 S        | 174.490 E        | 32.1        | 1.5 | 0.1  | 5          |
| W 438      |     | 02 02 14 36.2        | 40.796 S        | 174.755 E        | 45.5        | 2.7 | 0.0  | 6          |
| W 439      |     | 02 02 43 32.8        | 41.630 S        | 174.647 E        | 29.6        | 2.4 | 0.0  | 6          |
| W 440      |     | 02 14 18 35.9        | 40.777 S        | 174.764 E        | 46.3        | 2.7 | 0.1  | 6          |
| W 441      |     | 03 04 10 28.5        | 41.120 S        | 174.689 E        | 33.3        | 2.3 | 0.1  | 5          |
| W 442      |     | 04 04 53 56.5        | 40.919 S        | 174.852 E        | 54.5        | 2.6 | 0.0  | 5          |
| W 443      |     | 04 14 58 58.3        | 41.021 S        | 175.491 E        | 16.1        | 2.8 | 0.1  | 6          |
| W 444      |     | 04 17 45 56.9        | 41.016 S        | 174.449 E        | 68.2        | 2.6 | 0.1  | 5          |
| W 445      |     | 05 22 04 06.0        | 41.212 S        | 174.581 E        | 57.1        | 2.7 | 0.2  | 5          |
| W 446      |     | 06 12 40 54.5        | 41.000 S        | 174.540 E        | 53.9        | 2.5 | 0.1  | 5          |
| W 447      |     | 07 11 31 30.8        | 41.207 S        | 174.791 E        | 34.5        | 2.0 | 0.1  | 5          |
| W 448      |     | 08 00 02 43.5        | 41.340 S        | 174.380 E        | 35.7        | 2.3 | 0.0  | 5          |
| W 449      |     | 10 02 04 13.0        | 41.735 S        | 175.011 E        | 25.1        | 4.0 | 0.0  | 6          |
| W 450      |     | 10 03 25 52.5        | 41.731 S        | 175.025 E        | 22.0        | 2.4 | 0.1  | 10         |

| REF<br>NUM | ORIGIN<br>h m s | TIME       | LATITUDE<br>deg | LONGITUDE<br>deg | DEPTH<br>km | MAG | S.E. | NUM<br>OBS |
|------------|-----------------|------------|-----------------|------------------|-------------|-----|------|------------|
| W 451 NOV  | 10              | 05 30 56.3 | 41.728 S        | 175.044 E        | 23.7        | 2.4 | 0.2  | 6          |
| W 452      | 10              | 13 32 30.7 | 41.200 S        | 175.308 E        | 25.8        | 2.1 | 0.1  | 8          |
| W 453      | 10              | 20 28 23.3 | 41.175 S        | 174.955 E        | 2.9         | 1.0 | 0.1  | 5          |
| W 454      | 12              | 00 33 22.7 | 41.173 S        | 175.118 E        | 7.4         | 1.9 | 0.1  | 7          |
| W 455      | 12              | 00 43 41.1 | 40.866 S        | 174.715 E        | 12.9        | 1.9 | 0.0  | 5          |
| W 456      | 12              | 07 33 40.9 | 41.083 S        | 174.870 E        | 61.6        | 2.6 | 0.1  | 7          |
| W 457      | 12              | 09 41 21.7 | 41.619 S        | 174.305 E        | 25.5        | 2.4 | 0.2  | 7          |
| W 458      | 12              | 12 45 15.7 | 41.390 S        | 175.022 E        | 27.5        | 2.0 | 0.0  | 6          |
| W 459      | 12              | 21 41 17.5 | 41.188 S        | 174.984 E        | 20.1        | 1.3 | 0.0  | 6          |
| W 460      | 13              | 00 07 51.6 | 40.997 S        | 175.409 E        | 24.4        | 2.8 | 0.1  | 6          |
| W 461      | 13              | 23 36 50.2 | 41.278 S        | 175.134 E        | 25.3        | 1.6 | 0.1  | 5          |
| W 462      | 14              | 08 15 18.5 | 40.940 S        | 174.604 E        | 30.7        | 1.9 | 0.1  | 5          |
| W 463      | 14              | 08 57 10.2 | 41.337 S        | 174.985 E        | 30.6        | 1.9 | 0.1  | 5          |
| W 464      | 16              | 06 46 26.7 | 41.335 S        | 174.577 E        | 32.8        | 1.8 | 0.1  | 6          |
| W 465      | 16              | 13 15 16.9 | 41.333 S        | 174.790 E        | 29.0        | 1.5 | 0.1  | 6          |
| W 466      | 18              | 09 16 51.3 | 40.915 S        | 175.042 E        | 46.9        | 2.4 | 0.0  | 5          |
| W 467      | 18              | 15 13 39.8 | 40.781 S        | 174.733 E        | 24.0        | 2.6 | 0.1  | 7          |
| W 468      | 19              | 09 00 52.7 | 41.355 S        | 174.836 E        | 29.7        | 2.0 | 0.0  | 5          |
| W 469      | 21              | 07 47 46.9 | 41.308 S        | 175.012 E        | 30.1        | 1.7 | 0.1  | 6          |
| W 470      | 21              | 07 52 36.2 | 41.848 S        | 174.775 E        | 32.6        | 2.7 | 0.0  | 6          |
| W 471      | 21              | 12 15 10.3 | 41.352 S        | 174.724 E        | 29.9        | 1.9 | 0.1  | 5          |
| W 472      | 21              | 21 25 23.7 | 41.072 S        | 175.584 E        | 29.1        | 2.8 | 0.0  | 6          |
| W 473      | 22              | 13 13 47.8 | 41.721 S        | 174.581 E        | 35.9        | 4.0 | 0.1  | 5          |
| W 474      | 23              | 09 20 52.0 | 41.002 S        | 175.434 E        | 31.4        | 2.7 | 0.2  | 5          |
| W 475      | 24              | 11 59 41.6 | 41.278 S        | 175.311 E        | 32.8        | 2.6 | 0.2  | 7          |
| W 476      | 26              | 00 53 39.2 | 41.240 S        | 175.095 E        | 7.3         | 1.5 | 0.1  | 8          |
| W 477      | 26              | 19 19 08.3 | 41.374 S        | 175.122 E        | 28.0        | 2.2 | 0.1  | 9          |
| W 478      | 27              | 00 08 41.5 | 41.219 S        | 174.468 E        | 37.7        | 2.1 | 0.2  | 5          |
| W 479      | 28              | 11 26 18.7 | 41.227 S        | 174.395 E        | 35.5        | 2.4 | 0.1  | 6          |
| W 480      | 28              | 23 34 50.2 | 41.240 S        | 175.060 E        | 21.0        | 1.5 | 0.1  | 6          |
| W 481      | 30              | 01 25 51.3 | 41.742 S        | 174.486 E        | 34.1        | 3.1 | 0.2  | 7          |
| W 482      | 30              | 05 18 04.2 | 41.386 S        | 174.865 E        | 31.8        | 1.8 | 0.1  | 7          |
| W 483 DEC  | 02              | 21 59 24.3 | 41.026 S        | 174.145 E        | 57.9        | 2.9 | 0.2  | 7          |
| W 484      | 02              | 22 00 31.3 | 40.811 S        | 174.691 E        | 15.9        | 2.3 | 0.0  | 5          |
| W 485      | 02              | 23 34 35.1 | 41.688 S        | 174.762 E        | 24.6        | 2.4 | 0.1  | 5          |
| W 486      | 03              | 11 47 42.6 | 41.349 S        | 174.524 E        | 28.9        | 1.6 | 0.1  | 6          |
| W 487      | 03              | 11 54 04.4 | 41.402 S        | 175.165 E        | 29.7        | 2.0 | 0.0  | 5          |
| W 488      | 04              | 19 18 10.6 | 41.310 S        | 175.039 E        | 29.3        | 1.8 | 0.1  | 7          |
| W 489      | 06              | 09 58 42.8 | 41.051 S        | 174.853 E        | 33.0        | 2.3 | 0.0  | 5          |
| W 490      | 06              | 20 18 36.7 | 40.872 S        | 174.662 E        | 57.1        | 2.5 | 0.1  | 5          |
| W 491      | 08              | 03 39 54.9 | 40.887 S        | 174.984 E        | 46.3        | 2.9 | 0.1  | 6          |
| W 492      | 09              | 02 41 31.8 | 41.363 S        | 175.132 E        | 28.9        | 2.2 | 0.1  | 7          |
| W 493      | 11              | 10 34 26.7 | 41.289 S        | 174.518 E        | 45.6        | 2.1 | 0.0  | 6          |
| W 494      | 11              | 13 27 49.1 | 41.581 S        | 175.206 E        | 26.7        | 2.4 | 0.2  | 6          |
| W 495      | 12              | 23 19 51.8 | 41.131 S        | 175.480 E        | 32.5        | 2.7 | 0.2  | 6          |
| W 496      | 16              | 16 05 00.5 | 41.410 S        | 174.949 E        | 30.9        | 1.9 | 0.5  | 6          |
| W 497      | 17              | 07 24 03.6 | 41.416 S        | 175.165 E        | 23.9        | 1.9 | 0.0  | 5          |
| W 498      | 17              | 09 37 12.7 | 41.222 S        | 175.385 E        | 15.0        | 2.2 | 0.1  | 6          |
| W 499      | 19              | 11 22 37.3 | 40.911 S        | 175.583 E        | 18.9        | 3.3 | 0.1  | 6          |
| W 500      | 20              | 21 11 59.8 | 41.098 S        | 175.420 E        | 27.7        | 2.7 | 0.2  | 6          |

| REF<br>NUM |     | ORIGIN TIME |    |    | LATITUDE | LONGITUDE | DEPTH     | MAG  | S.E. | NUM<br>OBS |   |
|------------|-----|-------------|----|----|----------|-----------|-----------|------|------|------------|---|
|            |     | h           | m  | s  | deg      | deg       | km        |      |      |            |   |
| W 501      | DEC | 21          | 10 | 19 | 16.1     | 40.980 S  | 174.655 E | 62.4 | 4.0  | 0.1        | 6 |
| W 502      |     | 21          | 13 | 26 | 25.0     | 41.579 S  | 174.224 E | 10.0 | 2.2  | 0.1        | 5 |
| W 503      |     | 24          | 20 | 26 | 29.5     | 41.131 S  | 174.601 E | 65.2 | 2.5  | 0.2        | 6 |
| W 504      |     | 25          | 18 | 17 | 51.1     | 41.121 S  | 174.077 E | 68.7 | 3.8  | 0.1        | 8 |
| W 505      |     | 25          | 19 | 47 | 28.9     | 41.210 S  | 175.343 E | 31.9 | 2.5  | 0.1        | 6 |
| W 506      |     | 25          | 22 | 47 | 53.8     | 41.469 S  | 174.370 E | 0.0  | 1.9  | ND         | 5 |
| W 507      |     | 26          | 00 | 08 | 44.1     | 41.325 S  | 175.182 E | 27.1 | 2.0  | 0.1        | 6 |
| W 508      |     | 26          | 05 | 00 | 58.5     | 41.019 S  | 174.816 E | 58.5 | 2.5  | 0.1        | 5 |
| W 509      |     | 26          | 09 | 18 | 46.3     | 41.688 S  | 174.634 E | 30.9 | 2.2  | 0.1        | 6 |



