OCTOBER 2 5.H 53.M 40.S EPICENTRE -33.83 179.45 DEPTH= 51.KM

A=-0.83237 B= 0.00801 C=-0.55417 D= 0.0096 E= 1.0000
G= 0.5541 H=-0.0053 K=-0.8324 HT= 0.5

DEPTH OF FOCUS= 0.003R

SE= 2.79

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ONERAHI	4.60	243.7	1 6	-3	2 1	-1		1 30
RAOUL ISLAND	5.09	26.9	1 11	-5	2 14	0		
KARAPIRO	5.18	216.7	1 14K	-3				4 1
CHATEAU	6.21	209.3	1 28	-4				2 44
TONGARIRO	6.22	209.4	1 28	-4				
WELLINGTON	8.31	205.2	2 9	8				4 38
COBB RIVER	8.99	214.5	2 10	0				
KAIMATA	10.73	213.7						2 50
GEBBIES PASS	11.19	206.3			4 20	-25		
NOUMEA	16.22	311.8	3 48	2				7 51
KOUMAC	18.86	310.7	4 17	-2				4 50
PORT VILA	18.88	325.4	4 19	0				
RIVERVIEW	23.48	262.1	5 8A	2	9 39	26		5 40 PP
BRISBANE	23.80	278.5	5 10	1	9 27	9		
FORT NELSON	26.62	240.6	5 34A	-2			5 42	
MOORLANDS	26.66	241.7	5 35A	-1			5 44	
MELBOURNE	28.14	251.9	5 52	2				
CHARTERS TS.	32.44	286.4	6 27	-1	11 52	14		
PORT MORESBY	38.35	301.8	7 19	1	13 21	12		8 54 PP
CAPE HALLETT	38.85	184.5	7 23	1	13 26	10		8 52 PP
RABAUL	38.91	313.3	7 26	3				
SCOTT BASE	44.47	183.8	8 8A	0			8 16	9 48 PP
DARWIN	49.03	283.8	8 43	-1				
BYRD STATION	51.98	168.8	9 5	-1				
MUNDARING	52.37	253.4	9 8	-1				
SOUTH POLE	56.35	180.0	9 37	-2				
GUAM	57.48	318.9	9 44	-3				
MIRNY	58.10	208.1	9 54	3				
MAWSON	68.34	201.6	10 55	-3			11 6	
LEMBANG	71.14	274.4	11 17	2				
MANILA	73.56	300.8	11 20	-10	20 30	-25		
MATUSIRO	79.89	327.4	12 4	-1	22 14	11		
MEDAN	84.32	278.1						15 45
PARAISO	88.42	43.3	12 50	2				
PASADENA	89.41	47.3	12 53	0				
LICK	89.55	43.0	12 55K	2				
BERKELEY	89.57	42.3	12 53	-1				
CALISTOGA	89.94	41.6	12 54	-1				
WOODY	90.04	45.8						18 39
FRESNO	90.21	44.5	12 57	0				
MINERAL	91.68	40.9	13 3A	0				
BOULDER CITY	92.67	47.7	13 8	0				
TUCSON	92.86	52.7	13 9	0				
TUCSON TELE.	92.98	52.7	13 10	1				
EUREKA	94.27	44.5	13 15	0				
LA PAZ	98.52	116.3	13 46	11				17 53 PP
FLAMING GRGE	99.09	46.6	13 44	7				
COLLEGE	101.66	13.6	13 42	-7				
WICHITA MTS.	102.61	56.7	13 58	5				18 18 PP
PALISADES	122.86	59.7						38 3 SS
QUETTA	123.57	286.2						20 43 PP
SHAWINIGAN	125.20	53.5	19 3	8				
KIRUNA	143.87	346.7	19 35	5				
KAJAANI	145.09	338.7	19 28	-4				
BANGUI	145.69	215.5	19 30	-3				19 45 SPKP1
NURMIJARVI	148.67	336.1	19 42	4				
SKALSTUGAN	149.17	348.8	19 48	9				
KSARA	149.83	280.3	19 44	4				23 25 PP
JERUSALEM	149.95	276.1	19 41A	1				
UPPSALA	151.35	340.8	19 53	11				
ISTANBUL KA.	155.48	295.8	20 4	16				23 48 PP
COLLMBERG	159.95	334.6						20 39 PKP2

OCTOBER 2 6.H 21.M 35.S EPICENTRE -7.44 107.10 DEPTH= 77.KM

A=-0.29160 B= 0.94786 C=-0.12859 D= 0.9558 E= 0.2940
G= 0.0378 H=-0.1229 K=-0.9917 HT= 6.8

DEPTH OF FOCUS= 0.007R

SE= 1.27

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
LEMBANG	0.79	40.6	0	19	1							
DJAKARTA	1.28	347.9									0	25 PG
MEDAN	13.80	322.2	3	10	-4						6	37
NHATRANG	19.64	6.1	4	26	1							
DARWIN	23.88	103.8	5	8	1							
MUNDARING	25.84	162.0				10	14	26				
KUNMING	32.64	352.7									18	23
SHILLONG	36.00	336.2	6	53	-3							
CHATRA	39.16	331.2	6	21A	-61						9	33
PORT MORESBY	39.65	95.7	7	26	0							
ADELAIDE	39.92	137.9	7	27K	-1							
CHARTERS TS.	39.95	112.4	7	28	0						21	21
ZO-SE	40.62	18.7									8	46
SIAN	41.49	2.3	7	40	-1							
POONA	41.73	308.6	7	45A	2							
LANCHOW	43.36	356.1	7	58	2							
MELBOURNE	45.70	137.2	8	18	3							
NEW DELHI	45.98	322.4	8	17A	0	15	0	4				
CANBERRA	47.34	132.0	8	27A	-1							
BRISBANE	47.55	120.4	8	32	2							
PEKING	47.97	9.4	8	34	1							
LAHORE	49.84	322.8	8	46	-1							
FORT NELSON	49.97	141.7	8	47	-1							
KARACHI	50.51	310.7	8	54A	1							
MATUSIRO	52.59	31.6	8	43	-25						10	18
WARSAK DAM	53.22	322.9	9	13A	0							
CHANGCHUN	53.63	16.3	9	15A	-1							
QUETTA	53.70	316.1	9	16A	0							
STALINABAD	58.00	325.0	9	46	-1							
SAMARKAND	59.76	324.9	9	59	0							
SEMIPALATNSK	62.13	340.9	10	15	0							
Y.-SAKHLINSK	62.76	26.6	10	19	-1							
MAWSON	66.97	196.9	10	45	-2							
TEHERAN	67.68	313.4	10	52A	1				11	1		
KARAPIRO	68.48	127.8	10	56	0				11	9		
TONGARIRO	68.64	129.1	10	56	-1						11	14
CHATEAU	68.65	129.1	10	56	-1							
YAKUTSK	71.44	11.0	11	13	-1							
TIFLIS	74.94	316.7	11	36A	1							
CAPE HALLETT	74.96	163.6	11	35	0							
SCOTT BASE	76.60	169.2	11	43K	-1				12	0		
BULAWAYO	76.71	251.1	11	45	0							
BROKEN HILL	77.22	256.9	11	48A	1							
LWIRO	78.11	269.3	11	54	2							
JERUSALEM	78.74	304.4	11	58A	2							
HELWAN	81.49	301.6	12	11A	0							
SOUTH POLE	82.61	180.0	12	15	-1							
SIMFEROPOL	83.36	316.9	12	21	1							
MOSCOW	84.80	327.9	12	28A	1							
ISTANBUL UN.	85.96	312.1	12	34K	1							
BANGUI	89.06	274.5	12	50	2				13	16		
ATHENS	89.34	308.3	12	50A	1							
PULKOVO	89.78	330.5	12	52	1							
APATITY	90.67	338.4	12	55	0							
KAJAANI	92.02	334.4	13	1	-1							
NURMIJARVI	92.70	330.6	13	6K	1							
SODANKYLA	93.15	337.5	13	7	0							
KEVO	93.51	339.9	13	9K	0							
KIRUNA	95.58	337.6	13	18A	0							
UPPSALA	96.11	329.5	13	21A	1							
SKALSTUGAN	98.46	333.2	13	23A	-9							
COLLEGE	103.09	25.0	13	53	1						14	42
RESOLUTE	111.62	6.2	18	27	1							
VICTORIA	121.02	36.8	18	46	2							
PENTICTON	122.83	34.5	18	50	3							
SHASTA	124.98	44.9	18	54	2							
MINERAL	125.67	45.0	18	56	3							
BERKELEY	126.14	48.0	18	59	5							
HUNGRY HORSE	126.45	33.1	18	57	3							
LICK	126.79	48.4	18	59K	4							

BUTTE	128.62	34.7	19	1	2					22	18
EUREKA	129.95	43.6	18	52	-9					22	22
PASADENA	130.59	50.9	19	6	4			19	25		
SALT LAKE C.	132.02	40.0	19	7	2						
FLAMING GRGE	133.47	38.4	19	11	3					22	34
SHAWINIGAN	141.03	359.9	19	25K	3						
DUBUQUE	141.71	21.4	19	21	-2						
MANHATTEN	141.87	30.4	19	21	-2						
WICHITA MTS.	144.00	37.4	19	27	0					22	38 PP
ST. LOUIS 1	145.22	24.1	19	31	2						
FAYETTEVILLE	145.47	31.3	19	31K	2						
BLOOMINGTON	146.10	19.1	20	14K	43						
PENNSYLVANIA	146.48	6.8	19	36	5						
PALISADES	146.56	1.4	19	33	2	27	0 30			23	40 PKS
FORDHAM	146.72	1.4	19	34	2					26	0
MORGANTOWN	147.33	10.1	19	37A	4						
WASHINGTON	148.45	6.2	19	27	-7						
CHAPEL HILL	151.10	10.4	19	47	9						
COLUMBIA	152.52	14.8	19	50	10						
LA PAZ	155.75	191.2	19	57	12						
HUANCAYO	160.49	172.9								15	37

OCTOBER 2 7.H 2.M 34.S EPICENTRE -34.03 179.94 DEPTH= 0.KM

A=-0.83048 B= 0.00081 C=-0.55704 D= 0.0010 E= 1.0000
G= 0.5570 H=-0.0005 K=-0.8305 HT= 0.5

SE= 3.81

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ONERAHI	4.90	247.7	1	12	-4	2	2	-13					
RAOUL ISLAND	5.10	21.5	1	16	-3	2	18	-2					
KARAPIRO	5.28	221.3	1	20	-2								
CHATEAU	6.26	213.2	1	34K	-2								
TONGARIRO	6.26	213.2	1	34K	-2								
WELLINGTON	8.32	208.0	2	14	10						3	32	
COBB RIVER	9.07	217.0	2	17	2								
KAIMATA	10.80	215.8	2	42	3								
NOUMEA	16.66	311.1	3	50	-6						4	31	
PORT VILA	19.28	324.4	4	26	-3								
KOUMAC	19.30	310.0	4	24K	-5						5	0	
RIVERVIEW	23.86	262.4	5	17A	1				5	30	9	44	*SS
BRISBANE	24.23	278.5	5	13	-6	9	37	1					
CANBERRA	25.43	258.3	5	31A	0	10	4	8					
FORT NELSON	26.88	241.0	5	43K	-1								
MOORLANDS	26.93	242.2	5	43K	-2				5	52			
TARRALEAH	27.45	242.6	5	52	3								
MELBOURNE	28.47	252.2	5	57	-2	11	6	20					
ADELAIDE	33.82	256.5	6	43A	-3	11	59	-11					
CAPE HALLETT	38.68	184.7	7	28	1	13	34	10			9	9	PP
PORT MORESBY	38.81	301.5	7	24	-4	13	26	0			9	2	PP
RABAUL	39.34	312.9	7	20	-12								
SCOTT BASE	44.30	184.0	8	14K	1	14	59	11	38	23	10	56	PP
DARWIN	49.47	283.6	8	50	-4								
BYRD STATION	51.70	168.8	9	10	-1								
MUNDARING	52.71	253.3	9	14A	-4								
SOUTH POLE	56.15	180.0	9	42	-1								
GUAM	57.90	318.5	9	57	1						10	22	
MIRNY	58.12	208.1	10	3	6								
HAWAII V.OB.	58.17	27.8	9	59	1								
MAWSON	68.30	201.6	11	1	-4				11	16			
ARGENTINE I.	69.32	156.1	11	9	-2								
LEMBANG	71.57	274.2	11	29	4								
TUKUBASAN	79.17	328.2	12	15	7	22	7	-1			27	2	SS
MATUSIRO	80.28	327.0	12	10	-4	22	18	-1			26	58	SS
HONG KONG	83.95	301.9	12	38	5	22	32	-25					
MEDAN	84.76	277.8									15	48	
PARAISO	88.29	43.1	12	57	3								
VINEYARD	89.14	43.3	13	3	5								
PASADENA	89.24	47.0	12	58	-1						16	37	
LICK	89.41	42.8	12	59K	-1								
BERKELEY	89.44	42.0	12	58	-2								
CALISTOGA	89.81	41.3	13	0	-2								
WOODY	89.88	45.5									18	3	
FRESNO	90.07	44.2	13	2	-1								

MINERAL	91.56	40.7	12	59K	-11					
BOULDER CITY	92.50	47.5	13	0	-14					
TUCSON	92.65	52.5	13	15	0					
TUCSON TELE.	92.78	52.5	13	15	0					
CORVALLIS	93.69	36.8	13	26	7					
EUREKA	94.12	44.3	13	19	-2					
AREQUIPA	95.56	114.0	13	35	7					
VICTORIA	96.46	34.0	13	35	3					
LA PAZ	98.06	116.0	13	51	12	24	28	11		
PENTICTON	98.81	35.2	13	47	4					
FLAMING GRGE	98.93	46.4	13	47	4					
BUTTE	100.25	40.9	17	57	248					
COLLEGE	101.75	13.5	14	3	7					
SHILLONG	102.35	292.5	17	25	206					
WICHITA MTS.	102.38	56.5	14	3	4				18	27 PP
VISHAKHAPTNM	105.08	281.3	18	42	777					
KODAIKANAL	105.95	271.7	18	49	777					
BOMBAY	114.26	277.1	18	36	-5				22	10
RESOLUTE	121.22	18.0	18	59	4					
PALISADES	122.61	59.7	18	56	-2					
OTTAWA	122.70	54.2	18	55	-3					
QUETTA	124.02	285.9							20	49 PP
BREBEUF	124.14	54.6	19	6K	5					
SHAWINIGAN	124.99	53.5	19	1	-1					
KIRUNA	144.16	346.9	19	42	5					
KAJAANI	145.42	338.9	19	34	-6					
BANGUI	145.77	214.6	19	42	2					
NURMIJARVI	149.02	336.3	19	46	0				21	5
SKALSTUGAN	149.44	349.2	19	46	0					
KSARA	150.27	279.8	19	49	1				23	31 PP
JERUSALEM	150.38	275.6	19	58	10					
UPPSALA	151.68	341.1	19	54	4					
MBOUR	155.16	137.9	20	16	22					
COLLMBERG	160.30	335.1	20	37	36				20	45 PKP2