# NON-INSTRUMENTAL DATA

## THE FELT REPORTING SYSTEM

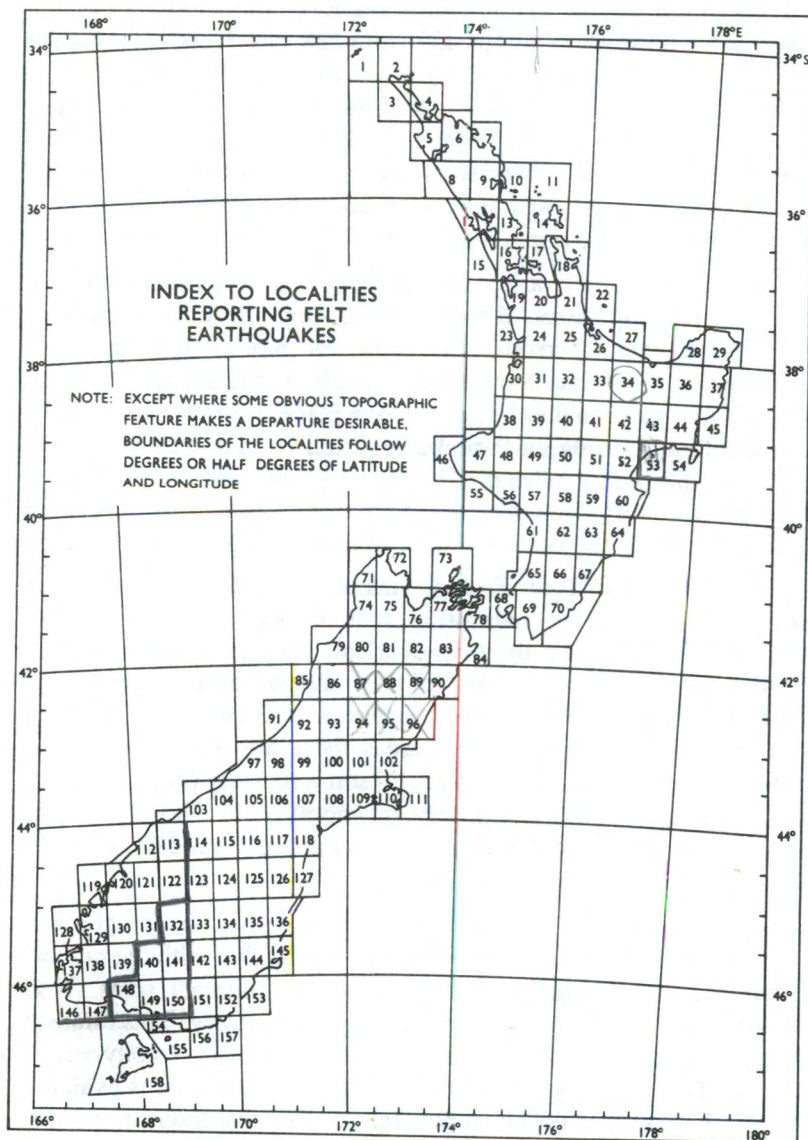
In addition to the instrumental network, the Observatory has organised a network of about 400 voluntary observers covering the country, who use a standard form to describe the effects of any earthquake they feel. The Observatory also receives many unsolicited reports from meteorological observers, radio and newspaper reporters, postmasters and members of the local public. In the case of large earthquakes or ones that present features of special interest, questionnaires are issued to the district visited.

Several difficulties arise in assessing the distribution of felt intensity. The population of the country is very unevenly distributed, and the observer's personal circumstances may prevent him from feeling a shock that has been noticed by others. Similar shortcomings affect lists of earthquakes felt at any one place. It may reasonably be assumed that a strong earthquake reported from one township was felt in another a few miles distant, even though the Observatory has received no report. However, an index of this kind must summarise the data and not the deductions, so the following scheme is used.

The land area of New Zealand has been divided into numbered rectangles, with sides measuring half a degree of latitude or longitude, as shown on the map overleaf. Each rectangle is given a number and a name, usually that of the principal centre of population within it. These areas are termed 'localities' and the names are listed on the following page. In most areas there are at least two well-separated reporters, but there are still some sparsely populated parts of the country without observers, notably in Fiordland, the mountainous parts of Southland, and on the boundary between Nelson and Marlborough.

The first section of the index gives the names of the actual places from which each earthquake was reported, together with the number of the locality. Intensities on the Modified Mercalli scale (N.Z. version, 1965) have been assigned at the Observatory. This intensity scale is set out in the *N.Z. Journal of Geology and Geophysics*, 9: 122-9 (1966). A query (?) indicates that no information is available beyond the fact that the shock was felt, or that the description is too imprecise to allow an intensity to be assigned.





In the second section, localities reporting shocks during the year are listed in alphabetical order, followed by the number of the shock in the list of origins and the maximum intensity reported within that locality. By comparing the reports in neighbouring localities, it is possible to form a truer estimate of the incidence of felt earthquakes than would be possible from a simple list of places reporting each shock.

Finally, reported shocks that cannot be confirmed, and reports from places in the south-west Pacific not collected elsewhere are listed.

## STANDARD REPORTING LOCALITIES

|                     |                     |                    |                     |
|---------------------|---------------------|--------------------|---------------------|
| 1 Three Kings       | 41 Taupo            | 81 Glenhope        | 121 Glenorchy       |
| 2 Te Reinga         | 42 Te Whaiti        | 82 Wairau          | 122 Arrowtown       |
| 3 Ninety Mile Beach | 43 Tuai             | 83 Awatere         | 123 Wanaka          |
| 4 Doubtless Bay     | 44 Whakapunaki      | 84 Cape Campbell   | 124 St Bathans      |
| 5 Kaitaia           | 45 Gisborne         | 85 Greymouth       | 125 Kurow           |
| 6 Kaikohe           | 46 Cape Egmont      | 86 Reefton         | 126 Duntroon        |
| 7 Bay of Islands    | 47 New Plymouth     | 87 Maruia          | 127 Waimate         |
| 8 Dargaville        | 48 Whangamomona     | 88 Hanmer          | 128 Secretary Is.   |
| 9 Whangarei         | 49 Ohakune          | 89 Clarence        | 129 Doubtful Sound  |
| 10 Bream Head       | 50 Chateau          | 90 Kaikoura        | 130 Te Anau         |
| 11 Moko Hinau       | 51 Kaweka           | 91 Hokitika        | 131 Livingstone Mts |
| 12 Kaipara          | 52 Napier           | 92 Kumara          | 132 Kingston        |
| 13 Warkworth        | 53 Wairoa           | 93 Arthur's Pass   | 133 Alexandra       |
| 14 Barrier Islands  | 54 Mahia            | 94 Lake Sumner     | 134 Poolburn        |
| 15 Helensville      | 55 Hawera           | 95 Culverden       | 135 Ranfurly        |
| 16 Auckland         | 56 Waverley         | 96 Cheviot         | 136 Oamaru          |
| 17 Waiheke          | 57 Wanganui         | 97 Franz Josef     | 137 Resolution Is.  |
| 18 Coromandel       | 58 Taihape          | 98 Hari Hari       | 138 Pillars Pass    |
| 19 Pukekohe         | 59 Ruahine          | 99 Whitcombe Pass  | 139 Monowai         |
| 20 Mercer           | 60 Hastings         | 100 Lake Coleridge | 140 Mossburn        |
| 21 Thames           | 61 Bulls            | 101 Oxford         | 141 Waikaiti        |
| 22 Mayor Is.        | 62 Palmerston North | 102 Rangiora       | 142 Roxburgh        |
| 23 Raglan           | 63 Dannevirke       | 103 Haast          | 143 Lawrence        |
| 24 Hamilton         | 64 Porangahau       | 104 Bruce Bay      | 144 Outram          |
| 25 Matamata         | 65 Otaki            | 105 Mount Cook     | 145 Dunedin         |
| 26 Tauranga         | 66 Masterton        | 106 Tekapo         | 146 Puysegur Point  |
| 27 Whakatane        | 67 Castlepoint      | 107 Mount Somers   | 147 Poterterere     |
| 28 Te Kaha          | 68 Wellington       | 108 Ashburton      | 148 Tuatapere       |
| 29 East Cape        | 69 Featherston      | 109 Rakaia         | 149 Invercargill    |
| 30 Kawhia           | 70 Martinborough    | 110 Christchurch   | 150 Gore            |
| 31 Te Kuiti         | 71 Mount Stevens    | 111 Akaroa         | 151 Clinton         |
| 32 Tokoroa          | 72 Takaka           | 112 Big Bay        | 152 Balclutha       |
| 33 Rotorua          | 73 D'Urville Is.    | 113 Jackson's Bay  | 153 Waiholo         |
| 34 Murupara         | 74 Karamea          | 114 Makarora       | 154 Bluff           |
| 35 Opotiki          | 75 Motueka          | 115 Lake Ohau      | 155 Ruapuke         |
| 36 Motu             | 76 Nelson           | 116 Pukaki         | 156 Tahakopa        |
| 37 Tolaga Bay       | 77 Blenheim         | 117 Fairlie        | 157 Owaka           |
| 38 Mokau            | 78 Picton           | 118 Timaru         | 158 Stewart Is.     |
| 39 Taumarunui       | 79 Westport         | 119 George Sound   | 159 Chatham Islands |
| 40 Tokaanu          | 80 Murchison        | 120 Milford        |                     |