OCTOBER 2 7.H 21.M 39.S EPICENTRE 36.62 21.88 DEPTH= 0.KM

A= 0.74660 B= 0.29977 C= 0.59391 D= 0.3726 E=-0.9280
G= 0.5511 H= 0.2213 K=-0.8045 HT= -0.5

SE= 2.51

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	1.99	46.9	0	40A	4	1	5	3			1	8	SG
REGGIO CALA.	5.18	288.5	1	20	-1	2	14	-8					
MESSINA	5.28	289.3	1	21A	-1	2	21	-4			1	42	PG
TARANTO	5.28	318.1	1	20	-2	1	55	-30					
TITOGRAD	6.14	341.6	1	34	-1						1	47	P*
SOFIA	6.17	10.0	1	37	2						2	3	PG
ISTANBUL UN.	7.09	49.4	1	50A	2	3	56	46					
ISTANBUL KA.	7.16	49.4	1	51	2	3	27	15			2	16	P*
BELGRADE	8.26	352.9	2	3A	-1	3	43	3			2	35	PG
BUCHAREST	8.43	21.1	1	8K	-59						4	5	SG
CAMPULUNG	8.96	14.4				2	19	-98					
ROME	8.99	308.8	2	15	1	4	2	4			4	47	S*
TIMISOARA	9.14	357.1	2	26	10						5	51	
FOCSANI	9.92	22.2				2	43	-98					
ZAGREB	10.20	336.1	2	28	-3	4	35	7					
HELWAN	10.39	127.7	2	32	-2	4	18	-14					
BACAU	10.63	19.1									3	5	
FLORENCE X.	10.82	314.6	2	38	-2	4	42	-1					
TRIESTE	10.90	328.4	2	37	-4	4	37	-8			3	29	
LJUBLJANA	10.92	331.9	2	38A	-3	4	40	-5			3	31	PG
PRATO	10.97	314.7	2	47	5	4	46	0					
BUDAPEST	11.06	349.8	2	48	5						5	38	PP
BOLOGNA	11.23	317.7	3	2	17						6	37	
IASI	11.39	20.0	2	56	9								
HURBANOVO	11.57	347.6	2	48	-2						5	32	SG
PADOVA	11.58	322.4	2	58	8	5	18	17			6	29	
KSARA	11.79	99.6	2	52	-1								
JERUSALEM	12.05	109.7	2	52	-4	5	2	-11					
BRATISLAVA	12.07	344.5	2	54	-3	5	3	-10			6	24	SG
CHIAVARI	12.26	312.7	3	1A	2	5	15	-3			7	0	
VIENNA-H.	12.31	342.5	2	57	-3						6	27	SG
SIMFEROPOL	12.45	44.3	3	3A	1	5	22	0			3	39	
SKALNATE PL.	12.61	355.1	3	3	-1	4	56	-30			6	41	SG

NIEDZIKA	12.84	355.4	2	5A	-62					
PAVIA	12.85	315.6							3	49
MONACO	13.12	307.2	3	19	8					
LWOW	13.29	6.1	3	15	2				6	6
KRAKOW	13.50	354.6	3	14K	-2				3	35 PP
CHUR	13.75	321.9	3	19	0				5	39
CHORZOW	13.82	352.2	3	19	-1				3	29 PP
KASPERSKE H.	13.89	336.7	3	17	-4					
ROSELEND	13.91	314.0	3	40	19					
RAVENSBURG	14.36	324.7	3	28	1					
PRUHONICE	14.37	340.6	3	25	-2				8	38 PCP
PRAGUE	14.48	340.5	3	26	-3				8	38 PCP
EBINGEN	14.95	324.6	3	34	-1					
CHEB	15.10	335.9	3	35	-2				4	54
TUBINGEN	15.16	325.7	3	35	-2					
NEUCHATEL	15.19	317.7	3	36	-2					
BASLE	15.19	320.3	3	38	0				6	43 SS
STUTTGART	15.24	326.7	3	37	-2				3	47 PP
WARSAW	15.62	358.0	3	47	4				4	11 PPP
STRASBOURG	15.80	323.5	3	46	0	6	49	7	5	30
BESANCON	15.87	317.0	3	50	3					
HEIDELBERG	15.96	327.3	3	47	-1				6	33
COLLMBERG	15.99	339.4	3	47	-1				3	59 PP
JENA	16.10	335.9	3	51	1	6	47	-2	6	1
CLERMONT-FD.	16.79	308.8	3	56	-2	6	37	-28		
GARCHY	17.54	313.2	4	4	-4					
BENSBERG	17.79	328.3	4	12A	1	7	25	-3	4	37 PP
MUNSTER	18.38	331.1	4	20	2					
TIFLIS	18.47	67.0	4	22	3	7	50	7		
PARIS	18.68	316.8	4	22	0				7	51
WITTEVEEN	19.40	331.4	4	31	0					
GORIS	19.46	74.1	4	34	3	8	9	4	4	52 PP
DE BILT	19.47	327.9	4	34	3	8	16	10		
ALMERIA	19.51	278.0	4	32	0	7	52	-15	4	50 PP
COPENHAGEN	20.12	344.4	4	37	-2	8	17	-3		
FOLINIERE	20.34	313.6	4	39	-2					
TOLEDO	20.60	287.0	4	42	-2	8	34	4	5	4 PP
JERSEY	21.48	313.3	4	52	-1				5	33
KEW	21.67	320.2	4	54	-1	8	50	0		
MOSCOW	21.91	24.3	4	56	-1	8	53	-2	5	37 PPP
GOTEBORG	22.09	345.8	4	57A	-2					
UPPSALA	23.41	354.6	5	11A	-1	9	23	1		
HELSINKI	23.65	3.9	5	14	0					
PULKOVO	23.80	10.6	5	14	-2	9	26	-3	12	29 SCP
TEHERAN	23.80	83.3	5	17	1	9	34	5		
NURMIJARVI	23.98	3.4	5	17A	0	9	31	-1	5	44 PP
SERRA PILAR	24.08	290.1	5	19A	1					
DURHAM	24.26	325.8	5	19A	-1	9	35	-2		
LISBON	24.59	284.3	5	37	14					
ABERDEEN	26.04	329.7	5	45A	8	10	15	8	11	28
BERGEN	26.06	341.2	5	36	-1	10	27	20		
SKALSTUGAN	27.62	350.7	5	47	-4					
KAJAANI	27.72	5.5	5	52A	0					
SODANKYLA	30.92	3.6	6	19A	-2				7	10 PP
KIRUNA	31.27	358.9	6	23A	-1	11	28	-3	7	13 PP
APATITY	31.67	8.4	6	26	-2					
BANGUI	32.22	186.1	6	31	-1				7	46 PP
SVERDLOVSK	32.75	39.5							7	36 PP
TROMSOE	33.11	358.1	6	39	-1					
KEVO	33.32	3.3	6	41A	-1					
SIDA	36.28	331.2	7	8K	1					
QUETTA	37.90	86.3	7	22	1	13	11	-2	12	58
REYKJAVIK	37.95	330.4	7	22	1					
LWIRO	39.20	169.0	7	33	1					
WARSAK DAM	40.26	78.5	7	40	-1					
LAHORE	43.30	80.8	8	6	1					
KHEYS	46.18	7.7	8	29A	0	15	10	-5	11	15 PPP
DEHRA DUN	46.72	80.7	8	41	8				18	27
NEW DELHI	46.75	83.2	8	34A	1					
POONA	48.86	97.1	8	50A	0					
BROKEN HILL	51.17	171.8	9	8	1					
ALERT	53.18	350.6	9	21A	-1					
CHATRA	55.45	80.3	9	38A	-1					
BULAWAYO	56.81	172.4	9	48K	-1					
SHILLONG	59.77	79.2	10	6A	-3					
TIKSI	60.74	20.3				18	30	-2	13	49 PPP
ULAN-BATOR	60.90	50.1	10	15	-2					
RESOLUTE	61.56	344.3	10	20A	-2					

HALIFAX	62.54	306.7	10	28A	0						
LANCHOW	63.95	63.3	9	37A	-61						
YAKUTSK	65.96	29.4	10	49	-1	19	32	-6			
CHENGTU	66.66	68.4	10	54	-1	19	43	-3			
SHAWINIGAN	67.37	311.8	11	0A	1						
BREBEUF	68.41	311.2	11	6	0						
SIAN	68.46	62.8	11	5	-1						
KUNMING	68.50	74.1	11	7	0	20	5	-3			
OTTAWA	69.72	311.9	11	15K	1						
PEKING	70.47	54.3	11	17A	-2	20	28	-4			
PALISADES	70.92	307.2	11	30	9						
FORDHAM	70.99	307.0	11	22	0						
CHANGCHUN	74.06	47.1	11	39A	-1	20	51	-21			
MAGADAN	75.31	24.2	11	47	0	21	29	3			
MORGANTOWN	75.53	308.7	11	49A	1						
NANKING	76.61	60.1	11	55	1						
VLADIVOSTOK	78.30	44.6	12	2	-2						
COLLEGE	78.52	355.5	12	5	0						
ZO-SE	78.83	59.6									23 32
COLUMBIA	79.56	304.6	12	12	1						
BLOOMINGTON	79.82	311.5	12	13A	1						
DUBUQUE	80.12	316.1	12	13	-1				12	20	
Y.-SAKHLINSK	81.32	36.5	12	21	1	22	29	-2			
ST. LOUIS 1	82.40	312.9	12	26	0						
LAWRENCE	85.06	315.9	12	40	1						
MANHATTEN	85.64	316.8	12	43	1	23	15	1	12	55	
MATUSIRO	86.29	46.3	12	45A	0						
FAYETTEVILLE	86.45	313.2	12	47	1						
HUNGRY HORSE	86.73	332.3	12	48	1						
BOZEMAN	87.75	329.1	12	53	1						
PENTICTON	87.87	335.9	12	54	1						
BUTTE	88.09	330.1	12	56	2						
LARAMIE	88.74	323.3	12	58	1						
VICTORIA	89.78	337.8	13	2	0						
WICHITA MTS.	89.96	314.8	13	4	1	23	40	-14			25 18 SPP
FLAMING GRGE	90.83	325.3	13	7	0						
SALT LAKE C.	92.06	326.7	13	13	0						
EUREKA	94.91	328.6	13	27	1						
CHARTERS TS.	129.04	87.0	19	12	1						
SCOTT BASE	136.04	169.9	19	23	-1						
CANBERRA	137.64	104.6	19	29	2						

OCTOBER 4 2.H 23.M 22.S EPICENTRE -13.11 166.50 DEPTH= 58.KM

A=-0.94736 B= 0.22750 C=-0.22530 D= 0.2335 E= 0.9724
G= 0.2191 H=-0.0526 K=-0.9743 HT= 6.1

DEPTH OF FOCUS= 0.004R

SE= 2.29

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PORT VILA	4.92	159.3	1	15	1	2	16	6				
HONIARA	7.39	299.0	1	47	-1	3	10	-1				
KOUMAC	7.71	195.7	1	48K	-4						5	10
NOUMEA	9.14	180.3	2	9	-3	3	48	-7				
BRISBANE	19.15	220.0	4	20	-1	7	52	3				
PORT MORESBY	19.33	279.0	4	24	1	8	3	10				
CHARTERS TS.	20.59	247.6	4	37	0	8	29	10				
AFIAMALU	21.14	94.7	4	44	2	8	45	16				
ONERAHI	23.66	163.9	5	13	6							
RIVERVIEW	24.91	211.5	5	20A	1	9	37	1	5	37	10	18
KARAPIRO	26.00	163.5	5	31	2						12	40 PCS
CANBERRA	27.18	212.6	5	40	0	10	14	1				
TONGARIRO	27.19	164.5	5	47	7						12	43 PCS
CHATEAU	27.19	164.5	5	38	-2						12	42 PCS
TUAI	27.28	161.6	5	42	1						12	42 PCS
WELLINGTON	28.98	167.1				10	48	6			6	58 PP
MELBOURNE	31.21	214.1	6	16	0						13	48
ADELAIDE	33.23	224.3	6	37A	3							
MOORLANDS	33.68	206.2	6	38K	0							
TARRALEAH	33.89	207.1	6	41	2							
FORT NELSON	34.01	205.5	6	41K	0							
DARWIN	34.78	267.1	6	49	2							
MUNDARING	49.62	239.1	8	47K	-1							
PERTH	49.94	239.2									20	3 SS

MATUSIRO	56.12	332.6	9	36A	0	17	44	25				
LEMBANG	58.22	270.0	9	53A	2	17	56	10			17	35
CAPE HALLETT	59.22	178.7	10	3A	5	18	9	10				
Y.-SAKHLINSK	63.53	342.1	10	28A	1							
SCOTT BASE	64.75	179.9	10	34K	-1							
WILKES	64.78	201.7				18	40	-29			23	56 SS
PETROPAVLOVK	66.20	354.8	11	4	20							
CHANGCHUN	67.96	329.1	10	56A	1							
PEKING	70.53	321.2	11	12A	1	20	31	13				
MIRNY	71.50	203.9	11	16	-1							
KUNMING	72.82	301.7	11	28A	4	21	7	22				
BYRD STATION	74.41	170.0	11	31	-3							
LANCHOW	76.67	312.3	11	50A	3							
SOUTH POLE	76.98	180.0	11	47	-1							
YAKUTSK	80.25	343.4	12	6	0							
PARAISO	83.02	50.3	12	25	4							
MAWSON	83.10	202.0	12	21A	0					12 40		
BERKELEY	83.67	48.9	12	24	0							
LICK	83.94	49.6	12	28A	3							
LHASA	84.14	302.1	12	30	4							
SHASTA	84.64	46.3	12	29	0							
COLLEGE	85.01	17.9	12	30	-1					12 53		
MINERAL	85.07	46.8	12	32	1							
PASADENA	85.49	53.6	12	32	-1	22	38	-20			16	8 PP
CHATRA	86.55	298.4	12	41A	3							
VICTORIA	87.00	38.8	12	41	1							
BOULDER CITY	88.66	52.7	12	46	-2							
EUREKA	88.85	49.1	12	49	0						16	34 PP
PENTICTON	89.62	39.0	12	52	-1							
TUCSON	90.82	57.2	12	59	1							
TUCSON TELE.	90.94	57.1	13	0	1							
HUNGRY HORSE	92.81	41.0	13	8	0							
ARGENTINE I.	93.16	160.9	13	29	20							
FLAMING GRGE	94.09	49.1	12	56	-17							
SEMIPALATNSK	97.60	319.9	13	26A	-3							
WICHITA MTS.	101.33	56.8				24	26	7			27	6 PS
MANHATTEN	103.48	52.5									27	32 PS
ROLLA	107.03	54.1									18	48 PP
DUBUQUE	108.15	49.4									28	9 PS
C. GIRARDEAU	108.88	54.8									28	17 PS
PALISADES	120.76	50.0									30	5
KAJAANI	121.63	340.1	18	47	-1						20	16 PP
MOSCOW	122.12	328.7									20	25 PP
TIFLIS	122.18	311.2	18	51	2							
KIMBERLEY	124.31	221.2	18	55	2							
NURMIJARVI	125.09	338.1	18	55	1							
SKALSTUGAN	126.44	346.0	18	57	0							
BULAWAYO	127.01	232.1	18	59A	1							
SIMFEROPOL	128.68	317.8									21	9
BROKEN HILL	130.23	238.1	19	7A	3							
KSARA	130.76	303.5	19	12	7						21	26 PP
JERUSALEM	131.72	301.0	19	10	3							
COLLMBERG	136.28	336.1	19	19	4						21	58 PP
PRUHONICE	136.65	333.7									21	59 PP
KASPERSKE H.	137.70	333.6	19	19	1						22	58 PKS
STUTTGART	139.75	336.6	19	23	1						22	11 PP
FLORENCE X.	142.77	329.9	19	26	-1							
GARCHY	143.21	341.1	19	27	-1							
ROME	143.49	326.7	19	30	2							
ISOLA	144.38	334.3	19	31	1							
CLERMONT-FD.	144.52	339.8	19	31	1							
MONACO	144.57	333.5	19	30	0							
BANGUI	147.12	257.6	19	35	0						20	14 SPKP

OCTOBER 5 18.H 8.M 43.S EPICENTRE -19.47 168.87 DEPTH= 49.KM

A=-0.92576 B= 0.18209 C=-0.33137 D= 0.1930 E= 0.9812
G= 0.3251 H=-0.0640 K=-0.9435 HT= 4.8

DEPTH OF FOCUS= 0.002R

SE= 2.23

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PORT VILA	1.81	343.1	0	30	0	0	50	-2				

NOUMEA	3.61	218.4	0	52K	-3	1	33	-4					
SUVA	9.15	83.3	2	26	14								
HONIARA	13.20	317.9	3	7	0								
BRISBANE	16.73	238.9	3	53	0	7	7	11					
ONERAHI	16.94	164.5	3	53	-2								
KARAPIRO	19.29	163.9	4	23	-1								
AFIAMALU	19.33	76.3	4	25	1								
TONGARIRO	20.48	165.1	4	37	1								
CHATEAU	20.49	165.1	4	37	0	9	15	57					
TUAI	20.55	161.3	4	37	0	8	31	12					
CHARTERS TS.	21.29	264.5	4	45	0	8	41	8					
RIVERVIEW	21.29	224.3	4	50A	5	8	48	15				9	9
COBB RIVER	21.79	172.1	4	53	3								
RABAUL	22.27	310.9	4	53	-1								
PORT MORESBY	23.27	292.4	5	6K	2	9	15	6	5	16	10	18	
CANBERRA	23.60	224.0	5	9A	2				5	23			
GEBBIES PASS	24.36	173.3	5	15	0								
SAVANNAH	28.83	215.0	5	56	0								
MOORLANDS	29.33	213.9	6	2	1								
FORT NELSON	29.59	213.1	6	6	3								
DARWIN	37.19	275.1	7	9	0							9	28
MUNDARING	48.63	244.2	8	40K	-1							10	5
CAPE HALLETT	52.85	179.5	9	11	-2								
MANILA	57.99	302.3	9	49	-1								
SCOTT BASE	58.43	180.5	9	52K	-1				10	4	10	32	PCP
LEMBANG	60.68	273.1	10	9K	0								
ABUYAMA	62.63	329.4	10	21A	-1								
MATUSIRO	62.79	332.5	10	21A	-2	19	4	17					
HONG KONG	67.67	305.2	11	14	20								
BYRD STATION	67.78	169.7	10	53	-2						11	6	
CANTON	68.75	305.5	11	1	0								
NANKING	70.19	316.2	11	21	11								
SOUTH POLE	70.65	180.0	11	11	-2								
CHANGCHUN	74.57	328.8	11	38A	2								
PEKING	76.90	321.2	11	48A	-1	21	36	4					
MAWSON	78.09	202.1	11	55A	-1				12	8	12	34	
LANCHOW	82.62	312.2	12	21A	1								
PARAISO	85.38	49.0	12	37A	3								
PT. REYES	85.85	47.3	12	36A	0								
STA. CRUZ C.	85.95	48.6	12	37A	1								
BERKELEY	86.18	47.7	12	37A	-1								
CALISTOGA	86.32	46.9	12	38A	0								
LICK	86.37	48.4	12	39A	1								
ARGENTINE I.	86.43	160.3	12	37	-2								
SHILLONG	87.17	298.2	12	42A	0								
FRESNO	87.42	49.6	12	44	0								
SHASTA	87.43	45.2	12	43A	-1								
PASADENA	87.47	52.5	12	43	-1								
MINERAL	87.79	45.8	12	45K	0								
RENO	88.65	47.1	12	53	4								
CORVALLIS	88.70	41.4	12	50	0								
COLLEGE	90.37	17.0	12	54	-4				13	5			
VICTORIA	90.55	38.0	12	57	-1								
BOULDER CITY	90.72	52.0	12	58	-1								
EUREKA	91.31	48.4	13	2	0						16	40	
TUCSON	92.36	56.7	13	8	1								
TUCSON TELE.	92.48	56.7	13	8	1								
PENTICTON	93.14	38.4	13	9A	-1								
HUNGRY HORSE	96.10	40.8	13	22	-2								
FLAMING GRGE	96.52	49.0	13	25	-1								
NEW DELHI	100.48	296.6	13	43K	-1								
WICHITA MTS.	102.84	57.6	13	53	-1								
QUETTA	109.54	296.0	18	27	777						29	53	PKKP
BREBEUF	122.82	47.9	18	49	-2								
PALISADES	122.90	53.3									22	25	
KEVO	124.67	344.9	18	53	-2								
SODANKYLA	126.46	342.9	18	57	-1								
TROMSOE	126.61	347.4	18	56	-2								
KIRUNA	127.71	345.5	18	59A	-2								
SAN JUAN	128.16	81.6	19	0	-1								
KAJAANI	128.36	339.4	19	0	-2								
NURMIJARVI	131.81	337.2	19	1	-7						22	32	PKS
HELSINKI	131.92	336.7	19	9	0								
SKALSTUGAN	133.13	345.9	19	4	-7								
UPPSALA	134.72	340.0	19	13A	-1								
JERUSALEM	136.75	295.9	19	19	2								
GOTEBORG	138.20	341.6	19	20	0								
HELWAN	140.25	293.5	19	25	1								
COLLMBERG	142.99	334.8	19	25K	-4						22	23	PP

HALLE	143.25	335.8	19 27	-2				
PRUHONICE	143.32	332.1	19 26	-3			22 53	PKS
VIENNA-H.	143.69	328.6	19 29	-1				
JENA	143.84	335.5	19 27	-3			20 20	
DURHAM	144.02	350.6	19 27K	-3				
KASPERSKE H.	144.38	331.9	19 29K	-2			22 44	PP
MUNSTER	144.40	340.0	19 31	0				
ATHENS	144.59	308.8	19 30K	-2				
BENSBERG	145.41	339.5	19 33A	0				
FELDBERG	145.59	337.6	19 37	4				
LJUBLJANA	146.11	327.3	19 34	0			20 5	
HEIDELBERG	146.17	336.5	19 35	1				
STUTTGART	146.46	335.3	19 34	-1				
TUBINGEN	146.74	335.3	19 37	2				
TRIESTE	146.78	327.4	19 37	2				
KEW	146.95	347.6	19 37	1				
EBINGEN	147.06	335.0	19 38	2				
RAVENSBURG	147.11	333.9	19 39	3				
STRASBOURG	147.20	336.6	19 39	3			20 1	
BANGUI	147.35	246.5	19 38	2	20 6			
CHUR	147.88	332.9	19 40A	3				
BASLE	148.13	335.7	19 41A	4				
PARIS	148.74	342.5	19 43	5				
NEUCHATEL	148.81	335.8	19 43	4				
BESANCON	148.97	337.1	19 42	3				
FLORENCE X.	149.36	327.2	19 40	1				
FOLINIERE	149.54	346.0	19 44	4				
ROSELEND	149.76	333.3	19 48	8				
GARCHY	149.94	340.5	19 45	5				
MESSINA	150.26	314.5	19 46K	5			19 52	PKP2
ISOLA	151.06	332.4	19 49	7				
MONACO	151.24	331.3	19 48	6				
CLERMONT-FD.	151.25	339.0	19 50	8				

OCTOBER 5 22.H 35.M 0.S EPICENTRE 24.09 121.85 DEPTH= 58.KM

A=-0.48227 B= 0.77635 C= 0.40583 D= 0.8494 E= 0.5277
G=-0.2141 H= 0.3447 K=-0.9139 HT= 3.6

DEPTH OF FOCUS= 0.004R

SE= 3.26

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
HWALIEN	0.24	240.9	0	10	-1	0	14	-6				
ILAN	0.69	352.5	0	9A	-7	0	19	-9				
TAIPEI	0.99	342.4	0	20	1	0	34	1				
YUSHAN	1.02	233.9	0	18	-1	0	28	-6				
TAICHUNG	1.07	273.6	0	20K	0	0	32	-3				
HSINCHU	1.07	311.7	0	22	2	0	37	2				
HSINKONG	1.08	204.2	0	16	-4	0	29	-6				
ALISHAN	1.11	239.8	0	19	-2	0	27	-9				
TAINAN	1.85	234.4	0	32	1	0	52	-1				
TAWU	1.94	207.0	0	32	0	0	56	1				
PENGHU	2.18	255.7	0	32	-3	0	58	-3				
HENGCHUN	2.31	206.2	0	37	0	1	5	0				
HONG KONG	7.28	257.4	1	43K	-4	3	19	10				
BAGUIO CITY	7.72	189.1	1	53	0	3	14	-6				
CANTON	7.87	264.5	1	51	-4						3	19
NANKING	8.39	341.9	2	2	0						3	34
MANILA	9.40	184.6	2	16	0	4	2	1				
SIAN	15.15	314.8	3	33K	1	6	23	4				
PEKING	16.60	344.6	3	53K	2	7	1	9				
CHENGTU	17.13	296.4	3	55	-2	7	4	0			6	58
KUNMING	17.41	277.3	4	0K	-1	7	22	11				
MATUSIRO	18.77	44.8	4	15	-2	7	49	8				
LANCHOW	19.59	311.6	4	28K	2							
CHANGCHUN	19.90	7.4	4	33	3	8	13	8				
VLADIVOSTOK	20.72	21.2	4	40	2	8	28	7				
GUAM	24.08	111.9	5	17	6							
ULAN-BATOR	26.59	337.2	5	35	0							
SHILLONG	27.22	279.4	5	41K	0	10	22	8				
CHITTAGONG	27.63	272.5	5	44	0	10	25	5	5	58	6	50 PPP-
LHASA	27.99	288.2	5	49K	1	10	33	7				
Y.-SAKHLINSK	28.33	30.9	5	52	1							

UGLEGORSK	29.58	27.4									
MEDAN	30.26	231.2	6	8	0					9	7 PCP
CALCUTTA	30.75	273.9	6	35	23				6 21	7	38
IRKUTSK	31.16	339.0	6	15	-1	11	3	-13		11	14
CHATRA	31.37	282.4	6	19K	1	11	25	5			
LEMBANG	33.72	206.1	7	39A	61	11	0	-56		8	3
DARWIN	37.29	165.4	7	6	-2						
YAKUTSK	38.29	6.0	7	17	0	13	2	-4			
DEHRA DUN	39.26	289.0	7	40	15					13	25
NEW DELHI	40.09	286.3	7	32K	0						
PORT MORESBY	41.45	140.4	7	45K	2	13	58	4	7 54	8	9 PP
LAHORE	42.42	291.0	7	50	-1						
FRUNSE	42.99	307.6	7	57	1	14	10	-6		9	29 PP
WARSAK DAM	44.69	294.7	8	11	2						
BOMBAY	45.73	273.4									
TIKSI	47.74	3.0	8	33	0					8	30
QUETTA	48.85	289.8	8	43	1	15	42	2		10	28 PP
CHARTERS TS.	49.94	149.5	8	50	0						
SVERDLOVSK	54.49	323.7	9	25	1	17	0	3			
ASHKABAD	55.18	300.5	9	30	1						
MUNDARING	56.00	185.8	9	33	-2					17	19 PS
BRISBANE	59.25	147.9	10	15	17						
ADELAIDE	60.87	164.2	10	6	-3						
KHEYS	62.19	350.4				18	25	-12		10	35
GORIS	64.28	303.7	10	34	2	19	13	9			
CANBERRA	64.44	155.6	10	21	-12					13	3 PP
TIFLIS	65.01	306.4	10	39	2	19	19	6		10	46
MOSCOW	67.25	322.4	10	51	0	19	43	3		13	6 PP
APATITY	67.39	335.4	10	51	-1					20	5 PS
COLLEGE	68.61	27.3	11	1	2						
KEVO	69.29	338.2	11	3	0						
SODANKYLA	70.00	335.8	11	8	0						
PULKOVO	70.26	327.5				20	17	2			
KAJAANI	70.39	332.3	11	8	-2						
FORT NELSON	70.70	160.4	11	26A	14						
SIMFEROPOL	71.85	311.7				20	36	2			
KIRUNA	72.13	337.0	11	20	-1	20	39	2	11 38		
HELSINKI	72.74	328.7							11 41		
NURMIJARVI	72.78	329.1	11	26	2						
KSARA	73.84	300.2	11	29	-2	21	30	34		11	45 PCP
JERUSALEM	75.02	298.3	11	39	2						
UPPSALA	76.29	329.8	11	44	-1	21	24	1	11 58		
LWOW	76.78	318.8	11	51	4	21	32	3			
SKALSTUGAN	76.94	334.4	11	53	5				12 7		
RESOLUTE	78.67	9.3	11	49	-9						
HELWAN	78.82	297.7	12	0	1						
COPENHAGEN	80.65	327.2	12	18	10	22	16	6		12	47
PRUHONICE	82.27	321.5	12	31	14						
COLLMBERG	82.50	323.2	12	19	1					13	7
KASPERSKE H.	83.23	321.1	12	23	1						
JENA	83.46	323.3	12	34	11	22	40	2			
TANANARIVE	84.07	246.4	12	28	2						
STUTTGART	85.86	322.2	12	41	6						
VICTORIA	87.20	37.2	12	44	3						
DURHAM	87.76	331.1									
PENTICTON	88.78	35.1	12	50	1					23	27
KEW	89.30	328.0				23	36	2			
CORVALLIS	89.46	40.4	12	56K	4						
BANFF	89.70	32.0	12	56	3						
SHASTA	92.20	43.3	13	8	3						
HUNGRY HORSE	92.27	33.6	13	8	3						
EUREKA	96.88	41.3	13	29	3				13 43	17	46
WOODY	97.36	45.7	13	30	1						
SCOTT BASE	105.04	171.1	18	23	777						
PALISADES	113.60	13.0									
SOUTH POLE	113.94	180.0	18	43	10					35	20 SS
BYRD STATION	118.42	170.0	18	42	1						