## PLACES REPORTING FELT EARTHQUAKES

- 77/4 Jan 2 05h 50m  
MM 4 Moawhango (58); Palmerston North (62); Tataramoa (63).
- 77/11 Jan 5 17h 07m  
MM 4 Ashburton (108).
- 77/13 Jan 6 03h 07m  
MM 3 Patoka (58).
- 77/18 Jan 11 02h 43m  
MM 4 Eastbourne, Kelburn, Wainuiomata, York Bay (68);  
? Karori, Paremata (68).
- 77/23 Jan 15 02h 38m  
MM 4 Rotorua (33).
- 77/24 Jan 15 02h 46m  
MM 4 Arapito (74); Cobb River (75);  
? Bainham (75).
- 77/25 Jan 15 03h 02m  
MM 5 Napier (52);  
MM 4 Patoka (52).
- 77/26 Jan 16 00h 42m  
MM 4 Murchison (80).
- 77/27 Jan 16 00h 44m  
MM 4 Murchison (80).
- 77/28 Jan 18 05h 41m (See Isoseismal Map)  
MM 7 The Brothers (78);  
MM 6 Karori, Thorndon, Wellington (68);  
MM 5 Palmerston North (62); Levin, Waikawa Beach (65);  
Avalon, Baring Head, Eastbourne, Kelburn, Khandallah,  
Lower Hutt, Tawa, Whitby, York Bay (68); Pukeo,  
Waiorongomai (69); Te Wharau (70); Farewell Spit (72);  
Nelson (76); Blenheim, Havelock (77); Hanmer Springs  
(88);  
MM 4 Awakino (38); Stratford (47); Hawera (55); Ngamatapouri  
(56); Okoia (57); Table Flat (58); Eketahuna, Masterton  
(66); Eastbourne, Northland, Tawa (68); Collingwood  
(72); Arapito (74); Cobb River (75); Fighting Bay,  
Waitaria Bay (78); Mangles Valley, Murchison (80); Red  
Gate (81); Fabians Valley, Wairau Valley (83); Lewis  
Pass, Maruia (87); Molesworth (89); Ross (91); Motunau  
(96); Lake Coleridge (100); Ashburton (108); Christchurch  
(110); Akaroa, Le Bon's Bay (111);  
MM 3 Waipawa (60);  
'strong' Taumarunui (39); Purunui (66);  
'moderate' Wellington Airport (68);  
'slight' Mahia Beach (54); Nelson (76);



- ? New Plymouth (47); Wanganui (57); Kairanga (61); Palmerston North (62); Levin (65); Castlepoint (67); Karori, Kelburn, Porirua, Stokes Valley (68); Woodside (69); East Taratahi (70); Bainham (72); Riwaka (75); Appleby, Nelson (76); Ocean Bay, Picton (78); Birch Hill, Middlehurst (82), Kekerangu (90); Christchurch, Gebbies Pass, Lyttelton, Mount Pleasant (110); Eastwood (111).
- 77/29 Jan 18 09h 37m  
MM 4 Avalon, Eastbourne, Khandallah, Lower Hutt, Northland, York Bay (68); Waitaria Bay (78);  
MM 3 Eastbourne (68);  
? Eastbourne, Karori, Kelburn, Porirua, Stokes Valley, Wellington (68); Fighting Bay (78).
- 77/30 Jan 18 17h 01m  
MM 3 Lower Hutt (68).
- 77/31 Jan 18 22h 43m  
MM 4 Opotiki (35); Khandallah (68);  
? Whakatane (27); Gisborne (45); Wellington (68).
- 77/43 Jan 27 10h 18m  
MM 4 Waipawa (60).
- 77/53 Jan 31 17h 43m  
? Queenstown (132).
- 77/56 Feb 1 08h 40m  
MM 3 Gisborne (45).
- 77/60 Feb 2 01h 11m  
MM 4 Parapara Okeore, Wanganui (57);  
? Okoia, Wanganui (57).
- 77/62 Feb 2 22h 34m  
MM 5 Okoia, Wanganui (57);  
MM 4 Hawera (55); Parapara Okeore (57); Hunterville, Taihape (58); Foxton (61); Palmerston North (62); Naenae (68);  
MM 3 Kelburn (68);  
? Waiouru (50); Ohakea (61); Kelburn (68).
- 77/68 Feb 5 13h 15m  
MM 4 Ormond (44); Gisborne (45).
- 77/71 Feb 6 15h 16m  
MM 4 Island Bay, Khandallah, Newlands, Taita, Titahi Bay (68);  
MM 3 Wellington (68);  
? Abel Tasman National Park (72).
- 77/93 Feb 18 05h 20m  
MM 4 Purangi (48).
- 77/99 Feb 22 07h 42m  
MM 4 Purangi (48).
- 77/100 Feb 22 07h 51m  
MM 4 Purangi (48).
- 77/101 Feb 22 08h 42m  
MM 4 Purangi (48).



- 77/103 Feb 22 15h 57m  
MM 4 Purangi (48).
- 77/112 Mar 1 07h 46m  
MM 4 Ongaonga (59); Mount Vernon, Waipawa (60).
- 77/116 Mar 5 02h 52m  
'strong' Wairakei (41).
- 77/118 Mar 5 09h 55m  
MM 3 Ormond (44).
- 77/132 Mar 9 02h 33m  
MM 4 Otira (93).
- 77/142 Mar 14 12h 31m  
MM 5 Tawa (68);  
MM 4 Okoia, Parapara Okeore, Wanganui (57); Hunterville,  
Table Flat, Taihape (58); Mount Vernon, Waipawa (60);  
Tataramoa (63); Alpha Hut (65); Eketahuna (66);  
Eastbourne, Wainuiomata, York Bay (68); Collingwood  
(72).  
MM 3 Palmerston North (62); Thorndon (68);  
? Kairanga (61); Mangamutu (62); Dannevirke (63);  
Christchurch (110).
- 77/143 Mar 14 18h 31m  
MM 4 Collingwood (72); Cobb River (75);  
? Cobb Dam (75).
- 77/151 Mar 20 10h 46m  
MM 5 Haast (103);  
MM 4 Glenorchy (121).
- 77/152 Mar 21 00h 42m (Quarry Blast).  
? Khandallah (68).
- 77/155 Mar 22 02h 23m  
MM 4 Tourerere (63);  
MM 3 Wellington (68);  
? Lower Hutt (68).
- 77/160 Mar 24 15h 51m  
MM 4 Mountain House (47).
- 77/161 Mar 24 16h 14m  
? Kawerau (34).
- 77/162 Mar 24 16h 45m  
? Kawerau (34).
- 77/170 Mar 28 14h 13m  
? Ngangiho (33), Wairakei (41).
- 77/180 Apr 4 09h 53m  
MM 4 Ngamatapouri (56); Palmerston North (62); Avalon,  
Karori, Khandallah, Pukerua Bay (68);  
MM 3 Patoka (52); Waikawa Beach (65); Eastbourne, Lower  
Hutt, Pukerua Bay, Tawa, Whitby, York Bay (68);

- 'slight' Kelburn (68);  
? Levin (65); Karori, Porirua, Stokes Valley, Waterloo, Wellington (68); Blenheim (77).
- 77/185 Apr 7 01h 23m  
MM 4 Purangi (48).
- 77/194 Apr 12 09h 08m  
MM 5 Purangi (48); Ohakune (49); Hawera, Normanby (55); Parapara Okeore (57);  
MM 4 Mountain House (47); Okoia, Wanganui (57); Waikawa Beach (65); Stokes Valley (68);  
MM 3 Tapuwae (39); Avalon, Karori, Pukerua Bay (68); Collingwood (72); The Brothers (78);  
? Mahoenui (38); Taumarunui (39); New Plymouth (47); Waiouru (50); Levin (65); Lower Hutt, Miramar, Karori (68).
- 77/198 Apr 13 17h 44m  
MM 3 Lower Hutt (68).
- 77/205 Apr 18 01h 54m  
MM 5 Mahitahi (104).
- 77/207 Apr 18 23h 25m  
? Maraenui (28).
- 77/208 Apr 19 02h 13m  
? Maraenui (28).
- 77/222 Apr 24 01h 49m  
MM 4 Mountain House (47); Purangi (48); Ohakune (49); Hawera (55); Ngamatapouri (56); Wanganui (57); Palmerston North (62); Tataramoa (63); Avalon, Eastbourne, Khandallah, Pukerua Bay, York Bay (68); Belvedere (70); Nelson (76); Blenheim (77); Motunau (95);  
MM 3 Waikawa Beach (65); Lewis Pass (87);  
? Stratford (47); Palmerston North (62); Kelburn, Somes Island, Wellington, Whitby (68); Motueka (75); Christchurch, Gebbies Pass, Mount Pleasant (110).
- 77/238 Apr 30 18h 33m  
MM 5 Opotiki (35);  
MM 4 Cape Runaway, Waihou Bay (28);  
? Maraenui (28).
- 77/244 May 5 02h 20m  
MM 4 Fighting Bay (78).
- 77/249 May 7 08h 44m  
MM 5 Rotorua (33).
- 77/255 May 11 02h 41m  
MM 6 Lake Coleridge, Springfield (100); Ashburton (108);  
MM 5 Rakaia (109); Christchurch (110); Le Bon's Bay (111); Geraldine (118);  
MM 4 Ross (91); Arthur's Pass, Otira (93); Peak Hill (99); Rangiora (102); Huntingdon (108); Christchurch (110); Akaroa (111); Cave (117);

- 'slight'  
? Otira (93);  
Westport (79); Hokitika (91); Harihari (98); Lake  
Coleridge (100); Christchurch, Mount Pleasant (110);  
Akaroa Head, Le Bon's Bay (111); Lynnford, Timaru  
(118).
- 77/259 May 11 11h 05m  
MM 4 Eastbourne (68).
- 77/264 May 12 16h 42m  
MM 5 Aspiring Hut, Liverpool Bivouac (113);  
MM 4 Mahitahi (104); Earnslaw (121).
- 77/265 May 12 17h 31m  
? Liverpool Bivouac (113).
- 77/267 May 13 05h 57m  
? The Branches (122).
- 77/278 May 18 04h 11m  
MM 4 Coromandel (18); Waihi Beach (21); Cambridge (24);  
Matamata, Morrinsville (25); Tauranga (26);  
'Force 4' Te Aroha (25);  
? Katikati (25); Tauranga (26).
- 77/280 May 18 16h 35m  
MM 4 Waihi Beach (21); Tauranga (26);  
'Force 3' Te Aroha (25).
- 77/284 May 19 10h 58m  
MM 4 Waihi Beach (21);  
'Force 2' Te Aroha (25).
- 77/287 May 20 21h 30m  
MM 4 Karamea (74);  
'Force 3' Cobb Dam (75);  
? Bainham (72).
- 77/293 May 22 14h 33m  
MM 4 Waiau (96).
- 77/304 May 26 20h 06m  
? Wairakei (41).
- 77/307 May 28 01h 46m  
? Mahia Beach (54).
- 77/311 May 29 03h 07m  
MM 4 Cobb River (75).
- 77/314 May 29 18h 38m  
? Kawerau (34).
- 77/317 May 31 18h 50m  
MM 8 Thornton (27);  
MM 7 Edgecumbe, Whakatane (27);  
MM 6 Awakeri, Edgecumbe (27); Taneatua, Te Teko (34);  
Kutarere (35);  
MM 5 Mystery Valley (26); Edgecumbe, Pikowai, Whakatane  
(27); Kawerau, Taneatua (34); Ohope Beach (35);