OCTOBER 5 23.H 1.M 1.S EPICENTRE 50.77 149.98 DEPTH= 420.KM

A=-0.54979 B= 0.31772 C= 0.77252 D= 0.5003 E= 0.8658
G=-0.6689 H= 0.3865 K=-0.6350 HT= -5.7

DEPTH OF FOCUS= 0.061R

SE= 2.02

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
TUKUBASAN	16.19	209.8	3	29	3								
MATUSIRO	16.55	215.2	3	33A	3	6	27	8					
COLLEGE	34.41	41.9	6	13	1						7	5	
RESOLUTE	47.70	19.0	7	59	0								
SHILLONG	50.61	262.9	8	21K	1								
CHATRA	52.69	267.8	8	37K	1								
KEVO	52.84	338.5	8	37	0								
CHITTAGONG	52.96	260.1	8	40	2								
VICTORIA	52.98	56.2	8	37	-1								
PENTICTON	54.46	53.5	8	49A	1								
TROMSOE	54.72	341.1	8	50	0								
SODANKYLA	54.74	336.7	8	51K	1						9	45	PCP
KIRUNA	55.86	339.3	8	58	0								
KAJAANI	56.98	333.7	9	5	-1						11	19	PP
LAHORE	57.55	281.4	9	10	0								
WARSAK DAM	57.60	285.4	9	10	0								
NURMIJARVI	60.68	332.4	9	30K	-1						10	7	PCP
HELSINKI	60.86	332.0	9	32	0								
SKALSTUGAN	61.26	339.9	9	34	-1								
EUREKA	62.94	60.0	9	47	1						10	19	
QUETTA	63.05	285.4	9	47	1								
UPPSALA	63.20	335.3	9	46K	-1						10	17	PCP
WOODY	64.00	64.9	9	52	-1								
FLAMING GRGE	65.46	54.9	10	2	0								
BOULDER CITY	66.09	62.1	10	6	0								
GOTEBORG	66.52	336.9	10	8	0								
ABERDEEN	69.99	344.2									20	6	
COLLMBERG	71.95	333.2	10	41K	0						10	59	PCP
HALLE	72.07	333.9	10	42	0								
PRUHONICE	72.67	331.7	10	46	1								
STUTTGART	75.27	334.3	10	59	-1								
WICHITA MTS.	75.71	52.3	11	2	0				12	55			
FAYETTEVILLE	76.77	48.5	11	7K	-1								
PARIS	76.96	338.6	11	10	1								
GARCHY	78.25	337.7	11	26	10								
MAWSON	134.52	212.5									21	9	SKP
BYRD STATION	139.61	164.4	18	29	-10						20	14	
SOUTH POLE	140.58	180.0	18	32	-9								

OCTOBER 6 11.H 4.M 20.S EPICENTRE 42.34 142.74 DEPTH= 85.KM

A=-0.59008 B= 0.44888 C= 0.67105 D= 0.6054 E= 0.7959
G=-0.5341 H= 0.4063 K=-0.7414 HT= -2.6

DEPTH OF FOCUS= 0.008R

SE= 2.58

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
URAKAWA	0.19	171.0	0	13A	-1	0	23	-1				
HIROO	0.43	97.8	0	15K	-1	0	24	-3				
OBIHIRO	0.67	30.3	0	16A	-1	0	28	-2				
TOMAKOMAI	0.91	289.0	0	19	0	0	32	-2				
SAPPORO	1.26	305.9	0	23	0	0	39	-2				
MURORAN	1.30	269.7	0	23	-1	0	38	-4				
KUSIRO	1.38	61.9	0	26A	1	0	43	0				
ASAHIGAWA	1.46	349.5	0	26	0	0	45	0				
HAKODATE	1.57	250.9	0	27A	0	0	46	-2				
MORI	1.63	262.2	0	28	0	0	49	0				
RUMOE	1.81	333.4	0	31	1	0	52	-1				
SUTTSU	1.91	284.8	0	31	-1	0	54	-1				
ABASHIRI	2.02	33.4	0	34	1	0	55	-3				
HATINOHE	2.02	207.1	0	32	-1	0	55	-3				
AOMORI	2.11	224.7	0	35	1	0	59	-1				
NEMURO	2.31	63.7	0	27	-10	0	51	-14				
MIYAKO	2.75	192.5	0	41	-2	1	11	-5				
MORIOKA	2.89	204.8	0	45A	0	1	20	1				
WAKKANAI	3.17	346.4	0	57	8							
AKITA	3.29	218.2	0	54	3	1	31	2				
MIZUSAWA	3.43	201.4	0	54	1	1	32	-1				
ISINOMAKI	4.05	196.0	1	0	-1	1	44	-4				
SAKATA	4.09	213.7	1	3A	1	2	1	12				
SENDAI	4.30	199.7	1	4A	-1	1	52	-2				
YAMAGATA	4.48	204.9	1	6A	-1	1	57	-1				

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Y.-SAKHLINSK	4.68	359.8	1	9	-1	2	3	0			
HUKUSIMA	4.90	201.5	1	11	-2	2	8	-1			
AIKAWA	5.52	220.0	1	22	1						
SHIRAKAWA	5.56	201.2	1	20	-2	2	24	-1			
ONAHAMA	5.57	195.4							2	4	
UTUNOMIYA	6.19	201.9	1	29	-2	2	36	-5			
MITO	6.21	197.2	1	29	-2	2	39	-2			
KAKIOKA	6.42	198.8	1	29	-5	2	39	-7			
MAEBASI	6.58	206.8	1	36	0						
NAGANO	6.66	213.3	1	37	0						
KUMAGAYA	6.71	204.0	1	37	-1	2	49	-5			
MATUSIRO	6.77	212.7	1	38A	-1						
TOKYO C.M.O.	7.05	200.3	1	47	4	3	2	0	3	27	
KOHU	7.41	207.4	1	48	0	3	13	2			
HUNATU	7.50	205.7				3	14	1	3	33	
MISIMA	7.79	203.6				3	19	-2			
IIDA	7.81	210.9	1	54	1						
AJIRO	7.82	202.5	1	50	-3	3	14	-7			
VLADIVOSTOK	8.02	279.2	1	33	-23						
ABUYAMA	9.33	219.3	2	13K	-1						
YAKUTSK	21.19	342.9	4	49	9						
SEMIPALATNSK	42.71	303.2	7	50	0						
COLLEGE	44.11	35.1	8	2	0				9	40	PP
SVERDLOVSK	51.94	316.2	9	5K	3						
ALERT	54.78	3.9	9	21K	-2						
WARSAK DAM	55.10	286.5	9	29	3						
RESOLUTE	57.22	15.5	9	40	-1						
KEVO	58.86	338.5	9	51	-1						
QUETTA	60.45	285.2	10	6	3						
SODANKYLA	60.50	336.5	10	0	-3				10	23	
TROMSOE	61.05	340.6	10	6	-1						
KAJAANI	62.30	333.3	10	13	-3						
PENTICTON	63.71	46.3	10	24	-1				10	35	
NURMIJARVI	65.76	331.4	10	37K	-1				10	58	
HUNGRY HORSE	67.25	44.8	10	48	0						
EUREKA	71.78	53.0	12	16	61	12	51				
WOODY	72.44	57.6	11	19	0						
COLLMBERG	77.01	330.3	11	49	4				12	9	
STUTTGART	80.46	330.9							23	52	
MANHATTEN	82.62	42.4	12	15	0						
WICHITA MTS.	84.98	46.5	12	28	1				13	14	
ROLLA	85.93	40.3	12	34	2						
FAYETTEVILLE	86.22	42.9	12	34K	1						
C. GIRARDEAU	87.51	39.1	12	40	0						
SOUTH POLE	132.15	180.0	19	17	13						
BYRD STATION	132.70	166.4	19	6	1						

OCTOBER 8 23.H 41.M 38.S EPICENTRE 1.37 127.07 DEPTH= 145.KM

A=-0.60255 B= 0.79773 C= 0.02369 D= 0.7980 E= 0.6027
G=-0.0143 H= 0.0189 K=-0.9997 HT= 7.2

DEPTH OF FOCUS= 0.018R

SE= 2.32

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DARWIN	14.16	164.8	3	14	-1	5	58	9					
MANILA	14.48	336.2	3	18	-1	6	3	7					
BAGUIO CITY	16.27	337.2	3	37	-4	6	41	5					
GUAM	21.22	54.7	4	40	5						6	14	
HENGCHUN	21.41	343.8	4	43	6								
DJAKARTA	21.55	249.4	4	39A	1	8	35	12			5	50	
TAWU	21.70	344.4	4	46	6								
PORT MORESBY	22.69	118.5	4	47A	-3	8	41	-2			9	27	
HWALIEN	23.08	347.2	4	54	1	8	57	7					
HONG KONG	24.30	329.8	4	55	-10	9	12	2			5	50	PP
CANTON	25.37	329.3	5	12K	-3	9	26	-2	5	38	5	49	*SP
RABAUL	25.69	102.5	5	16	-2								
CHARTERS TS.	28.44	139.5	5	43A	0	9	45	-33					
MEDAN	28.44	275.0	5	43K	0	10	28	10	6	15	9	46	
ZO-SE	30.09	349.9	6	0	2	10	48	4			11	20	*SS
NANKING	31.51	346.5	6	10	0	11	9	2			6	40	*SP
KUNMING	33.30	317.1	6	26K	0	11	33	-1			7	2	*SP
MUNDARING	34.71	196.3	6	37	-1	11	59	3					

CHENGTU	36.42	325.4	6	50	-2	12	19	-3	7	14	7	25 *SP
MATUSIRO	36.49	15.2	6	49	-4	12	35	12				
SIAN	36.85	334.5	6	56K	0	12	31	2				
ADELAIDE	37.76	164.3	7	4A	1						8	32 PP
BRISBANE	37.81	141.0	7	5A	1	12	39	-4				
MIZUSAWA	39.72	17.2	7	22	2	13	5	-7				
PEKING	39.74	346.9	7	18	-2	13	13	1	7	47	7	56 *SP
LANCHOW	40.68	330.6	7	28K	1	13	28	2				
SHILLONG	41.58	308.3	7	34K	-1	13	41	2			13	9
RIVERVIEW	41.70	149.3	7	36A	0				8	8	9	14 PP
VLADIVOSTOK	41.79	5.3									8	10
CANBERRA	41.86	152.8				13	48	4			9	33 PCP
CHANGCHUN	42.31	358.1	7	38	-3	13	44	-6			8	8 *SP
KOUMAC	42.46	122.9	7	41K	-1						9	31
LHASA	44.31	312.9	7	58K	1	14	21	2				
PORT VILA	44.83	117.0	8	2	1							
NOUMEA	45.04	123.8	8	2A	-1							
CHATRA	45.89	307.0	8	9K	0	14	44	2				
VISHAKHAPTNM	45.95	293.5	8	11K	1	14	45	2			9	58 PP
SAVANNAH	46.61	159.2	8	16A	1						10	7 PP
TARRALEAH	46.87	160.3	8	18	1						10	8 PP
MOORLANDS	47.24	159.7	8	21	1						10	13 PP
Y.-SAKHLINSK	47.47	14.5	8	20	-2							
FORT NELSON	47.73	159.9	8	24A	0						10	17 PP
MADRAS	47.83	286.3	8	24K	-1	15	14	5			10	17 PP
ULAN-BATOR	49.55	342.3	8	58	20	16	16	43				
DEHRA DUN	54.63	306.8	9	19	3	16	48	6				
NEW DELHI	54.69	304.5	9	14K	-2	16	44	1				
POONA	54.87	291.7	9	16K	-1							
BOMBAY	55.90	291.9	9	21	-4	16	59	0			11	29 PP
ONERAHI	57.49	134.9	9	38	2							
LAHORE	58.05	306.8	9	40	0	17	27	0				
COBB RIVER	59.16	141.0	9	48	0							
KAIMATA	59.17	143.0	9	56	8							
KARAPIRO	59.36	136.5	9	48A	-1							
TONGARIRO	59.99	137.8	9	52	-1							
YAKUTSK	60.54	1.4	9	56	-1	18	1	2				
WELLINGTON	60.56	140.2	9	55	-2							
GEBBIES PASS	60.58	143.5	9	56	-1							
ALMATA-2	60.76	320.3				18	12	10				
TUAI	60.89	136.7	9	58	-1							
WARSAK DAM	61.09	308.5	9	58K	-3	18	9	3				
MACQUARIE I.	61.58	159.5	10	4	0							
FRUNSE	62.33	318.8	10	9K	0	18	27	5				
AFIAMALU	62.44	106.4	10	9	-1							
SEMIPALATNSK	62.87	328.4	10	12K	-1							
ANDIJAN	62.98	315.9	10	13	0	18	34	4				
NAMANGAN	63.56	315.9	10	18K	1	18	43	6				
QUETTA	63.69	303.1	10	18K	0	18	43	4			22	45 SS
STALINABAD	64.75	312.5	10	26	1	19	1	9				
TASHKENT	65.35	315.5	10	29	0	19	4	5				
SAMARKAND	66.43	313.1	10	35	-1	19	15	3				
WILKES	68.59	187.1	10	49A	0	19	42	4				
TIKSI	70.17	0.6	10	57	-2	19	56	-1				
MIRNY	71.96	193.6	11	9	0	20	22	5				
SVERDLOVSK	76.14	328.7	11	32K	-1							
TEHERAN	77.58	306.2	11	42	1	21	24	5				
CAPE HALLETT	78.44	167.7	11	45K	-1							
TANANARIVE	80.53	250.7	11	59	2						12	40
MAWSON	81.66	200.4	12	4	1	22	7	5			15	2 PP
SCOTT BASE	81.96	172.1	12	6K	1	22	5	0			15	17 PP
GORIS	81.98	309.5	12	7K	2							
TIFLIS	83.31	311.7	12	13K	1	22	22	4				
COLLEGE	86.69	25.2	12	28	0				12	58	13	10 *SP
SOTCHI	87.14	313.4	12	29K	-1	22	45	-10				
MOSCOW	88.56	325.5	12	36	-1	23	9	0				
APATITY	90.14	337.5	12	45	0							
KSARA	90.23	303.7	12	46	1	23	36	12	13	20	16	20 PP
JERUSALEM	90.86	301.6	12	51	3						16	29 PP
SIMFEROPOL	91.13	314.8	12	48	-1	23	42	10				
KEVO	92.21	339.9	12	52	-2						13	29
SODANKYLA	92.76	337.6	12	55	-2						16	33 PP
KAJAANI	92.87	334.3	12	56	-1						16	14 PP
KISHINEV	94.63	317.2									17	58
NURMIJARVI	94.91	331.0	13	4	-3							
KIRUNA	94.97	338.6	13	5	-2	23	28	-37			16	54 PP
TROMSOE	94.98	340.5	13	9	2							
ISTANBUL KA.	95.14	311.3				23	33	5			16	3 PP

BYRD STATION	95.31	170.7	13	9	1						
ALERT	96.11	1.2	13	14	2					17	0
LWOW	97.35	320.5									
BULAWAYO	98.41	250.0	13	24K	2					17	17
UPPSALA	98.48	331.2	13	28	5	23	46	0			
SKALSTUGAN	99.57	335.7	13	41	13						
NIEDZIKA	99.80	320.6	13	28	-1						
SKALNATE PL.	99.90	320.4	17	32	243					13	48
RESOLUTE	100.07	10.4	13	30	0						
BRATISLAVA	102.18	319.9									
PRUHONICE	103.24	322.2	18	2	258					17	55 PP
COLLMBERG	103.74	323.8	17	28	222					18	48
KASPERSKE H.	104.11	321.6	18	10	262					19	59
HALLE	104.28	324.3	18	9	260						
STUTTGART	106.89	322.3	18	3	777						
HUNGRY HORSE	107.74	37.8	18	17	777				18	32	
EUREKA	109.62	47.1	14	39	777					21	38 PPP
GLEN CANYON	113.72	48.3	18	24	3					19	14 PP
FLAMING GRGE	113.77	43.6	18	14	-7					29	9 PKKP
										21	49 PPP
LAWRENCE	124.16	39.4	18	42	1						
FAYETTEVILLE	126.50	41.6	18	47K	1						
OTTAWA	129.24	20.6	18	52	1					28	19 PKKP
BREBEUF	129.86	18.9	18	54K	2					22	10
PALISADES	133.71	22.0								40	11
HUANCAYO	155.39	116.5	19	42	7					20	8
SAN JUAN	156.48	32.9	19	40	3					20	8
CHINCHINA	156.48	74.3	19	39A	2						
BOGOTA	158.06	74.2	19	45	6					23	55 PP
LA PAZ	158.78	136.0	19	44	4					20	19
TRINIDAD	165.39	35.0	19	52	5						

OCTOBER 10 3.H 44.M 40.S EPICENTRE -22.82 179.84 DEPTH= 549.KM

A=-0.92263 B= 0.00258 C=-0.38568 D= 0.0028 E= 1.0000
G= 0.3857 H=-0.0011 K=-0.9226 HT= 4.0

DEPTH OF FOCUS= 0.081R

SE= 1.27

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
RAOUL ISLAND	6.71	163.0	1	46	0	3	12	2				
AFIAMALU	11.91	43.3	2	36A	-2	4	39	-6				
PORT VILA	11.94	293.0	2	38	0	4	57	12				
NOUMEA	12.38	269.8	2	43	0	5	4	10				
ONERAHI	13.75	199.0	3	0	3	5	34	15			5	28
KOUMAC	14.64	275.9	3	9	4						5	49
KARAPIRO	15.50	192.8	3	14	0	6	0	10				
TUAI	16.09	187.6	3	18	-2	5	28	-33				
CHATEAU	16.73	191.7	3	26	0	6	14	2				
WELLINGTON	18.89	191.9	3	46	-1	6	52	3			4	21
COBB RIVER	19.16	196.6	3	49	0							
KAIMATA	20.86	197.7	4	3	-2	7	30	8				
HONIARA	23.25	301.7	4	24	-3							
BRISBANE	24.90	253.9	4	40	-1							
RIVERVIEW	27.45	240.1	5	4	0	9	6	0			7	13
											9	11
CANBERRA	29.57	238.2	5	22A	0	9	40	1			6	54 PP
CHARTERS TS.	31.33	268.6	5	37	0	10	4	-3				
MELBOURNE	33.39	235.3	5	54	0							
MOORLANDS	33.45	226.4	5	55A	0							
FORT NELSON	33.56	225.5	5	56A	0						6	25
PORT MORESBY	34.03	287.7	6	0K	0	10	44	-4				
ADELAIDE	37.73	241.9	6	30A	0						13	54
SCOTT BASE	55.44	183.3	8	45K	0				10	24	10	40
MUNDARING	56.53	245.9	8	51K	-1							
BYRD STATION	62.70	170.1	9	32	-1						11	23
MATUSIRO	70.93	325.5	10	23A	0							
MAWSON	78.70	200.4	11	6K	-1				13	9	14	8 PP
ARGENTINE I.	79.62	157.4	11	11	0							
NANKING	79.90	311.0	10	56	-17							
WOODY	82.15	46.1	11	25	1						13	25
CHANGCHUN	83.03	323.6	11	28K	-1							
TUCSON	85.92	52.6	11	45	2				13	44		
TUCSON TELE.	86.05	52.6	11	45	2							
PEKING	86.15	316.4	11	44	0							
EUREKA	86.18	44.3	11	45	1				13	48	15	14 PP

PENTICTON	89.70	34.7	12	1	0						
COLLEGE	90.91	13.2	12	4	-2	14	6				
FLAMING GRGE	91.23	45.7	12	8	0	14	14				
LANCHOW	92.59	308.1	12	15K	1						
WICHITA MTS.	96.16	55.0				14	36	16	30	PP	
FAYETTEVILLE	100.00	55.1						16	59	PP	
SODANKYLA	132.40	346.3						20	47	SKP	
KAJAANI	134.82	343.2	18	9	-7			21	1	SKP	
NURMIJARVI	138.55	341.7	18	17	-6			21	6	SKP	
UPPSALA	140.93	345.8	18	21	-8						
GOTEBORG	144.06	348.9	18	32	-2						
KSARA	146.59	297.2	18	41	4						
JERUSALEM	147.44	293.6	18	33K	-5			20	59		
RACIBORZ	149.22	336.6	18	48	7			19	19		
COLLMBERG	149.79	343.5	18	48K	6			22	28	PP	
HALLE	149.87	344.9	18	37	-5						
JENA	150.49	344.8	18	49	6			21	2		
PRUHONICE	150.54	340.5	18	50K	7						
HELWAN	150.98	290.7	18	53	9	21	10				
BENSBERG	151.34	350.3	18	52A	8						
KASPERSKE H.	151.58	340.9	18	53	8						
STUTTGART	153.04	346.2	18	47	0			19	10		
PARIS	153.98	356.0	19	52	64						
GARCHY	155.46	354.7	19	20	30						

OCTOBER 10 17.H 25.M 24.S EPICENTRE -3.89 139.67 DEPTH= 274.KM

A=-0.76058 B= 0.64574 C=-0.06731 D= 0.6472 E= 0.7623
G= 0.0513 H=-0.0436 K=-0.9977 HT= 7.1

DEPTH OF FOCUS= 0.038R

SE= 4.53

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
PORT MORESBY	9.23	126.8	1	59	-11	4	12	20				
RABAUL	12.47	91.9	2	54	4							
CHARTERS TS.	17.34	158.8	3	13	-33	6	42	-6				
HONIARA	20.88	106.3	4	27	5							
BRISBANE	26.52	153.1	5	14	-1	10	1	34				
ADELAIDE	30.94	181.5	5	43K	-11						11	42
RIVERVIEW	31.66	161.6	5	58	-2						7	1 PP
LEMBANG	32.04	263.4	5	46A	-17						12	53
CANBERRA	32.45	165.7	6	OK	-7	11	2	1			7	28 PPP
DJAKARTA	32.79	264.7				12	0	54			6	57
MELBOURNE	34.13	172.5	6	13	-8	11	49	23				
MUNDARING	35.57	215.6	6	17K	-16	12	2	14				
PERTH	35.78	216.0				12	10	23			16	21
HONG KONG	36.04	317.3	6	32	-5	12	4	8				
CANTON	37.14	317.4	6	41A	-6	12	21	9				
MOORLANDS	38.97	171.1	7	7	5						8	38 PP
ZO-SE	39.01	334.4	7	2A	0	12	59	19				
FORT NELSON	39.47	171.1	7	7	1						8	38 PP
MATUSIRO	40.24	358.2	7	15A	3							
NANKING	40.89	332.5	7	17A	0	13	24	16				
MEDAN	41.63	279.8	7	3	-20						13	17
KUNMING	46.01	310.8	7	54A	-4	14	33	11				
KARAPIRO	47.11	140.8	8	10	3							
VLADIVOSTOK	47.31	352.3	8	12	4							
SIAN	47.73	325.1	8	10	-2	14	58	12				
TONGARIRO	47.88	142.1	8	15	2							
CHATEAU	47.89	142.1	8	15	2							
CHENGTU	48.36	317.8	8	13	-3	15	4	9				
TUAI	48.65	140.7	8	20	1							
WELLINGTON	48.74	144.8	8	19	0							
PEKING	48.74	336.0	8	19	0	15	14	14				
CHANGCHUN	49.23	346.3	8	26A	3	15	29	22				
LANCHOW	51.97	323.0	8	42	-1						13	51
CHITTAGONG	53.53	301.4	8	49A	-6	16	17	12	8	58		
SHILLONG	54.80	305.0	8	59A	-5	16	32	10				
LHASA	57.25	309.0	9	19A	-2						18	9
PETROPAVLOVK	58.91	13.3	9	40	7							
ULAN-BATOR	59.03	334.9	9	35	1	17	41	24				
CHATRA	59.17	304.4	9	30	-4							
VISHAKHAPTNM	59.58	293.0	9	29	-8	17	31	7			11	41 PP

MADRAS	61.40	287.0	9	31	-18	17	54	7	11	49	PP
WILKES	65.59	192.5				19	2	23			
YAKUTSK	66.16	354.9	10	26A	6	19	18	32			
DEHRA DUN	67.90	304.8	10	40	9	19	22	16			
NEW DELHI	68.06	302.8	10	27A	-5	19	19	11			
POONA	68.50	291.5	10	28A	-7						
BOMBAY	69.53	291.7	9	39	-62				19	34	
CAPE HALLETT	70.93	170.5	10	46	-3						
LAHORE	71.31	305.0	10	49A	-3						
SEMIPALATNSK	74.15	325.1	11	8	0						
WARSAK DAM	74.25	306.8	11	8A	-1						
SCOTT BASE	75.29	174.3	11	14K	-1	20	50	20	21	40	PS
TIKSI	75.71	356.5	11	21	4	21	6	31			
NAMANGAN	76.17	313.7	11	19	-1	20	59	19			
QUETTA	77.12	302.0	11	23A	-2	21	7	17	13	58	PP
STALINABAD	77.63	310.7	11	27	-1				19	15	
TASHKENT	78.00	313.5	11	28	-2	21	17	18			
SAMARKAND	79.26	311.4	11	35	-2	21	31	19			
MAWSON	81.40	202.2	11	43A	-5				13	48	PP
SOUTH POLE	86.14	180.0	12	10	-2						
COLLEGE	86.15	24.1	12	20	8						
SVERDLOVSK	87.25	327.3	12	18	1						
TEHERAN	90.85	305.6	12	34	0	23	27	23			
TIFLIS	96.20	311.4	12	59	1						
MOSCOW	99.98	325.8							17	18	PP
PASADENA	102.24	56.1							25	42	
SODANKYLA	102.31	338.6	13	28	2						
EUREKA	103.54	50.5	13	40	9				17	58	PP
CHORZOW	112.22	323.4							22	44	
COLLMBERG	115.24	326.2	18	7	-2				19	11	PP
KASPERSKE H.	115.90	323.8	18	15	5				19	18	PP
WICHITA MTS.	118.07	52.6	18	23	9				19	48	PP
STUTTGART	118.57	325.0	18	17	2				19	44	PP
FAYETTEVILLE	121.07	49.8	18	28K	8						
PALISADES	132.30	34.5							21	25	PP
BENI ABBES	135.51	310.2	18	54	6				21	31	PP
HUANCAYO	141.77	114.9	19	13	13						
AREQUIPA	143.16	124.1	19	11	9						
LA PAZ	145.86	127.1	19	18	11				20	3	
SAN JUAN	150.95	58.3	19	36	22						

OCTOBER 10 18.H 44.M 28.S EPICENTRE -16.14-176.32 DEPTH= 353.KM

A=-0.95911 B=-0.06171 C=-0.27623 D=-0.0642 E= 0.9979
G= 0.2757 H= 0.0177 K=-0.9611 HT= 5.5

DEPTH OF FOCUS= 0.051R

SE= 1.26

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
AFIAMALU	4.91	63.8	1	19	0	2	19	-3			5	40
SUVA	5.40	247.5				2	37	6				
RAOUL ISLAND	13.13	186.2	2	57	1	5	18	2				
NOUMEA	17.38	246.7	3	42	0							
KOUMAC	18.93	253.6	3	57	0							
ONERAHI	21.24	201.3	4	22	2							
KARAPIRO	22.86	196.8	4	35	0							
TUAI	23.29	193.0	4	37	-2	8	49	26				
CHATEAU	24.06	195.7	4	43	-3							
TONGARIRO	24.06	195.7	4	44	-2							
WELLINGTON	26.21	195.3	5	3	-2						15	55 SCS
KAIMATA	28.32	199.3	5	26	2							
CHARTERS TS.	35.73	257.9	6	27	-1							
PORT MORESBY	36.21	276.1	6	32K	0	11	47	1			13	56
CANBERRA	36.36	231.7	6	34A	1							
MELBOURNE	40.31	229.9	7	5	0							
SAVANNAH	40.40	223.4	7	7A	1							
MOORLANDS	40.74	222.4	7	9K	0							
FORT NELSON	40.88	221.7	7	10K	0							
TARRALEAH	41.15	223.0	7	13	1							
ADELAIDE	44.27	236.2	7	37A	0							
DARWIN	51.25	266.9	8	31	1	15	5	-16				
SCOTT BASE	62.31	184.0	9	49	2							
MUNDARING	62.71	242.1	9	49	-1							
MATUSIRO	67.73	321.7	10	21K	-1							

BYRD STATION	68.67	171.0	10	28	1					
PARAISO	72.91	43.1	10	57A	4					
SAN FRANCSCO	73.70	41.8	10	58	1					
VINEYARD TE.	73.80	43.2	10	59	1					
BERKELEY	73.88	41.8	10	58A	0					
LICK	73.98	42.6	10	59A	0					
CALISTOGA	74.13	41.0	11	OK	0					
PASADENA	74.56	47.0	11	1	-1					
SHASTA	75.47	39.4	11	7A	0					
MINERAL	75.75	40.1	11	8A	-1					
RENO	76.41	41.6	11	14	1					
BOULDER CITY	77.85	46.8	11	20	0					
EUREKA	78.87	43.3	11	26	0					
TUCSON TELE.	79.10	51.7	11	29	2			13	1	
VICTORIA	79.68	32.6	11	30	0					
PENTICTON	82.16	33.5	11	42	-1					
COLLEGE	83.63	11.8	11	49	-1					
FLAMING GRGE	83.97	44.5	11	52	0					
HUNGRY HORSE	84.70	36.4	11	55	-1					
BOZEMAN	85.12	39.7	11	57	-1					
BANFF	85.37	33.5	11	58	-1					
WICHITA MTS.	89.33	53.6	12	17	-1			13	59	
FAYETTEVILLE	93.18	53.5	12	36K	0					
KAJAANI	129.34	346.6	18	25	-2					
NURMIJARVI	133.16	345.9	18	34	0					
HALLE	144.11	351.2	18	52	-2			20	20	
MUNSTER	144.12	355.8	18	54	0					
COLLMBERG	144.14	350.0	18	53	-1			18	58	PKP2
RACIBORZ	144.16	344.0	18	54	0					
KEW	144.61	4.3	18	55	0					
JENA	144.72	351.3	18	54	-1					
PRUHONICE	145.11	347.7	18	57A	1					
BENSBERG	145.15	356.1	18	56A	0					
KSARA	146.11	307.3	19	0	2					
KASPERSKE H.	146.12	348.3	18	58	0			20	30	
BRATISLAVA	146.20	343.8	18	59	1					
VIENNA-H.	146.32	344.6	18	59K	1					
STUTTGART	147.14	353.2	18	58	-1					
FOLINIERE	147.28	5.1	19	6	7					
JERUSALEM	147.39	304.2	19	4K	5					
PARIS	147.40	1.5	19	4	5					
STRASBOURG	147.47	354.9	19	4	4					
BELGRADE	148.10	337.1	19	5K	5			20	41	
LJUBLJANA	148.83	345.3	19	1	0			19	7	PKP2
BESANCON	148.92	357.0	19	7	5					
GARCHY	148.94	0.8	19	1	-1					
LWIRO	149.18	235.9	19	9	7					
TRIESTE	149.39	346.1	19	9	7					
CLERMONT-FD.	150.45	0.8	19	12	8					
HELWAN	151.21	303.2	19	14	9					
ISOLA	151.90	354.8	19	14	8					
BENI ABBES	165.08	20.1						20	23	