- MM 4 Maketu, Mystery Valley, Roydon Downs, Tauranga (26);  
Whakatane (27); Matahina (34); Opotiki (35); Wairoa  
(53);
- MM 3 Richmond Downs (25); Rotorua (33);  
'severe' Whakatane (27);
- 'Force 4' Te Puke (26);
- 'Force 2' Te Aroha (25);
- ? Katikati (25); Hairini, Tauranga, Te Ranga (26); Clovelly  
(27); Rotorua (33); Kawerau, Opouriao, Te Teko (34);  
Opotiki, Waingarara (35).
- 77/318 May 31 18h 59m  
? Pikowai (27).
- 77/319 May 31 19h 00m  
? Pikowai (27).
- 77/320 May 31 19h 05m  
? Pikowai (27).
- 77/321 May 31 19h 26m  
MM 4 Matahina (34);  
MM 3 Mystery Valley (26); Whakatane (27);  
? Roydon Downs (26); Pikowai (27).
- 77/322 May 31 19h 29m  
? Pikowai (27).
- 77/327 Jun 1 05h 55m  
MM 5 Moawhango, Taihape (58);  
MM 4 Ohakune (49); Parapara Okeore (57); Table Flat (58);  
MM 3 Omori (40);  
'Force 3' Waiouru (50);  
? Wanganui (57); Rakaunui (58).
- 77/330 Jun 1 09h 36m  
MM 4 Moawhango (58);  
? Rakaunui (58).
- 77/331 Jun 1 14h 41m  
MM 4 Moawhango (58);  
? Taihape (58).
- 77/332 Jun 1 17h 07m  
MM 5 Matahina (34); Kutarere (35);  
MM 4 Maketu, Mystery Valley (26); Whakatane (27); Ohope  
Beach, Opotiki (35);  
'slight' Kawerau (34);  
? Te Ranga (26); Opouriao, Te Teko (34); Waingarara (35).
- 77/333 Jun 1 20h 49m  
MM 5 Matata (27).
- 77/335 Jun 2 00h 44m  
MM 4 Kelburn (68);  
? Stokes Valley (68).





- 77/421 Jul 5 08h 42m  
MM 4 Seddon (84).
- 77/423 Jul 5 10h 22m  
? Seddon (84).
- 77/424 Jul 5 11h 34m  
'light' Wairakei (41).
- 77/435 Jul 9 01h 34m  
MM 4 Te Anau Downs (130).
- 77/436 Jul 9 01h 36m  
MM 4 Te Anau Downs (130).
- 77/438 Jul 11 15h 40m  
MM 4 Wairoa (53).
- 77/446 Jul 15 22h 12m  
MM 4 Mount Vernon, Waipawa (60).
- 77/449 Jul 17 06h 27m  
MM 5 Waitahanui (41).
- 77/450 Jul 17 19h 17m  
? Napier (52).
- 77/452 Jul 18 03h 18m  
'light' Wairakei (41).
- 77/457 Jul 21 23h 48m  
MM 3 Kelburn (68).
- 77/470 Jul 29 06h 28m  
MM 4 Karamea (74); Cobb River (75);  
'sharp' Wangapeka (75).
- 77/479 Jul 31 16h 52m  
MM 4 Whakatane (27);  
'heavy' Kawerau (34);  
? Te Ranga (26); Mahoetahi (34); Port Ohope, Waingarara (35).
- 77/480 Aug 1 00h 54m  
MM 3 Patoka (52).
- 77/496 Aug 7 04h 29m  
MM 4 Whakatane (27).
- 77/510 Aug 11 14h 47m  
MM 5 Wanganui (57);  
MM 4 Ohakune (49); Patoka (52); Table Flat, Taihape (58);  
Waipawa (60); Palmerston North (62); Karori, Linden,  
Lower Hutt, Wainuiomata, Waterloo (68);  
MM 3 Lower Hutt (68);  
'Force 4' Karori (68);  
'Force 2' Kelburn (68);  
'slight' Port Hardy (73);  
? Oponae (35).

- 77/511 Aug 11 15h 10m  
'slight' Levin (65).
- 77/512 Aug 12 03h 03m  
MM 4 Te Anau Downs (130).
- 77/518 Aug 16 06h 59m  
? Rotorua (33); Waingarara (35).
- 77/519 Aug 16 13h 26m  
MM 4 Wanganui (57).
- 77/525 Aug 19 13h 15m  
MM 4 Wanganui (57).
- 77/531 Aug 21 21h 12m  
MM 4 Otira (93).
- 77/540 Aug 29 16h 54m  
MM 4 Tapuwae (31); Whakamaru (32); Omori (40);  
? Te Kuiti (31); Ongarue, Taumarunui (39); Wairakei (41).
- 77/547 Aug 31 22h 24m  
? New Plymouth (47).
- 77/563 Sep 7 21h 01m  
? Bainham (72).
- 77/567 Sep 8 10h 12m  
? Bainham (72).
- 77/568 Sep 9 03h 45m  
MM 4 Kelburn (68).
- 77/579 Sep 12 14h 24m  
MM 4 Murchison (80).
- 77/580 Sep 12 17h 49m  
MM 4 Eastbourne, Tawa, York Bay (68); Kahutara, Waiorongomai (69); Martinborough (70).
- 77/581 Sep 12 18h 11m  
? Martinborough (70).
- 77/582 Sep 12 18h 48m  
MM 5 Martinborough (70);  
MM 4 Eastbourne, Karori, Kelburn, Tawa, Wellington, York Bay (68); Dyerville, Kahutara, Pirinoa (69); Martinborough, Station Bush (70);  
MM 3 Lower Hutt (68);  
'Force 4' Karori (68);  
'Force 3' Kelburn (68);  
? Somes Island (68); Woodside (69); Martinborough (70).
- 77/583 Sep 14 17h 15m  
MM 4 Ohakune (49).
- 77/595 Sep 18 14h 50m  
MM 4 Waipawa (60).

- 77/599      *Sep 20 11h 35m*  
MM 3      Patoka (52).
- 77/634      *Oct 2 03h 39m*  
MM 4      Eastbourne, Karori, Lower Hutt, Naenae, Pukerua Bay,  
Wellington (68).
- 77/640      *Oct 4 10h 20m*  
?      Tara Hills (124).
- 77/642      *Oct 5 18h 03m*  
MM 4      Paraparaumu (65); Eastbourne, Lower Hutt, York Bay  
(68); Waiorongomai (69);  
'Force 4'      Karori (68);  
?      Karori, Lower Hutt, Miramar, Tawa, Titahi Bay (68);  
Silverstream (69).
- 77/647      *Oct 8 09h 58m*  
MM 4      Taupo (41).
- 77/649      *Oct 9 10h 17m*  
MM 4      Taupo (41).
- 77/693      *Oct 25 16h 49m*  
MM 4      Ross (91); Whataroa (97); Evans Creek (98); Lake  
Coleridge (100); Mahitahi (104);  
'Force 4'      Harihari (98);  
'Force 3'      Hokitika (91);  
?      Greymouth (85); Hokitika (91); Lake Coleridge (100).
- 77/696      *Oct 26 01h 03m*  
MM 5      Ross (91); Mahitahi (104);  
'Force 2'      Harihari (98).
- 77/700      *Oct 26 20h 46m*  
?      Wellington (68).
- 77/709      *Oct 29 11h 39m*  
MM 4      Eastbourne, Tawa (68);  
MM 3      York Bay (68);  
?      Karori, Lowry Bay (68).
- 77/716      *Oct 30 00h 57m*  
MM 5      Napier (52);  
MM 4      Ohakune (49); Napier (52); Wairoa (53); Hastings,  
Taradale, Waipawa (60); Palmerston North (62).
- 77/717      *Oct 30 04h 41m*  
MM 4      Okaia (40);  
'v strong'      Wairakei (41).
- 77/718      *Oct 30 04h 43m*  
?      Okaia (40).
- 77/719      *Oct 30 07h 02m*  
MM 4      Napier (52);  
MM 3      Patoka (52);  
?      Hastings (60).



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|        |                                                                                         |
|--------|-----------------------------------------------------------------------------------------|
| 77/721 | Oct 30 20h 47m<br>MM 3 Blenheim (77).                                                   |
| 77/729 | Nov 3 17h 03m<br>MM 4 Okaia (40).                                                       |
| 77/732 | Nov 4 14h 07m<br>MM 4 Lake Coleridge (100).                                             |
| 77/745 | Nov 10 02h 04m<br>? Wellington (68).                                                    |
| 77/750 | Nov 11 08h 58m<br>MM 4 Motunau (96).                                                    |
| 77/753 | Nov 11 14h 28m<br>MM 4 Wanganui (57).                                                   |
| 77/754 | Nov 11 17h 17m<br>MM 4 Whakatane (27);<br>? Te Teko (34).                               |
| 77/756 | Nov 11 18h 41m<br>? Whakatane (27).                                                     |
| 77/770 | Nov 16 07h 33m<br>MM 4 Mount Vernon, Waipawa (60).                                      |
| 77/777 | Nov 21 03h 20m<br>MM 3 Patoka (52).                                                     |
| 77/779 | Nov 21 11h 17m<br>MM 4 Patoka (52); Waipawa (60).                                       |
| 77/780 | Nov 21 23h 05m<br>MM 3 Kelburn (68).                                                    |
| 77/781 | Nov 22 00h 05m<br>MM 5 Murchison (80);<br>MM 3 Granity (79).                            |
| 77/784 | Nov 23 01h 48m<br>? Auckland (16).                                                      |
| 77/785 | Nov 25 05h 10m<br>'Force 3' Te Puke (26).                                               |
| 77/823 | Dec 11 19h 37m<br>MM 4 Waipawa (60).                                                    |
| 77/825 | Dec 14 17h 57m<br>MM 4 Ohakune (49);                                                    |
| 77/826 | Dec 14 13h 34m<br>MM 4 Ohakune (49);<br>MM 3 Taihape (58);<br>? Chateau Tongariro (50). |

|        |                                           |
|--------|-------------------------------------------|
| 77/827 | Dec 15 22h 04m                            |
|        | MM 5 Arthur's Pass (93);                  |
|        | MM 4 Inchbonnie (92);                     |
|        | 'Force 3' Hokitika (91);                  |
|        | ? Christchurch (110).                     |
| 77/834 | Dec 21 03h 38m                            |
|        | MM 4 Masterton (66).                      |
| 77/835 | Dec 21 10h 19m                            |
|        | MM 4 Eastbourne, Linden, York Bay (68);   |
|        | ? Karori, Lower Hutt (68).                |
| 77/838 | Dec 22 18h 59m                            |
|        | MM 4 Cobb River (75).                     |
| 77/853 | Dec 29 03h 37m                            |
|        | MM 4 Matahina (34).                       |
| 77/856 | Dec 30 08h 02m                            |
|        | MM 4 Inchbonnie (92); Arthur's Pass (93). |