OCTOBER 13 4.H 59.M 10.S EPICENTRE -55.93 -27.61 DEPTH= 106.KM

A= 0.49875 B=-0.26087 C=-0.82656 D=-0.4635 E=-0.8861
G=-0.7324 H= 0.3831 K=-0.5629 HT= -7.5

DEPTH OF FOCUS= 0.011R

SE= 1.36

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT STANLEY	18.28	270.7	4	8	0								
G. G. VIDELA	19.31	228.3	4	18	-1	7	52	6					
ARGENTINE I.	19.98	227.4	4	25	-1	8	5	5			11	58	SCP
SOUTH POLE	34.25	180.0	6	38	0								
HERMANUS	38.43	76.0				13	3	4					
MAWSON	40.40	143.7	7	30	1	13	36	7	7	45	9	8	PP
GRAHAMSTOWN	43.31	81.8	7	54	1								
KIMBERLEY	45.80	76.0	8	14	1								
SCOTT BASE	46.19	184.2	8	16K	0	14	54	1			10	7	PP
WINDHOEK	46.75	63.2	8	22K	2								
LA PAZ	49.93	305.5	8	46	1	15	51	6					
MIRNY	50.00	153.3	8	45	0	15	47	1					

CAPE HALLETT	51.45	186.9	8	56K	0	16	5	-1		13	52
AREQUIPA	51.53	301.9	8	57	0						
WILKES	54.05	160.6	9	17A	1	16	45	3			
BULAWAYO	54.76	73.0	9	22A	1						
HUANCAYO	57.19	300.6	9	39	1						
BROKEN HILL	59.39	69.1	9	54A	1						
TANANARIVE	66.24	88.8	10	42A	3					12	5
MACQUARIE I.	69.80	184.1	11	0	-1						
LWIRO	69.92	62.4	11	4	3						
MBOUR	70.60	10.9	11	7	1	20	8	-1			
BANGUI	71.00	49.6	11	9	1						
BOGOTA	71.32	310.3	11	9	-1	20	4	-14	11 37	21	2 *SS
TRINIDAD	72.06	324.9	11	15	1						
GRENADA	73.48	325.1	11	22	-1						
CARACAS	73.82	319.5	11	23A	-2					14	6 PP
ST. VINCENT	74.38	325.9	11	28	0						
ST. KITTS	78.76	325.9	11	53	1						
KAIMATA	80.61	194.1	12	5	3						
SAN JUAN	80.84	323.2	12	3	0					12	29
WELLINGTON	81.32	196.9	12	5	-1						
FORT NELSON	81.42	176.3	12	6	-1					15	13 PP
COBB RIVER	81.83	195.4	12	11	2						
MOORLANDS	81.91	176.1	12	9	0					15	16 PP
TARRALEAH	82.02	175.6	12	10	0						
CHATEAU	83.21	197.9	12	16	0						
TUAI	83.31	199.2	12	17	1						
KARAPIRO	84.45	198.2	12	20	-2						
MELBOURNE	86.40	174.1	12	32	1						
MUNDARING	87.17	149.8	12	31A	-4						
ADELAIDE	88.71	168.8	12	43A	0					16	12
CANBERRA	89.07	177.2	12	44	0					16	17 PP
RIVERVIEW	90.60	179.0	12	51A	0						
BRISBANE	97.02	180.4	13	19	-2					17	15
MESSINA	100.69	33.3								24	59
ROME	103.21	29.6								18	18
ISOLA	103.94	24.9								18	12 PP
FORDHAM	104.09	325.6								17	44
PALISADES	104.24	325.6	14	18	25	24	18	-4		18	32 PP
KSARA	104.40	50.3	14	1	7						
GARCHY	106.01	21.2								18	20 PP
C. GIRARDEAU	106.72	312.7								18	27 PP
BLOOMINGTON	107.11	315.9				24	32	-2		18	32 PP
ST. LOUIS 1	108.14	313.0	18	19	777					19	6 PP
ROLLA	108.21	311.4				24	33	-6		18	36 PP
BREBEUF	108.22	327.8								18	37 PP
WICHITA MTS.	108.51	304.8	14	39	777	24	40	-1		19	9 PP
STUTTGART	108.78	24.8	18	45	777						
KASPERSKE H.	110.18	27.4	18	33	14					18	55 PP
MANHATTEN	111.31	308.9								18	58 PP
DUBUQUE	111.59	314.8								28	22 PS
COLLMBERG	112.03	26.2								19	5 PP
TUCSON	112.50	294.4	18	24	1					19	34 PP
TUCSON TELE.	112.51	294.5	18	25	2					19	36 PP
PORT MORESBY	114.77	174.3	19	26	58					29	41
TIFLIS	114.88	51.9	19	37	69						
QUETTA	116.88	75.4	18	35	3					20	15 PP
LARAMIE	117.08	304.2	18	31	-1						
BOULDER CITY	117.47	294.1	18	34	1					28	59 PKKP
PASADENA	117.80	290.4	18	34	0					20	13 PP
FLAMING GRGE	118.58	301.4	18	35	0					28	54 PKKP
WOODY	119.35	291.0								28	52 PKKP
SALT LAKE C.	119.65	299.6	18	38	1						
EUREKA	120.73	295.8	18	41	2					20	31 PP
VINEYARD TE.	121.48	290.0	18	43	2						
PARAISO	121.68	289.0	18	42	1				19 12		
STA. CRUZ C.	121.99	289.8	18	44	2						
LAHORE	121.99	80.0	18	44	2						
LICK	122.05	290.3	18	44K	2						
BERKELEY	122.78	290.3	18	45K	2				19 15	19	30 *SP
NURMIJARVI	123.22	27.9	18	44	0					22	6 SKP
BUTTE	123.94	303.2	18	46	0						
MINERAL	124.26	292.7	18	47A	1						
CHITTAGONG	124.66	101.4	18	50	3					20	34 PP
SHASTA	124.93	292.5	18	48	0						
CHATRA	125.58	94.0	18	50K	1						
HUNGRY HORSE	126.32	304.3	18	50	0					21	23 PP
KAJAANI	126.99	26.9	18	50	-2					22	11 SKP
SHILLONG	127.23	99.1	18	53K	1						

SODANKYLA	129.41	24.0	18 56	0	21 7 PP
PENTICTON	129.64	301.9	18 57	0	
LHASA	129.91	95.1	18 59	2	
APATITY	131.18	26.5			22 11 PP
KEVO	131.41	22.2	19 0	0	22 11 SKP
MANILA	132.33	137.1			22 15
SVERDLOVSK	132.92	48.6	19 32	29	
RESOLUTE	137.65	338.7	19 12	0	22 33
ALERT	139.33	353.4	19 6	-9	
LANCHOW	141.83	100.6	19 16	-3	
SIAN	143.27	107.7	19 51	29	
NANKING	146.58	121.4	19 31	4	22 42
ZO-SE	146.91	125.5	19 31A	3	
COLLEGE	150.27	311.9	19 30	-3	23 35 PP
PEKING	151.43	108.5	19 42	7	
IRKUTSK	152.03	77.1	19 44	8	
ABUYAMA	155.98	144.2	20 11A	30	
MATUSIRO	158.35	147.7	19 45K	1	23 57 PP
CHANGCHUN	158.92	113.6	19 46	1	20 24
VLADIVOSTOK	161.62	125.6	19 35	-13	
Y.-SAKHLINSK	169.25	142.0			21 8

OCTOBER 13 10.H 46.M 41.S EPICENTRE -60.33 -33.74 DEPTH= 0.KM

A= 0.41377 B=-0.27636 C=-0.86742 D=-0.5554 E=-0.8316
G=-0.7213 H= 0.4818 K=-0.4976 HT= -9.0

SE= 2.22

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
G. G. VIDELA	14.07	238.9	3 22	-1	7 7	66		
ARGENTINE I.	14.71	237.4	3 31	-1	6 35	19		21 5 PCP
PORT STANLEY	15.94	292.1	4 51	63				
SOUTH POLE	29.84	180.0	6 12	1				
BYRD STATION	30.63	200.0	6 18	0				
MAWSON	38.81	142.6	7 28A	-1	13 27	0	7 40	8 57 PP
SCOTT BASE	41.50	186.4	7 53K	2	14 9	2		9 34 PP
HERMANUS	42.63	77.0						14 19
CAPE HALLETT	46.62	189.8	8 33	1	15 24	3		10 5
MIRNY	47.48	154.2	8 29	-10	15 35	1		
KIMBERLEY	49.97	78.0	8 58A	0				
LA PAZ	50.30	315.2	9 1	0	16 19	6		
WILKES	50.90	162.3	9 7A	2	16 27	6		
AREQUIPA	51.56	311.4	9 11	1				
HUANCAYO	57.05	309.3	9 51	0				
BULAWAYO	59.08	76.0	10 4	-1				
BROKEN HILL	63.91	72.6	10 37	0				
TANANARIVE	69.46	92.2	11 15	3				
BOGOTA	72.02	317.3	11 28	0	20 51	2		21 20 *SS
TRINIDAD	74.10	331.7	11 39	-1				
LWIRO	74.75	66.8	11 43	-1				
GRENADA	75.53	331.7	11 46	-2				
WELLINGTON	76.08	201.8	11 57	5				
BANGUI	76.28	54.4	11 54	1				
FORT NELSON	77.10	180.8	11 56	-1				
MOORLANDS	77.59	180.7	12 0	0				
CHATEAU	77.95	202.9	12 2	0				
TONGARIRO	77.95	202.9	12 2	0				
KARAPIRO	79.18	203.2	12 8	-1				
MELBOURNE	82.19	179.0	12 24	-1				
SAN JUAN	82.69	329.2	12 25	-2				
CANBERRA	84.68	182.2	12 37K	0				
MUNDARING	84.78	154.7	12 38A	0				
ADELAIDE	84.85	173.8	12 37K	-1			12 46	12 42 PCP
RIVERVIEW	86.10	184.1	12 45	1				29 7 SS
BRISBANE	92.44	185.8	13 13	-1	24 15	-2		
PALISADES	106.22	329.4			24 53	-3		18 37 PP
C. GIRARDEAU	107.50	316.3						28 55 PS
BLOOMINGTON	108.17	319.4						28 15 PS
WICHITA MTS.	108.52	308.2	14 26	777				19 0 PP
ROLLA	108.84	314.8						28 21 PS
KSARA	109.65	56.0						25 1
TUCSON	111.50	297.4	18 37	0				
TUCSON TELE.	111.52	297.6	18 37	0				
MANHATTEN	111.69	311.9						28 43 PS

PASADENA	116.40	292.9	18	44	-2				29	39 PS
COLLMBERG	117.46	31.0	18	48	0					
FLAMING GRGE	118.21	303.6	18	48	-2				29	9 PKKP
EUREKA	119.82	297.9	18	53	0				20	18 PP
VINEYARD TE.	120.02	292.0	18	54K	1					
PARAISO	120.14	291.0	18	53	0					
LICK	120.62	292.2	18	55K	1					
QUETTA	120.92	82.7	18	55	0					
BERKELEY	121.34	292.1	18	56A	0					
MINERAL	123.04	294.3	18	58	-1					
SHASTA	123.68	294.0	19	1	1					
BUTTE	123.71	304.7	18	59	-1					
HUNGRY HORSE	126.17	305.5	19	3	-2					
UPPSALA	126.30	29.3	19	4	-1					
SKALSTUGAN	128.40	24.3	19	8	-1					
NURMIJARVI	128.67	32.7	19	8	-2					
PENTICTON	129.24	302.6	19	10	-1					
SHILLONG	129.35	108.3	19	11A	0					
LHASA	132.37	104.6	19	16	-1					
KAJAANI	132.43	31.5	19	15	-2					
SODANKYLA	134.80	28.3	19	18	-3					
RESOLUTE	140.57	338.5	19	25	-7					
ALERT	143.35	353.9	19	31	-6					
LANCHOW	143.69	112.6	19	37	0					
SIAN	144.45	120.2	19	39	0					
ZO-SE	146.35	139.0	19	44	2					
NANKING	146.41	134.9	19	45A	3				22	38
COLLEGE	150.58	307.5	19	46	-3					
PEKING	152.41	123.8	19	56	5				23	43 PP
MATUSIRO	155.64	164.1	19	55	-1				49	57 SS
CHANGCHUN	159.21	133.2	20	4	4					

OCTOBER 13 17.H 28.M 28.S EPICENTRE -22.10-177.01 DEPTH= 215.KM

A=-0.92613 B=-0.04837 C=-0.37408 D=-0.0522 E= 0.9986
G= 0.3736 H= 0.0195 K=-0.9274 HT= 4.1

DEPTH OF FOCUS= 0.029R

SE= 2.10

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	5.81	311.7	1	26	0	2	35	3					
RAOUL ISLAND	7.17	186.4	1	47	4	2	57	-7					
AFIAMALU	9.54	32.3	2	4	-10	3	43	-16					
PORT VILA	14.46	284.9	3	19	3	6	8	17					
NOUMEA	15.32	266.1	3	29K	3	6	26	16					
KARAPIRO	17.03	200.5	3	45	-2								
TUAI	17.38	195.4	3	47	-3	6	45	-10					
CHATEAU	18.19	198.8	3	58	-1	7	9	-2					
TONGARIRO	18.20	198.8	3	57	-2	7	13	2					
WELLINGTON	20.34	198.1	4	17	-4	7	44	-7					
COBB RIVER	20.81	202.3	4	27	2	8	3	3					
KAIMATA	22.54	202.8	4	44	2	8	32	2					
BRISBANE	27.90	253.0	5	30	-2	9	58	0					
RIVERVIEW	30.33	240.4	5	54A	1						12	8	
CANBERRA	32.42	238.5	6	12	1						7	26	PP
RABAUL	34.76	296.3	6	26	-5								
SAVANNAH	35.80	228.5	6	42	2								
MOORLANDS	36.07	227.3	6	42	0								
FORT NELSON	36.15	226.5	6	43	0								
PORT MORESBY	36.63	284.4	6	48K	1	12	8	-6	7	33	15	10	
ADELAIDE	40.64	241.7	7	19K	-1						9	19	PCP
CAPE HALLETT	50.75	185.0	8	40A	0	15	45	8					
GUAM	51.54	309.7	8	45	0						9	12	
SCOTT BASE	56.34	184.1	9	21	1								
MUNDARING	59.48	245.1	9	42A	0								
BYRD STATION	62.92	170.5	10	4	-1						10	50	
SOUTH POLE	68.03	180.0	10	38	0								
MANILA	70.82	295.3	10	54	-1						19	44	
MATUSIRO	72.04	323.4	11	0K	-2	20	51	46			11	48	
LEMBANG	73.93	269.1	11	13K	0						12	7	
PARAISO	77.72	42.4	11	38	4				12	27			
VINEYARD TE.	78.59	42.5	11	40	1								
BERKELEY	78.76	41.2	11	40K	0				12	29			
LICK	78.81	42.0	11	41K	1								

CALISTOGA	79.06	40.5	11	42	1					
PASADENA	79.11	46.3	11	42K	0				12	31
ARGENTINE I.	79.14	156.7	11	41	-1					
FRESNO	79.61	43.3	11	45	1					
MAWSON	80.37	199.7	11	48K	0			12	33	12 45 *SP
SHASTA	80.49	38.9	11	50K	1					
MINERAL	80.73	39.6	11	51A	1					
RENO	81.30	41.1	11	54	1					
BOULDER CITY	82.40	46.4	12	0	1					
CORVALLIS	82.50	35.5	12	0	1					
TUCSON	83.18	51.3	12	4	1					12 54
TUCSON TELE.	83.31	51.3	12	4	0					12 54
EUREKA	83.65	42.9	12	6	1					12 55
VICTORIA	85.03	32.5	12	12K	0					
PENTICTON	87.47	33.5	12	24K	0					
FLAMING GRGE	88.66	44.5	12	30	0					
COLLEGE	89.57	12.0	12	32	-2					
HUNGRY HORSE	89.86	36.5	12	35	0					
BANFF	90.67	33.6	12	38K	-1					
WICHITA MTS.	93.37	53.9	12	51	0	23 49	12	13	42	29 59 PKKP
FAYETTEVILLE	97.21	54.1	13	8K	-1					
PALISADES	113.80	53.7								26 40 SKKS
QUETTA	122.66	292.5	18	32	2					
KIMBERLEY	125.25	203.5	18	38	3					
KEVO	130.20	349.3	18	44	0					
BULAWAYO	131.12	212.6	18	47	1					21 54 PP
SODANKYLA	132.35	347.9	18	48	0					21 58 SKP
KIRUNA	132.99	351.1	18	47	-3					22 0 SKP
KAJAANI	134.93	345.0	18	42	-11					22 8 SKP
BROKEN HILL	135.91	216.8	18	53	-2					22 10 PP
TEHERAN	135.93	299.0	18	56	1					
SKALSTUGAN	138.07	353.8	18	49A	-10					
NURMI JARVI	138.72	343.9	18	51	-9					22 19 SKP
UPPSALA	140.88	348.3	18	57A	-7					
GOTEBORG	143.84	351.8	19	7A	-2					
LWIRO	145.05	229.4	19	14	2					
COPENHAGEN	145.73	350.5	19	14K	1					
DURHAM	147.20	4.9	19	19A	4					
KSARA	148.82	299.2	19	17	0					
KRAKOW	149.08	338.6	19	19	1			19	47	
CHORZOW	149.18	339.8	19	19	1					
WITTEVEEN	149.20	355.6	19	24K	6					
RACIBORZ	149.62	340.5	19	24K	5			20	1	
SKALNATE PL.	149.70	337.3	19	26	7			20	10	21 25
COLLMBERG	149.83	347.5	19	20A	1					23 1 PP
MUNSTER	149.97	354.3	19	31	12					
JENA	150.45	348.9	19	27	7					21 8
KEW	150.57	4.2	19	26	6					
BENSBERG	151.01	354.5	19	28K	7					20 24
FELDBERG	151.61	352.6	19	26	4					
BRATISLAVA	151.64	339.9	19	17	-5					
KASPERSKE H.	151.75	345.2	19	30	8					21 26
VIENNA-H.	151.80	340.9	19	23K	1					19 48 PKP2
HEIDELBERG	152.38	351.9	19	21	-2					
KARLSRUHE	152.80	352.2	19	28	5					20 54
STUTTGART	152.92	350.8	19	24	1					19 44
BELGRADE	153.18	331.8	19	33A	9					
FOLINIERE	153.25	5.1	19	26	2					
STRASBOURG	153.30	352.9	19	34	10					20 9 PKP2
SOFIA	153.35	325.2	19	26	2					
HELWAN	153.43	292.8	19	26	2					
LJUBLJANA	154.33	341.3	19	27K	2					19 49 PKP2
BESANCON	154.79	355.2	19	37	11					
GARCHY	154.88	359.9	19	36	10					21 35 PP
TRIESTE	154.92	342.0	19	28	2					19 52 PKP2
ROSELEND	156.36	351.8	19	30	2					19 58 PKP2
CLERMONT-FD.	156.39	359.8	19	32	4					19 59
FLORENCE X.	157.32	344.3	20	3	34					20 40 PKP2
ISOLA	157.73	352.3	19	32	2					20 6
MONACO	158.12	351.3	19	31	1					20 5 PKP2
BAGNERES	158.96	5.8	20	9	38					
TOLEDO	161.29	17.1	19	37	3					20 21 PKP2

OCTOBER 14 16.H 13.M 47.S EPICENTRE -19.08 168.45 DEPTH= 13.KM

A=-0.92659 B= 0.18929 C=-0.32498 D= 0.2002 E= 0.9798
G= 0.3184 H=-0.0650 K=-0.9457 HT= 4.9

SE= 1.89

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PORT VILA	1.35	354.6	0 24	-1	0 42	-1		
NOUMEA	3.71	210.0	0 57K	-2	1 40	-3		
KOUMAC	4.20	248.8	1 5	-1	1 54	-1		
HONIARA	12.64	318.2	3 1	-2				5 17
BRISBANE	16.60	237.2	3 52	-2	7 3	5		
ONERAHI	17.42	163.7	4 17	12				
AFIAMALU	19.63	77.8	4 33	2				
KARAPIRO	19.77	163.2	4 34	1				
CHARTERS TS.	20.93	263.6	4 46	1	8 42	9		
TONGARIRO	20.96	164.5	4 48	3				
CHATEAU	20.96	164.5	4 47	2				
TUAI	21.05	160.8	4 49	3				
RIVERVIEW	21.30	223.0	4 49K	0	8 49	9		
RABAUL	21.72	310.9	4 52	-1				
PORT MORESBY	22.76	292.1	5 4	1	9 12	5		7 4
WELLINGTON	22.77	167.6	5 7	3				9 28
CANBERRA	23.61	222.8	5 13K	1			5 19	
MELBOURNE	27.71	222.7	5 50	0				
ADELAIDE	30.70	232.9	6 16K	-1				
DARWIN	36.77	274.8	7 9	0				
MUNDARING	48.44	243.9	8 42A	-2				10 36 PP
SCOTT BASE	58.81	180.4	9 59A	-2				
LEMBANG	60.26	273.0	10 10K	-1				
MATUSIRO	62.27	332.7	10 23A	-1	18 49	1		
MIRNY	66.87	204.9	10 52	-2				
ZO-SE	67.46	317.0						21 1
BYRD STATION	68.23	169.7	10 57	-6				
NANKING	69.64	316.3			20 22	4		
SOUTH POLE	71.04	180.0	11 19	-1				
CHANGCHUN	74.03	329.0			21 11	2		
PEKING	76.35	321.3	11 51	0				
KUNMING	77.56	302.2			21 53	6		
SIAN	77.58	313.0			21 56	9		
MAWSON	78.30	202.2	12 2K	0			12 13	
CHENGTU	79.24	307.7			21 58	-7		16 49
LANCHOW	82.07	312.3	12 24K	2				
BERKELEY	86.21	47.9	12 42	-1				
LICK	86.41	48.6	12 43A	-1				
SHILLONG	86.64	298.4	12 44K	-1				
ARGENTINE I.	86.93	160.4	12 44	-2				
SHASTA	87.43	45.3	12 49	0				
WOODY	87.69	51.0	12 48	-2				
COLLEGE	90.12	17.2	12 58	-3				
BOULDER CITY	90.79	52.1	13 1	-3				
EUREKA	91.34	48.6	13 7	0				
PENTICTON	93.08	38.5	13 13	-2				
WICHITA MTS.	102.97	57.6	13 58	-2				
KAJAANI	127.86	339.4	19 5	-1				
SAN JUAN	128.49	81.4	19 6	-1				
NURMIJARVI	131.30	337.1	19 12	-1				22 34 PKS
COLLMBERG	142.47	334.7	19 34	1				22 43 PP
KASPERSKE H.	143.85	331.8	19 33	-2				
BENSBERG	144.91	339.3	19 37	0				20 0
LJUBLJANA	145.57	327.2	19 39K	1				19 50 PKP2
STUTTGART	145.94	335.2	19 39	0				
KARLSRUHE	146.09	336.2	19 39	0				
TRIESTE	146.24	327.4	19 45	6				19 56 PKP2
KEW	146.49	347.3	19 42	2				
STRASBOURG	146.68	336.4	19 43	3				19 48 PKP2
PARIS	148.25	342.3	19 52	9				
BESANCON	148.46	336.9	19 47	4				
FLORENCE X.	148.82	327.2	19 46	2				19 52 PKP2
ROSELEND	149.24	333.1	19 50	6				20 4 PKP2
GARCHY	149.44	340.2	19 54	9				
ISOLA	150.53	332.2	19 52	6				
MONACO	150.71	331.2	19 52	5				
CLERMONT-FD.	150.75	338.7	19 52	5				20 15
TOLEDO	158.29	344.3						20 32 PKP2

OCTOBER 14 21.H 58.M 55.S EPICENTRE 51.08 159.12 DEPTH= 57.KM

A=-0.58939 B= 0.22485 C= 0.77592 D= 0.3564 E= 0.9343
G=-0.7250 H= 0.2766 K=-0.6308 HT= -5.8

DEPTH OF FOCUS= 0.004R

SE= 2.83

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SEVERO-KUR.	1.96	259.1	0	43	11							
PETROPAVLOVK	1.97	351.7	0	33	1	0	56	0				
KLYUCHI	5.35	10.5	1	21	1	2	21	0				
UGLEGORSK	11.14	266.3	2	39	0							
Y.-SAKHLINSK	11.50	255.7	2	46	2	4	49	-3			3	11
YAKUTSK	19.37	315.7	4	21	-3						4	44 PP
VLADIVOSTOK	20.08	257.3	4	24	-7							
MATUSIRO	20.84	233.9	4	40A	1	8	34	10				
CHANGCHUN	23.82	265.6	5	9	0	9	15	-2				
COLLEGE	30.29	42.6	6	7	-1				6	28		
PEKING	31.61	266.5	6	20	0							
IRKUTSK	33.32	293.9	6	33A	-2							
ULAN-BATOR	33.48	285.5	6	33	-3							
ZO-SE	34.35	249.2	6	44A	0	12	11	5				
NANKING	35.10	252.9	6	51A	1						13	14
LANCHOW	41.78	271.0	7	46A	0							
ALERT	45.01	7.1	8	12K	0							
CHENGTU	45.20	265.0	8	14	1	14	46	-2				
RESOLUTE	45.43	21.0	8	16	1						14	54
PENTICTON	49.50	58.3	8	45	-2							
KUNMING	49.89	260.7	8	51	1	15	53	-2				
HUNGRY HORSE	53.05	56.5	9	13	-1				9	36		
SHASTA	53.15	68.6	9	15	1							
SVERDLOVSK	53.35	317.3	9	14	-2							
MINERAL	53.84	68.5	9	19K	-1							
LHASA	54.07	274.1	9	22	1							
CALISTOGA	54.36	70.7	9	23K	0							
APATITY	54.90	337.6	9	25A	-2							
BERKELEY	55.05	71.2	9	47	19							
FRUNSE	55.24	297.0	9	29	-1							
RENO	55.41	68.1	9	32	1							
LICK	55.77	71.3	9	56A	22							
PARAISO	56.00	72.6	9	39K	4							
TROMSOE	56.14	344.3	9	34	-2							
VINEYARD TE.	56.31	71.6	9	28K	-9							
BOZEMAN	56.32	57.4	9	38	0							
SHILLONG	56.40	270.0	9	37A	-1							
SODANKYLA	56.59	340.0	9	38	-1							
KIRUNA	57.45	342.7	9	45	-1							
EUREKA	57.68	65.8	9	47	0				10	10		
CHATRA	58.47	274.6	9	54A	1							
CHITTAGONG	58.74	267.4	9	50	-5	17	57	3				
KAJAANI	59.10	337.4	9	56A	-1							
TASHKENT	59.22	298.8	9	57	-1							
PASADENA	60.00	71.8	10	0	-3						10	25
FLAMING GRGE	60.40	60.6	10	5	-1							
BOULDER CITY	60.72	68.1	10	7	-1							
PULKOVO	62.01	333.5	10	15	-2						12	32 PP
LARAMIE	62.20	58.0	10	18	0							
SKALSTUGAN	62.76	344.0	10	20A	-2							
NURMIJARVI	62.89	336.6	10	21A	-2						10	49
WARSAK DAM	62.99	291.3	10	23A	0							
MOSCOW	63.03	327.2	10	21K	-3						12	38 PP
UPPSALA	65.13	339.7	10	36A	-1				10	57		
TUCSON TELE.	65.70	68.3	11	5	24							
TUCSON	65.70	68.4	11	6	25							
ASHKABAD	67.54	302.8				19	44	1				
GOTEBORG	68.28	341.7	10	56A	-1				11	16		
QUETTA	68.44	291.5	10	58A	0	19	55	1	11	25		
WICHITA MTS.	70.77	58.5	11	12	0	20	27	6			11	32 PCP
TIFLIS	71.34	313.9	11	16A	0							
CHARTERS TS.	71.75	192.7	11	18	0							
FAYETTEVILLE	72.04	54.6	11	19A	-1							
ST. LOUIS 1	72.04	50.4	11	18	-2	20	33	-3				
KARACHI	72.35	287.7	11	8A	-14							
GORIS	72.39	311.5	11	22	0							
TEHERAN	72.85	305.8	11	26	1							
BLOOMINGTON	73.39	47.6	11	48	20							
C. GIRARDEAU	73.42	50.8	11	28	0				11	48		

KRAKOW	73.42	333.9	11 28	0	11 37	11 55
BREBEUF	73.56	35.7	11 28	-1	11 43	
WITTEVEEN	73.90	343.0	11 31	0		
COLLMBERG	74.03	338.7	11 31A	-1	11 51	12 3 *SP
HALLE	74.08	339.4	11 35	3		
MUNSTER	74.53	342.2	11 37	2		
JENA	74.69	339.4	11 35	0		
PRUHONICE	74.89	337.2	11 36	-1		11 57
BENSBERG	75.58	342.1	11 40	-1		12 1
BRATISLAVA	75.90	334.9	11 40	-2		
KASPERSKE H.	75.91	337.5	11 42K	0		
MORGANTOWN	75.97	43.1	11 43A	0		
FELDBERG	76.03	341.1	11 56	13		
STUTTGART	77.23	340.1	11 52	2	12 10	
STRASBOURG	77.73	341.0	12 2	9		12 14 PCP
HALIFAX	77.75	29.7	11 51	-2		
BELGRADE	78.00	331.3	11 58K	4		12 21 PCP
LJUBLJANA	78.54	335.7	11 57	0	12 12	
TRIESTE	79.11	336.0	12 3	3	12 20	
BESANCON	79.36	341.7	12 10	8		
GARCHY	79.88	343.7	12 4	0		
ROSELEND	80.70	340.1	12 10	1		12 31
CLERMONT-FD.	81.33	343.3	12 11	-1		12 43
FLORENCE X.	81.49	337.1	12 9	-4		
ISOLA	82.08	340.1	12 19	3		
MONACO	82.42	339.7	12 21	3		
ATHENS	83.08	326.0	12 26	5		
JERUSALEM	83.86	314.7	12 25	0		
TOLEDO	88.23	347.1	12 52	6		
MAWSON	137.98	214.7	19 21	2		
BYRD STATION	138.37	165.0	19 9	-10		
ARGENTINE I.	153.74	139.2	19 53	8		