## EARTHQUAKES FELT IN STANDARD LOCALITIES

Localities within which earthquakes were felt are listed in alphabetical order, each preceded by its number on the reference map. The figure following the name of the locality is the number of the epicentre followed by the maximum intensity (in brackets) reported within the district covered by the locality name. An asterisk (\*) indicates that the particular intensity was not evaluated from the standard questionnaire. The instrumental magnitude may be found from the epicentre list, and places that actually reported the shock from the table of 'Places Reporting Felt Earthquakes'.

|                  |          |          |          |                   |
|------------------|----------|----------|----------|-------------------|
| 111 Akaroa       | 28 (4),  | 255 (5). |          |                   |
| 122 Arrowtown    | 267 (?). |          |          |                   |
| 93 Arthur's Pass | 132 (4), | 255 (4), | 531 (4), | 827 (5), 856 (4). |
| 108 Ashburton    | 11 (4),  | 28 (4),  | 255 (6). |                   |
| 16 Auckland      | 784 (?). |          |          |                   |
| 83 Awatere       | 28 (4).  |          |          |                   |
| 77 Blenheim      | 28 (5),  | 180 (?), | 222 (4), | 721 (3).          |
| 104 Bruce Bay    | 205 (5), | 264 (4), | 693 (4), | 696 (5).          |
| 61 Bulls         | 28 (?),  | 62 (4),  | 142 (?). |                   |
| 84 Cape Campbell | 421 (4), | 423 (?). |          |                   |
| 67 Castlepoint   | 28 (?).  |          |          |                   |
| 50 Chateau       | 62 (?),  | 194 (?), | 327(3*), | 826 (?).          |
| 96 Cheviot       | 28 (4),  | 293 (4), | 750 (4). |                   |

|                     |          |          |          |          |          |
|---------------------|----------|----------|----------|----------|----------|
| 110 Christchurch    | 28 (4),  | 142 (?), | 222 (?), | 256 (5), | 827 (?). |
| 89 Clarence         | 28 (4).  |          |          |          |          |
| 18 Coromandel       | 278 (4). |          |          |          |          |
| 95 Culverden        | 222 (4). |          |          |          |          |
| 63 Dannevirke       | 4 (4),   | 142 (4), | 155 (4), | 222 (4). |          |
| 73 D'Urville Island | 510(3*). |          |          |          |          |
| 117 Fairlie         | 255 (4). |          |          |          |          |
| 69 Featherston      | 28 (5),  | 580 (4), | 582 (4), | 642 (4). |          |
| 97 Franz Josef      | 693 (4). |          |          |          |          |
| 45 Gisborne         | 31 (?),  | 56 (3),  | 68 (4),  | 352 (4). |          |
| 81 Glenhope         | 28 (4).  |          |          |          |          |
| 121 Glenorchy       | 151 (4), | 264 (4). |          |          |          |
| 85 Greymouth        | 693 (?). |          |          |          |          |
| 103 Haast           | 151 (5). |          |          |          |          |
| 24 Hamilton         | 278 (4). |          |          |          |          |
| 88 Hanmer           | 28 (5).  |          |          |          |          |
| 98 Harihari         | 255 (?), | 693 (4), | 696(2*). |          |          |
| 60 Hastings         | 28 (3),  | 43 (4),  | 112 (4), | 142 (4), | 446 (4), |
|                     | 510 (4), | 595 (4), | 716 (4), | 719 (?), | 770 (4), |
|                     | 779 (4), | 823 (4). |          |          |          |
| 55 Hawera           | 28 (4),  | 62 (4),  | 194 (5), | 222 (4). |          |
| 91 Hokitika         | 28 (4),  | 255 (4), | 693 (4), | 696 (5), | 827(3*). |
| 113 Jackson's Bay   | 264 (5), | 265 (?). |          |          |          |
| 90 Kaikoura         | 28 (?).  |          |          |          |          |
| 74 Karamea          | 24 (4),  | 28 (4),  | 287 (4), | 470 (4). |          |
| 132 Kingston        | 53 (?).  |          |          |          |          |
| 92 Kumara           | 827 (4), | 856 (4). |          |          |          |
| 100 Lake Coleridge  | 28 (4),  | 255 (6), | 693 (4), | 732 (4). |          |
| 54 Mahia            | 28(3*),  | 307 (?). |          |          |          |
| 70 Martinborough    | 28 (5),  | 222 (4), | 580 (4), | 581 (?), | 582 (5). |
| 87 Maruia           | 28 (4),  | 222 (3). |          |          |          |
| 66 Masterton        | 28 (4),  | 142 (4), | 834 (4). |          |          |
| 25 Matamata         | 278 (4), | 280(3*), | 284(2*), | 317 (3). |          |
| 38 Mokau            | 28 (4),  | 194 (?). |          |          |          |
| 75 Motueka          | 24 (4),  | 28 (4),  | 143 (4), | 222 (?), | 287(3*), |
|                     | 311 (4), | 470 (4), | 838 (4). |          |          |
| 80 Murchison        | 26 (4),  | 27 (4),  | 28 (4),  | 579 (4), | 781 (5). |
| 34 Murupara         | 161 (?), | 162 (?), | 314 (?), | 317 (6), | 321 (4), |
|                     | 332 (5), | 345 (?), | 348 (?), | 479(5*), | 754 (?), |
|                     | 853 (4). |          |          |          |          |
| 52 Napier           | 25 (5),  | 180 (3), | 352 (4), | 450 (?), | 480 (3), |
|                     | 510 (4), | 599 (3), | 716 (5), | 719 (4), | 777 (3), |
|                     | 779 (4). |          |          |          |          |
| 76 Nelson           | 28 (5),  | 222 (4). |          |          |          |
| 47 New Plymouth     | 28 (4),  | 160 (4), | 194 (4), | 222 (4), | 547 (?). |
| 49 Ohakune          | 194 (5), | 222 (4), | 327 (4), | 510 (4), | 583 (4), |
|                     | 716 (4), | 825 (4), | 826 (4). |          |          |

|                     |                                                                               |                                                                   |                                                                    |                                                                    |                                                                    |
|---------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------------------------------------------------------------|
| 35 Opotiki          | 31 (4),<br>346 (4),<br>510 (?)                                                | 238 (5),<br>347 (3),<br>518 (?)                                   | 317 (6),<br>352 (4),<br>518 (?)                                    | 332 (5),<br>363 (4),<br>479 (?)                                    | 345 (4),<br>479 (?)                                                |
| 65 Otaki            | 28 (5),<br>511(3*)                                                            | 142 (4),<br>642 (4)                                               | 180 (3),<br>62 (4),<br>194 (3),<br>244 (4)                         | 194 (4),<br>142 (3)                                                | 222 (3)                                                            |
| 62 Palmerston North | 4 (4),<br>222 (4)                                                             | 28 (5),<br>510 (4),<br>29 (4)                                     | 62 (4),<br>716 (4)                                                 | 142 (3)                                                            | 180 (4)                                                            |
| 78 Picton           | 28 (7)                                                                        |                                                                   |                                                                    |                                                                    |                                                                    |
| 109 Rakaia          | 255 (5)                                                                       |                                                                   |                                                                    |                                                                    |                                                                    |
| 102 Rangiora        | 255 (4)                                                                       |                                                                   |                                                                    |                                                                    |                                                                    |
| 33 Rotorua          | 23 (4),<br>518 (?)                                                            | 170 (?)                                                           | 249 (5)                                                            | 317 (3)                                                            | 408 (5)                                                            |
| 59 Ruahine          | 112 (4)                                                                       |                                                                   |                                                                    |                                                                    |                                                                    |
| 124 St Bathans      | 640 (?)                                                                       |                                                                   |                                                                    |                                                                    |                                                                    |
| 58 Taihape          | 4 (4),<br>327 (5)                                                             | 13 (3),<br>330 (4)                                                | 28 (4),<br>331 (4)                                                 | 62 (4),<br>510 (4)                                                 | 142 (4),<br>826 (3)                                                |
| 72 Takaka           | 28 (5),<br>287 (?)                                                            | 71 (?)<br>350 (?)                                                 | 142 (4),<br>563 (?)                                                | 143 (4),<br>567 (?)                                                | 194 (3)                                                            |
| 39 Taumarunui       | 28(5*)                                                                        | 194 (3)                                                           | 540 (?)                                                            |                                                                    |                                                                    |
| 41 Taupo            | 116(5*),<br>449 (5),<br>717(6*)                                               | 170 (?)<br>452(3*)                                                | 304 (?)<br>540 (?)                                                 | 418(3*)<br>647 (4)                                                 | 424(3*)<br>649 (4)                                                 |
| 26 Tauranga         | 278 (4),<br>349 (4)                                                           | 280 (4),<br>479 (?)                                               | 317 (5),<br>785(3*)                                                | 321 (3)                                                            | 332 (4)                                                            |
| 130 Te Anau         | 392 (4)                                                                       | 435 (4)                                                           | 436 (4)                                                            | 512 (4)                                                            |                                                                    |
| 28 Te Kaha          | 207 (?)                                                                       | 208 (?)                                                           | 238 (4)                                                            |                                                                    |                                                                    |
| 31 Te Kuiti         | 540 (4)                                                                       |                                                                   |                                                                    |                                                                    |                                                                    |
| 21 Thames           | 278 (4)                                                                       | 280 (4)                                                           | 284 (4)                                                            |                                                                    |                                                                    |
| 118 Timaru          | 255 (5)                                                                       |                                                                   |                                                                    |                                                                    |                                                                    |
| 40 Tokaanu          | 327 (3)                                                                       | 540 (4)                                                           | 717 (4)                                                            | 718 (?)                                                            | 729 (4)                                                            |
| 32 Tokoroa          | 540 (4)                                                                       |                                                                   |                                                                    |                                                                    |                                                                    |
| 82 Wairau           | 28 (?)                                                                        |                                                                   |                                                                    |                                                                    |                                                                    |
| 53 Wairoa           | 317 (4)                                                                       | 352 (4)                                                           | 438 (4)                                                            | 716 (4)                                                            |                                                                    |
| 57 Wanganui         | 28 (4),<br>222 (4),<br>525 (4)                                                | 60 (4),<br>327 (4),<br>753 (4)                                    | 62 (5),<br>409 (4)                                                 | 142 (4),<br>510 (5)                                                | 194 (5),<br>519 (4)                                                |
| 56 Waverley         | 28 (4)                                                                        | 180 (4)                                                           | 222 (4)                                                            |                                                                    |                                                                    |
| 68 Wellington       | 18 (4),<br>62 (4),<br>180 (4),<br>335 (4),<br>510 (4),<br>642 (4),<br>835 (4) | 28 (6),<br>71 (4),<br>194 (4),<br>359 (4),<br>568 (4),<br>700 (?) | 29 (4),<br>142 (5),<br>198 (3),<br>377 (4),<br>580 (4),<br>709 (4) | 30 (3),<br>152 (?),<br>222 (4),<br>398 (3),<br>582 (4),<br>745 (?) | 31 (4),<br>155 (3),<br>259 (4),<br>457 (3),<br>634 (4),<br>780 (3) |
| 79 Westport         | 255 (?)                                                                       | 781 (3)                                                           |                                                                    |                                                                    |                                                                    |
| 44 Whakapunaki      | 68 (4)                                                                        | 118 (3)                                                           | 352 (4)                                                            |                                                                    |                                                                    |



|                   |                                |                                 |                                 |                                 |                                 |
|-------------------|--------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| 27 Whakatane      | 31 (?),<br>321 (3),<br>380 (?) | 317 (8),<br>322 (?),<br>479 (4) | 318 (?),<br>332 (4),<br>496 (4) | 319 (?),<br>333 (5),<br>754 (4) | 320 (?),<br>363 (?),<br>756 (?) |
| 48 Whangamomona   | 93 (4),<br>185 (4)             | 99 (4),<br>194 (5)              | 100 (4),<br>222 (4)             | 101 (4)                         | 103 (4)                         |
| 99 Whitcombe Pass | 255 (4)                        |                                 |                                 |                                 |                                 |

## UNCONFIRMED REPORTS

The following shocks reported to the Observatory as having been felt cannot be confirmed either by an instrumental record or by an independent report.

|     |    |         |                    |             |
|-----|----|---------|--------------------|-------------|
| Jan | 18 | 06h 59m | Bunnythorpe (62)   | ?           |
| Feb | 1  | 01h 12m | Waikawa Beach (65) | MM 3        |
|     | 5  | 02h 54m | Eastbourne (68)    | MM 4        |
|     | 6  | 12h 47m | Karori (68)        | ?           |
|     | 18 | 05h 45m | Kapiti Island (65) | ?           |
|     | 27 | 13h 30m | Ross (91)          | MM 4        |
| Mar | 10 | 08h 33m | Maruia (87)        | MM 3        |
|     | 24 | 16h 03m | Kawerau (34)       | ?           |
|     | 30 | 05h 35m | Wairakei (41)      | ?           |
|     | 30 | 05h 48m | Wairakei (41)      | ?           |
|     | 30 | 11h 30m | Purangi (48)       | MM 4        |
|     | 30 | 15h 00m | Purangi (48)       | MM 4        |
| Apr | 22 | 01h 50m | Port Hardy (73)    | ?           |
|     | 23 | 00h 55m | Oratia (16)        | ?           |
| May | 5  | 20h 34m | Rotorua (33)       | MM 4        |
|     | 10 | 22h 00m | Le Bon's Bay (111) | ?           |
|     | 13 | 00h 50m | Manapouri (139)    | ?           |
|     | 17 | 14h 57m | Rotorua (33)       | MM 5        |
|     | 17 | 15h 00m | Coromandel (18)    | MM 4        |
|     | 18 | 00h 00m | Hairini (26)       | 'Force 3-4' |
|     | 18 | 14h 30m | Katikati (25)      | ?           |
|     | 18 | 17h 30m | Katikati (25)      | ?           |
|     | 18 | 20h 32m | Katikati (25)      | ?           |
|     | 23 | 22h 00m | Kawerau (34)       | ?           |
|     | 29 | 15h 00m | Kawerau (34)       | ?           |
| Jun | 1  | 19h 13m | Whakatane (27)     | MM 4        |
|     | 4  | 14h 50m | Mahia (54)         | 'light'     |
|     | 11 | 06h 45m | Waingarara (35)    | ?           |

|     |    |            |                    |           |
|-----|----|------------|--------------------|-----------|
|     | 12 | 00h 00m    | Porirua (68)       | 'Force 2' |
| Jul | 8  | 18h 30m    | Cobb Dam (75)      | 'Force 3' |
| Aug | 22 | 08h 30m    | Ohakune (49)       | MM 4      |
|     | 28 | 19h 45m    | Kawerau (34)       | 'minor'   |
| Sep | 12 | 16h 45m    | Wairakei (41)      | 'strong'  |
|     | 12 | before 18h | Waiorongomai (69)  | ?         |
|     | 12 | 18h 30m    | Waiorongomai (69)  | ?         |
|     | 12 | 18h 58m    | Dyerville (69)     | ?         |
|     | 12 | 19h 15m    | Martinborough (70) | ?         |
| Oct | 7  | 14h 00m    | Bainham (72)       | ?         |
|     | 12 | 18h 40m    | Woodside (69)      | ?         |
|     | 31 | 02h 50m    | Kinloch (40)       | MM 4      |
|     | 31 | 05h 30m    | Kinloch (40)       | MM 4      |
| Nov | 11 | a.m. NZST  | Whakatane (27)     | ?         |

## REPORTS FROM OUTSIDE NEW ZEALAND

The Observatory sometimes receives reports of earthquakes felt on islands of the south-west Pacific and at other places beyond the limits of its systematic reporting network. The intensities are those given by the observers, and not those assigned by the Observatory. This year the following reports were received:

|     |    |         |              |           |
|-----|----|---------|--------------|-----------|
| Feb | 4  | 09h 38m | Raoul Island | MM 4      |
|     | 4  | 09h 50m | Raoul Island | MM 3      |
| Mar | 13 | 22h 26m | Raoul Island | MM 4      |
|     | 13 | 22h 43m | Raoul Island | ?         |
| Apr | 2  | 07h 17m | Niue Island  | ?         |
|     | 2  | 07h 47m | Niue Island  | ?         |
| May | 15 | 17h 07m | Raoul Island | MM 4      |
| Jun | 22 | 12h 10m | Raoul Island | MM 4      |
|     | 28 | 01h 25m | Nadi         | 'Force 2' |
|     | 28 | 14h 10m | Raoul Island | MM 4      |
| Jul | 8  | 18h 30m | Ata (Tonga)  | MM 3      |
|     | 13 | 18h 30m | Ata (Tonga)  | MM 4      |
|     | 15 | 23h 42m | Ata (Tonga)  | MM 6      |
| Aug | 7  | 07h 42m | Raoul Island | MM 3      |
| Oct | 1  | 14h 55m | Raoul Island | MM 4      |
|     | 5  | 10h 28m | Raoul Island | MM 3      |
|     | 10 | 11h 56m | Raoul Island | MM 4      |



# PUBLICATIONS

## BY STAFF MEMBERS

During 1977 the following papers by members of the Seismological Observatory staff were published:

- S-238 ADAMS, R.D. and WARE, D.E.: Subcrustal Earthquakes Beneath New Zealand: Locations Determined with a Laterally Inhomogeneous Velocity Model.

*N.Z. J. Geol. Geophys.* 20 : 59-83.

Inconsistencies have become apparent in locations allocated in subcrustal earthquakes beneath the main seismic region of New Zealand. To reduce these, a simple model has been set up in which velocities are increased along ray paths presumed to be entirely in the zone of deep earthquakes. The results are most consistent when the velocities of both P and S waves are increased by 11%, compared with the standard Jeffreys-Bullen model. The effect of this velocity change is to reduce the dip of the zone of subcrustal foci determined in previous studies, and to make the foci more closely planar. The newly defined plane strikes N45°E and dips at 50° to the north-west.

- S-239 EIBY, G.A: The New Zealand Government Time-Service. An Informal History.

*Southern Stars* 27 : 15-34.

A brief account of the provision and maintenance of time standards in New Zealand, from early colonial days to the present.

- S-240 CALHAEM, I.M., HAINES, A.J. and LOWRY, M.A.: An Intermediate-Depth Earthquake in the Central Region of the South Island used to Determine a Local Crustal Thickness.

*N.Z. J. Geol. Geophys.* 20 : 353-61.

An earthquake has been located at a depth of 62 km near the junction of the Landsborough and Haast Valleys, in south Westland, New Zealand (43.99°S, 169.44°E). This is the first subcrustal earthquake to have been confirmed in the area, which is about 120 km north-east of the intermediate-depth earthquakes of the Fiordland Seismic Region. It was located about 50 km to the west of the recently installed telemetered seismograph network associated with the Upper Waitaki Power Project. The network recorded arrivals between the P and S phases, which have been identified as having been converted from S to P at the base of the crust. Analysis of these converted phases indicates a crustal thickness of  $32 \pm 1$  km at the area of conversion, which is beneath Mount Huxley near 44.1°S, 169.7°E.



- S-241 EIBY, G.A.: The Junction of the Main New Zealand and Kermadec Seismic Regions.  
*Proceedings International Symposium on Geodynamics in South-West Pacific, Noumea (New Caledonia)*, 1976, pp 167-78.  
 New maps and cross-sections of the southern end of the Kermadec Seismic Region and the northern part of the Main Seismic Region of New Zealand show them to be separate but related systems, perhaps resulting from the transverse fracture of an earlier structure. The hypothesis of asymmetrical spreading in the volcanic region of the North Island adequately explains the positional relationships of the geophysical elements of the New Zealand Region, including the existence of a small and separate system of earthquakes near East Cape. The mechanism of the relative displacement of the Kermadec system to the east is not adequately explained.
- S-242 EIBY, G.A.: Anomalous Intensities Due to the Korakonui Earthquake, 5 December, 1976.  
*Bull. N.Z. Natl. Soc. Earthq. Eng.* 10 : 167-9.  
 The intensities produced by the Korakonui earthquake were unusually great for a shock of magnitude 5.0. This appears to be a consequence of an exceptionally shallow focus, but cannot be explained by geometrical factors alone. A lesser effect is related to foundation characteristics. If the unexpectedly high intensities observed are typical of shocks in this part of New Zealand, re-assessment of existing anti-seismic precautions is advisable.
- S-243 SMITH, W.D.: The Importance of Surface Waves in Strong Ground Motion.  
*Bull. N.Z. Natl. Soc. Earthq. Eng.* 10 : 170-3.  
 Surface waves, when present in strong ground-motion, may contribute more to the Modified Mercalli intensity and to damage than does the S wave, even if the S wave contains higher accelerations. This gives a qualitative explanation for the observed regional variation in the felt effects of earthquakes in New Zealand, by assuming a regional variation in the predominant focal depth and hence in the amplitudes of the Love and Rayleigh waves that are excited.
- ADAMS, R.D.: Magnitude determination in New Zealand.  
*Bulgarian Geophys. J.* 3 : 27-30.  
 New Zealand was one of two regions used by Richter in early studies of his local magnitude scale ( $M_L$ ). This scale has been used for routine study of New Zealand earthquakes for more than 40 years, appropriate extensions to deep earthquakes and to Willmore seismographs being made. For teleseisms, determinations of  $m_b$  and  $M_s$  are made. Investigations of the relations between the different magnitude scales and other source parameters make it unlikely that the 'size' of an earthquake can be adequately described by a single number.
- EIBY, G.A.: Studying Earthquakes in New Zealand.  
*Earthquake Information Bull.* 9 : 17-24.  
 A general account of New Zealand seismicity and of the history and current organisation of seismological research. Illustrated.
- E-155 New Zealand Seismological Report, 1974.

# OBSERVATORY SERVICES

## EXCHANGE AGREEMENTS

The Seismological Observatory issues the following series of publications:

1. *E-bulletins*. These consist of the 'New Zealand Seismological Reports', containing a detailed summary of all standard measurements made at stations of the N.Z. network, lists of epicentres, felt intensity data, and a brief account of the principal earthquakes of the year.
2. *S-bulletins*. These are mostly reprints of papers by members of the Observatory staff, but occasionally they have included material not published elsewhere, such as the Eiby-Muir near earthquake tables, and a descriptive account of the Observatory and its work issued to conference delegates.
3. *A-bulletins*. These are typewritten sheets giving preliminary readings from Wellington and a small selection of well-distributed outstations. They are issued fortnightly to observatories and data centres needing rapid access to New Zealand readings, and are not intended to have a wide circulation.
4. *P-bulletins*. These are listings of microearthquakes located by the Pukaki network. They are issued monthly to people needing rapid access to these data, and are not intended to have a wide circulation.

The Observatory will be pleased to consider exchange agreements for any of this material.



## COMPUTER FILE

The Observatory has a master file of over 17,000 earthquake origins and associated information stored on magnetic tape. From this, lists of earthquakes within particular geographical areas of New Zealand or restricted in other ways can be made available to geologists, and others engaged in research. Full details have been published elsewhere (W.D. Smith, 1976: 'A Computer File of New Zealand Earthquakes'; *Bull. N.Z. Natl. Soc. Earthq. Eng.*, Vol.9, No.2, pp.136-7, or *N.Z. J. Geol. Geophys.*, Vol.19, No.3, pp.393-4). Limits that may be specified are dates, magnitudes, focal depths, and regions bounded in a number of different ways. Because of the dangers inherent in the use of incompletely assessed data, users are asked to discuss their search criteria with the Observatory.

## THE NEW ZEALAND TIME SERVICE

The Seismological Observatory is administratively responsible for the New Zealand Time Service, which distributes accurate time for civil and scientific purposes, both by radio and by land-line. Its principal time-standards are three Hewlett-Packard double-oven quartz-crystal oscillators, having a measured stability exceeding two parts in  $10^{11}$ . From these suitable signals for wider distribution are generated by electronic subdivision. Stand-by power supplies and duplicated equipment ensure that failures are rare.

The Observatory does not make regular astronomical observations, though it is equipped with a Danjon impersonal prismatic astrolabe, and has participated in three International Longitude Campaigns and in the revision of the places of some southern stars. At present, the source of time is the caesium beam primary frequency standard at the Department's Physics and Engineering Laboratory at Lower Hutt, which is periodically compared by flying clock with the standards at the U.S. National Bureau of Standards and elsewhere. At the Observatory clock errors are also determined by daily comparison with long- and short-wave signals transmitted by observatories co-operating with the Bureau International de l'Heure, appropriate allowances being made for propagation times.

The error of signals leaving the Observatory seldom exceeds 100 microseconds, but delays are introduced by the circuits between the Observatory and the individual radio transmitters. A typical delay (that for station 2YA) is 1.8 milliseconds.

The most widely used signals are the six-pip signals transmitted by those stations of the Broadcasting Corporation of New Zealand that carry the National Programme. The beginnings of the pips mark the 55th to 60th seconds of a particular minute, and each consists of 150 ms of 1 kHz tone, except when the pip marks an exact hour and its length is doubled. Signals are normally transmitted on each hour and at 22<sup>h</sup> 58<sup>m</sup> and 22<sup>h</sup> 59<sup>m</sup> U.T.

Similar signals are also transmitted on 890 kHz by Radio Windy (Wellington), but those from other private stations are not under Observatory control. They are sometimes subject to large errors and should on no account be used for navigational or scientific purposes.

A signal intended for navigational purposes and other uses calling for a more extended transmission is provided by Wellington Radio on 417.5 kHz using the call sign ZMO. Details are as follows:

22<sup>h</sup> 54<sup>m</sup> 00<sup>s</sup> U.T. to    Call Sign, ZMO ( - - - - - )  
22<sup>h</sup> 54<sup>m</sup> 55<sup>s</sup>

22<sup>h</sup> 55<sup>m</sup> 00<sup>s</sup> U.T. to    A series of dots commencing on each exact  
23<sup>h</sup> 00<sup>m</sup> 00<sup>s</sup>                second. They each consist of 150 ms of 1 kHz  
                                 tone, except for those marking an exact minute,  
                                 which are lengthened to 300 ms.

In addition to the radio signals, hourly signals are sent to the New Zealand Railways by land-line.

It should also be noted that the frame and line synchronisation pulses of the two national television networks are also linked with the Time Service and the caesium beam oscillators of the Department's Physics and Engineering Laboratory.

For most purposes the signals transmitted from the Observatory may be considered to define a close approximation to Universal Time (U.T.), which is itself an approximation to the mean solar time obtained by observing the transits of stars, and called UT0. Derived time scales known as UT1 and UT2 are corrected for motion of the Earth's rotational pole and for seasonal variations in the Earth's rotational speed respectively. These astronomical time-scales are compared with atomic time-scales based upon an energy-level transition of the caesium atom to derive the Coordinated Universal



Time (UTC) of the U.S. Naval Observatory and other Observatories cooperating with the Bureau International de l'Heure, and to which the New Zealand signals are most directly related. A more formal discussion of the various time-scales is to be found in the Time Service Reports, Series 11 of the U.S. Naval Observatory. To the accuracies required for seismology and for the great majority of civil purposes the above distinctions are of no consequence.

The Time Service is the oldest section of the Observatory, having been founded as the Colonial Observatory in 1869. The transit instrument and clocks were obtained from a still earlier observatory operated by the Wellington Provincial Government. The Colonial Observatory stood on the site now occupied by the Richard Seddon monument in the Bolton Street cemetery. Operations were transferred to the present building at Kelburn in 1907, where it was known for a time first as the Hector and then as the Dominion Observatory. Before the establishment of the Carter Observatory in 1942, the Observatory also undertook visual sunspot and auroral observations, double-star measurements, the timing of occultations, some planetary and cometary work, and positional measurements of Eros.

TABLE 10

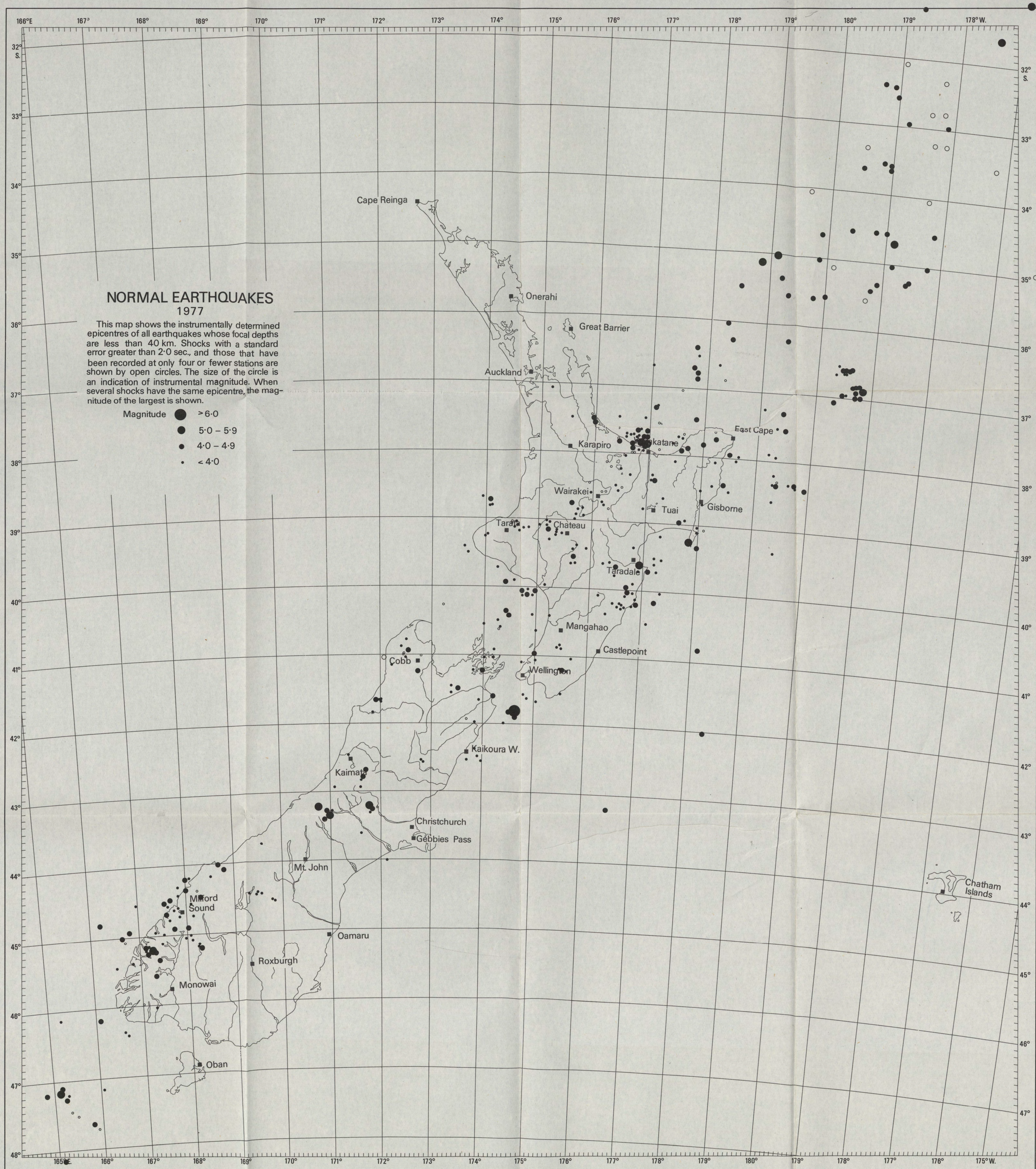
Summary of the results of the observations made during the year 1911, showing the number of observations made, the number of observations made during the year 1911, and the number of observations made during the year 1911.

## **LIST OF MAPS**

(In pocket inside back cover.)

1. Epicentres of Normal Focus Earthquakes in 1977.
2. Epicentres of Deep Focus Earthquakes in 1977.
3. Isoseismals for the earthquake of 1977 January 18 (Origin 77/28).



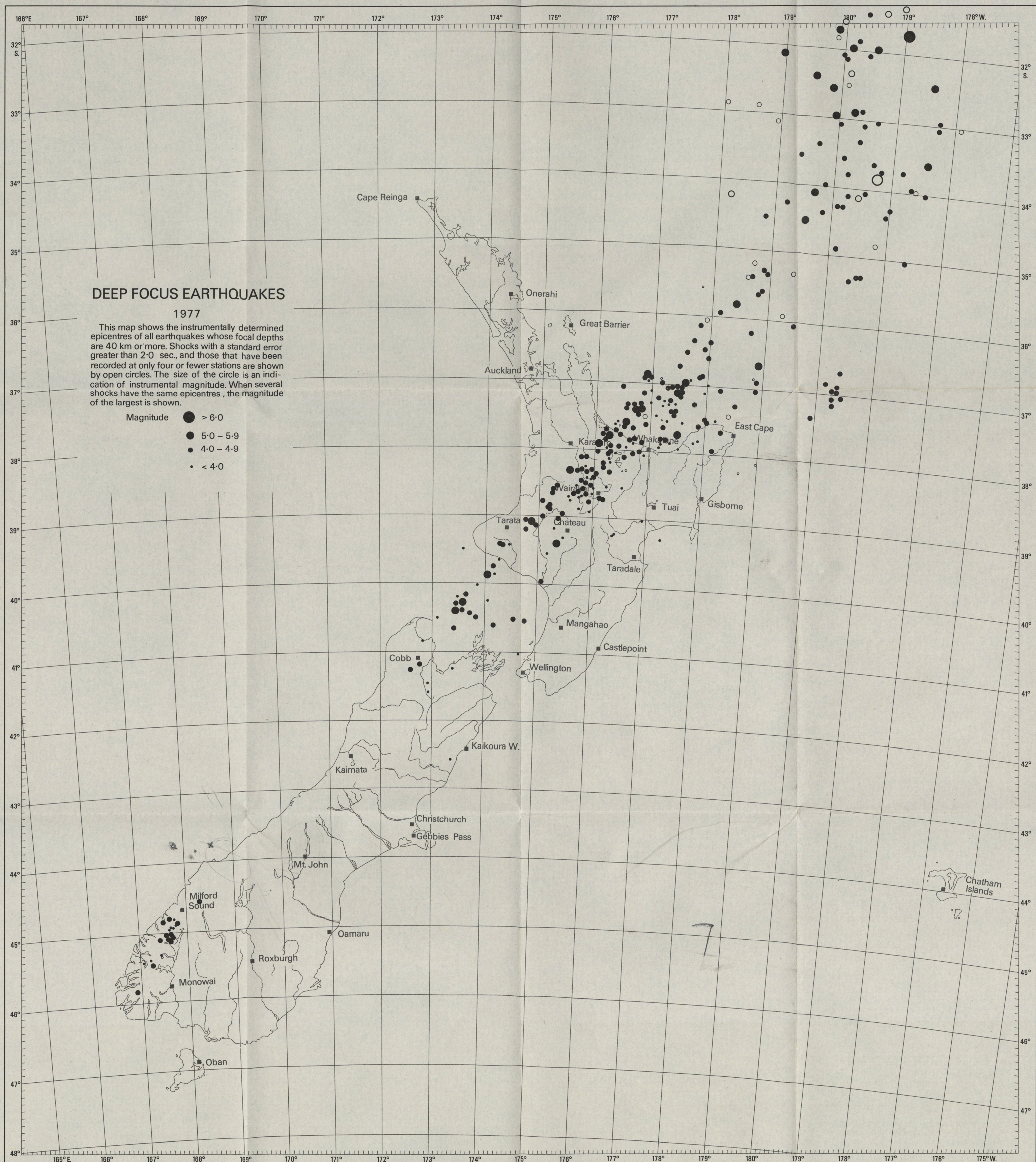


# NORMAL EARTHQUAKES 1977

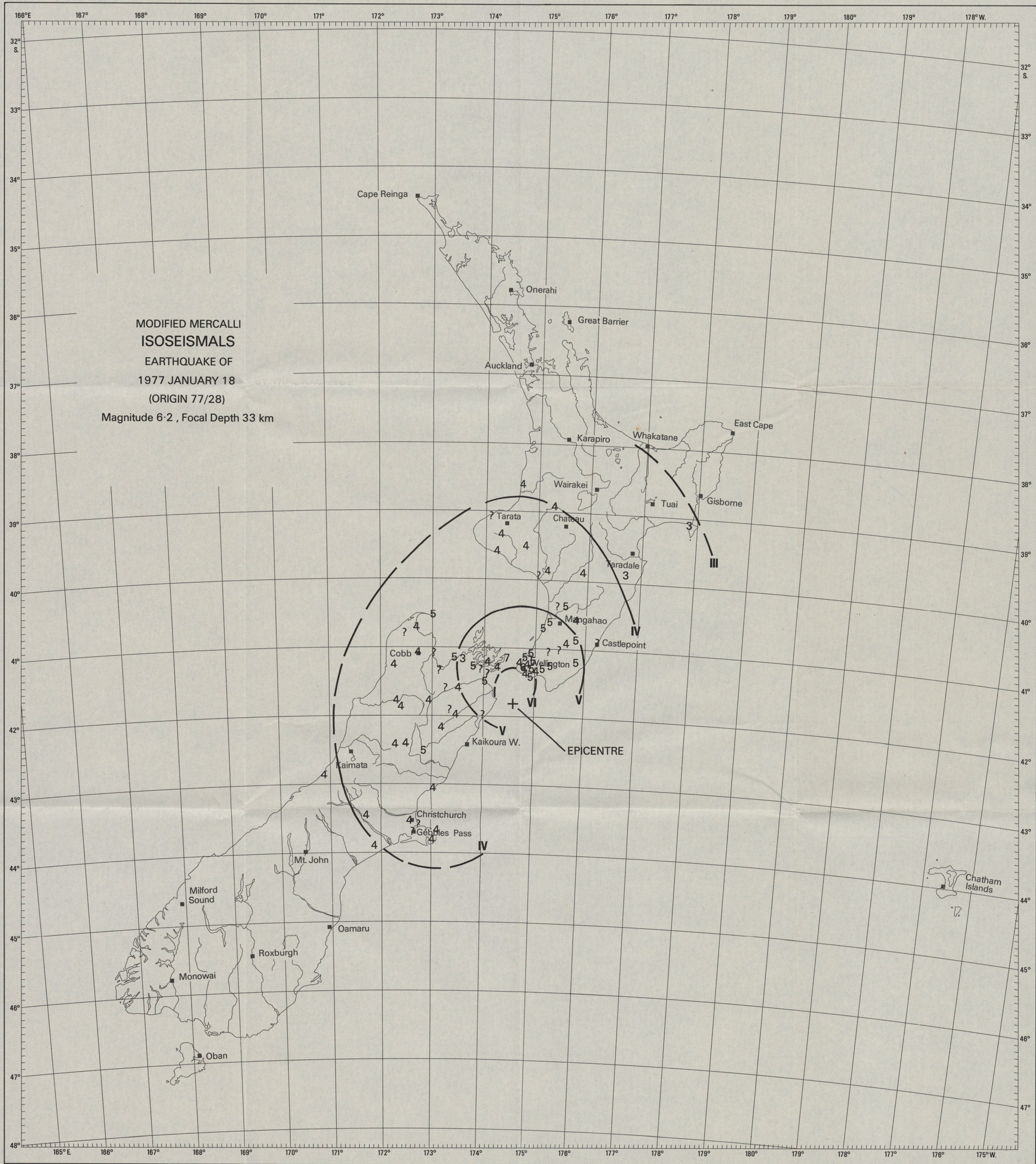
This map shows the instrumentally determined epicentres of all earthquakes whose focal depths are less than 40 km. Shocks with a standard error greater than 2.0 sec., and those that have been recorded at only four or fewer stations are shown by open circles. The size of the circle is an indication of instrumental magnitude. When several shocks have the same epicentre, the magnitude of the largest is shown.

- Magnitude
- > 6.0
  - 5.0 - 5.9
  - 4.0 - 4.9
  - < 4.0











1977

NEW ZEALAND SEISMOLOGICAL REPORT

E-159