OCTOBER 17 4.H 27.M 28.S EPICENTRE -54.99 1.20 DEPTH= 0.KM

A= 0.57614 B= 0.01203 C=-0.81726 D= 0.0209 E=-0.9998
G=-0.8171 H=-0.0171 K=-0.5763 HT= -7.2

SE= 3.97

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HERMANUS	24.10	38.8	5 48	30				9 32
MAWSON	30.73	138.7	6 17	-2	11 30	8	6 29	7 19 PP
ARGENTINE I.	32.64	225.2	6 35	-1				
PORT STANLEY	34.51	250.4	6 51	-1				
SOUTH POLE	35.19	180.0	6 54	-4	12 40	9		
BULAWAYO	40.50	41.8	7 37	-5				
BYRD STATION	41.12	193.2	7 46	-1				
MIRNY	42.12	143.4	8 1	5	14 16	0		
BROKEN HILL	45.66	38.4	8 20	-4				
SCOTT BASE	47.12	175.9	8 35K	-1	15 36	8		10 30 PP
WILKES	47.87	149.1			15 44	5		
CAPE HALLETT	52.76	175.8	9 18	-1	16 48	1		11 18 PP
LWIRO	57.17	33.4	9 44	-7				
LA PAZ	64.80	277.2	10 42	-1	19 26	3		
AREQUIPA	66.75	274.4	10 54	-1				
HUANCAYO	72.49	274.0	11 37	7				
MUNDARING	77.08	127.8	11 56	-1				
FORT NELSON	78.28	155.3	12 9	6				
MOORLANDS	78.71	155.0	12 17	11				
MELBOURNE	82.47	151.8	12 26	0				
ADELAIDE	83.27	146.1	12 30	0				
BOGOTA	85.37	284.7	12 41	1	23 13	2		
CANBERRA	85.89	154.1	12 44	1	23 26	10		
CHINCHINA	86.52	283.6	12 44	-2				
RIVERVIEW	87.84	155.3	12 53	1	23 44	9		16 24 PP
JERUSALEM	91.24	28.5	12 40	-28				
KSARA	93.34	28.3	13 24	6				19 9 PPP
MESSINA	93.64	11.3						23 32
BRISBANE	94.40	154.9	12 35	-48				30 59
BOMBAY	95.23	64.5						34 17
ROME	97.00	8.5						27 6 PPS
PORT MORESBY	109.79	144.0						26 54
PALISADES	114.97	306.2						30 0
UPPSALA	115.24	9.1						36 8 SS

BLOOMINGTON	119.76	296.6						36	38 SS
C. GIRARDEAU	119.95	293.1						29	12 PS
ROLLA	121.64	291.9						37	1 SS
WICHITA MTS.	122.96	284.7	19	1	3			30	31 PS
SODANKYLA	123.52	11.5	18	47	-13				
MANHATTEN	125.10	289.8						39	6 SS
TUCSON	128.11	273.4	19	9	1				
LARAMIE	131.51	285.6	18	45	-30				
EUREKA	136.15	276.3	19	8	-15			21	47
LICK	137.96	269.6	19	28K	1				
BERKELEY	138.68	269.6	19	33	5				
MINERAL	139.96	273.0	19	32	2				
HUNGRY HORSE	140.60	288.1	19	28	-4			19	52
RESOLUTE	143.53	333.6	19	37	0				
MATUSIRO	145.48	104.3	19	40	0			24	15 PKS
VICTORIA	145.91	282.5	19	39	-2				

OCTOBER 18 16.H 51.M 59.S EPICENTRE -36.59 -72.89 DEPTH= 39.KM

A= 0.23682 B=-0.76922 C=-0.59347 D=-0.9557 E=-0.2942
G=-0.1746 H= 0.5672 K=-0.8049 HT= -0.4

DEPTH OF FOCUS= 0.001R

SE= 3.06

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
SANTIAGO	3.65	30.9	0	56	1							
PORT STANLEY	18.50	149.5	4	18	3							
LA PAZ	20.45	13.2	4	34	-3	8	58	40				
HUANCAYO	24.53	354.2	5	20	3	9	28	-4				
ARGENTINE I.	29.15	172.6	5	56	-4							
BOGOTA	41.01	358.2	7	41	0							
CHINCHINA	41.42	355.9	7	46A	2	14	3	7				
BALBOA HTS.	45.74	350.8	8	19	0	15	7	8				
BYRD STATION	47.10	190.0	8	27	-3							
CARACAS	47.17	8.0	8	26K	-4	15	37	17				
GRENADA	49.51	14.4	8	50	1							
ST. VINCENT	50.69	14.7	8	58	0							
BARBADOS	51.00	16.7	9	5	5							
SANTIAGO MA.	51.93	340.6	9	9	2							
FORT FRANCE	52.23	14.4	9	9	0							
SAN SALVADOR	52.31	339.8	9	4	-6							
DOMINICA	52.73	14.0	9	13	0							
ANTIGUA	54.45	13.0	9	19	-7							
ST. KITTS	54.49	11.9	9	20	-6							
SAN JUAN	55.04	7.8	9	27	-3	17	11	3			11	33 PP
COMITAN	55.61	337.4	9	33	-1	17	25	10				
OAXACA	57.90	332.8									12	10
MERIDA	59.37	341.8				18	16	11			11	34
SCOTT BASE	60.41	192.1	10	5K	-3	18	25	7			12	31 PP
TACUBAYA	60.98	331.4	10	14K	2	18	34	8			12	29 PP
MANZANILLO	62.81	326.3				19	10	21				
CAPE HALLETT	63.02	197.8	10	21K	-4	18	54	3			14	34 PCS
GUADALAJARA	63.80	328.1	10	41	11	19	13	12				
MAZATLAN	67.34	326.6									17	29
COLUMBIA	70.63	352.8	11	11	-2	20	27	4				
MAWSON	70.91	163.6	11	13A	-2	20	28	2			13	53 PP
HERMANUS	71.98	119.7	11	26	5	20	51	12			14	8
CHIHUAHUA	71.99	329.6	11	26	5	20	52	13			12	44
MBOUR	73.11	57.0	11	31	3	21	5	13				
LITTLE ROCK	73.28	343.4	11	26	-3	20	53	-1				
WICHITA MTS.	74.88	338.3	11	36A	-2	21	11	0			39	2 PKPPKP
FAYETTEVILLE	74.97	342.3	11	37	-2							
C. GIRARDEAU	75.14	346.3	11	37	-3	21	16	2	11	41		
WASHINGTON	75.21	356.6	11	42	2	21	38	23			14	36 PP
MORGANTOWN	76.12	354.4	11	44A	-1						14	15 PP
BLOOMINGTON	76.44	349.2	11	47A	0	21	30	1	11	50		
ST. LOUIS 1	76.55	346.1	11	46	-2	21	31	1				
FORDHAM	77.07	359.2	11	51	0	21	41	6				
TUCSON	77.13	327.7	11	51	0	21	43	7			12	36
PENNSYLVANIA	77.15	356.1	11	52	1	21	41	5				
TUCSON TELE.	77.16	327.8	11	50	-1						12	36
PALISADES	77.23	359.2	11	52A	0	21	43	6	12	10	14	36 PP
WILKES	77.36	181.4	11	50A	-2	21	39	0			14	47 PP

GRAHAMSTOWN	77.66	122.3	11	54A	0						
LAWRENCE	77.96	342.3	11	52	-4						
CLEVELAND	78.09	353.4	11	57	0	21	59	13			
MANHATTEN	78.51	341.4	11	57	-2	21	51	0			
MACQUARIE I.	78.93	207.9	11	58	-3						
KIMBERLEY	79.07	117.6	12	2K	0						
DUBUQUE	80.38	346.8	12	7	-2	22	12	1			
WELLINGTON	80.83	224.9	12	16	5	22	9	-6	22	40	SCS
ROXBURGH	80.93	219.1	12	13	1	22	9	-7	27	7	SS
LOME	81.01	75.5	12	16	4	22	31	14			
TUAI	81.05	228.0	12	11	-1						
HALIFAX	81.27	6.7	12	12A	-2						
GLEN CANYON	81.51	329.6	12	15	0				30	47	PKKP
OTTAWA	81.65	358.0	12	14A	-2						
LUANDA	81.69	94.8	12	20K	4	22	39	15	12	28	PCP
BREBEUF	81.71	359.5	12	13A	-3	22	29	5			
CHATEAU	81.74	226.9	12	14	-2				15	25	PP
KAIMATA	81.86	222.3	12	26	9						
BOULDER CITY	82.04	326.8	12	17	-1						
PASADENA	82.07	323.5	12	19A	1	22	33	5	15	27	PP
COBB RIVER	82.11	224.0	12	25	7						
KARAPIRO	82.57	227.9	12	18	-2				15	35	PP
LARAMIE	83.11	335.8	12	22	-1						
PRETORIA	83.28	117.0							22	12	
FLAMING GRGE	84.09	333.1	12	27	-1	22	55	7	30	41	PKKP
SALT LAKE C.	84.88	331.3	12	30	-2						
FRESNO	84.96	323.9	12	33	1						
EUREKA	85.46	328.0	12	33	-2				30	39	PKKP
VINEYARD TE.	85.71	322.9	12	36	0						
CHANGALANE	85.79	119.6	12	30A	-6	23	7	2			
PARAISO	85.86	322.0	12	34	-3						
ANGRA DO HO.	85.91	34.2				23	24	18			
STA. CRUZ C.	86.21	322.7	12	37	-1						
LICK	86.30	323.1	12	39K	0						
BULAWAYO	87.00	112.8	12	43A	1						
BERKELEY	87.02	323.0	12	44K	2	23	1	-16	16	12	PP
SAN FRANCSCO	87.03	322.8	12	47	4						
RENO	87.20	325.6	12	46	3						
PT. REYES	87.48	322.8	12	50	5						
CALISTOGA	87.78	323.3	12	46	0						
KERGUELEN I.	88.35	156.8	13	3	14	23	34	5			
UKIAH	88.48	323.2	12	53	4						
MINERAL	88.67	324.9	12	52A	2						
AFIAMALU	88.80	253.7	12	56	5	23	36	3	29	13	SS
BOZEMAN	88.82	334.3	12	50	-1						
SHASTA	89.32	324.7	12	53	0						
BUTTE	89.66	333.6	12	55	0	23	29	-12			
BROKEN HILL	90.37	108.2	13	1A	3						
HUNGRY HORSE	92.17	333.9	13	6	-1				16	44	PP
FORT NELSON	92.78	208.4	13	7A	-3	24	9	0			
CORVALLIS	92.79	326.5	13	11	1						
MOORLANDS	93.26	208.5	13	11A	-1				13	25	
TARRALEAH	93.66	208.1	13	12	-2						
BENI ABBES	93.78	55.0	13	15	1				17	5	PP
BANGUI	93.79	87.4	13	15	1	23	55	-23			
SAVANNAH	93.88	208.9	13	15	0						
PENTICTON	95.04	331.4	13	16	-4						
BANFF	95.07	334.6	13	20	0						
VICTORIA	95.92	328.9	13	22	-2						
SERRA PILAR	97.19	43.3	13	32A	2	24	5	3	17	30	PP
GRANADA	97.46	48.9	13	46	15				17	37	PP
LWIRO	98.04	98.8	13	36	3						
CANBERRA	98.54	213.5	13	31	-5	24	11	2	25	1	S
RIVERVIEW	98.79	215.8	13	34	-3	24	12	1	17	41	PP
TOLEDO	98.94	46.6	13	41	3	24	24	13	17	49	PP
ALICANTE	100.10	49.6	13	52	9	24	31	14	18	2	PP
TANANARIVE	101.23	123.7	14	7	19				18	10	PP
ADELAIDE	102.96	206.2	13	57	1	25	36	65	27	20	PS
BRISBANE	103.21	220.8	13	55	-2	25	43	71			
CLERMONT-FD.	106.72	45.2	18	56	777	25	14	26	19	15	PP
PARIS	108.12	42.3							19	13	PP
KEW	108.19	38.9				26	31	97	28	17	PS
DURHAM	109.52	35.6	17	31	777				34	36	SS
ROME	110.26	52.5	18	5	-23				19	11	PP
MESSINA	110.38	57.2	19	59	91	26	25	82	20	39	PP
FLORENCE X.	110.46	50.3				27	1	117	19	31	PP
ABERDEEN	110.70	33.4				25	8	3	26	53	S
STRASBOURG	110.91	44.5				26	55	109	19	13	PP

PERTH	111.33	188.0							34	52 SS
STUTTGART	111.87	44.9	14	36	-235	25	24	15	19	17 PP
TARANTO	112.65	55.8	18	52	20				29	10 PPS
TRIESTE	112.95	49.5				27	18	124	29	1 SPP
LJUBLJANA	113.61	49.4							19	28 PP
JENA	114.23	43.7	18	38	3				19	35 PP
KASPERSKE H.	114.51	46.1	18	38	2				19	29
HALLE	114.71	43.3	18	41	5				29	26
COLLMBERG	115.20	43.8	18	38	1				19	43 PP
PRUHONICE	115.47	45.6	18	41	3				19	41
COLLEGE	116.57	332.5	18	38	-2	25	21	-6	29	25 PS
BELGRADE	116.76	52.7	18	26K	-14	25	47	19	22	29 PPP
COPENHAGEN	116.87	39.3				27	37	129	19	49 PP
RACIBORZ	117.63	46.6	18	38	-4					
KRAKOW	118.63	47.2	18	48	4				28	11
SKALSTUGAN	120.03	31.0	18	48	1					
WARSAW	120.11	45.2							20	14
BUCHAREST	120.27	55.0				25	56	16	20	11
PORT MORESBY	120.78	227.6	18	49	1	25	47	5	20	12 PP
ISTANBUL UN.	120.90	59.6	18	51	3				20	20
ISTANBUL KA.	120.96	59.6	18	50	2	25	41	-2	20	15 PP
LWOW	120.99	48.6	18	49	0				20	24 PP
UPPSALA	121.06	36.1	18	50	1	28	18	155	20	23 PP
JERUSALEM	121.61	71.9	18	50	0				20	23 PP
KSARA	122.98	70.0	18	53	1				20	34 PP
KIRUNA	124.52	27.4	18	54	-1				20	44 PP
NURMIJARVI	124.61	36.6	18	54K	-2				22	30 PKS
HELSINKI	124.68	37.0	18	55	-1					
SIMFEROPOL	125.81	56.9	19	1	3				20	52 PP
KAJAANI	126.74	32.6	19	1	1				20	5
SODANKYLA	126.78	28.5	18	58	-2				20	50 PP
KEVO	127.19	25.5	19	3	3					
PULKOVO	127.22	38.2	19	3	3				21	2 PP
APATITY	129.41	28.5	19	4	-1					
MOSCOW	130.46	44.1	19	6	-1	26	18	7	21	20 PP
TIFLIS	132.33	63.7	19	6	-4				21	36 PP
GORIS	132.84	67.1	19	14	3				21	38 PP
TEHERAN	135.55	73.7	19	2	-14				21	56 PP
LEMBANG	136.81	180.7	19	21K	3				22	2 PP
DJAKARTA	137.46	179.6	20	1	41				22	43
PETROPAVLOVK	140.84	311.5	19	21	-5	26	27	-3	25	41 PPP
ASHKABAD	141.52	72.8	19	25	-2				29	23 SKKS
KODAIKANAL	142.49	126.9							23	21 PP
SVERDLOVSK	143.17	41.7	19	29	-1				22	39 PP
KARACHI	143.85	97.5	19	31	0					
BOMBAY	145.15	111.0	19	33	0				23	1 PP
POONA	145.69	112.6	19	35A	1					
QUETTA	146.04	89.0	19	37	2				23	1 PP
MEDAN	146.25	164.7	19	36A	1				19	58 PKP2
MADRAS	146.31	127.3	19	38A	3				23	18 PP
HYDERABAD	148.31	119.4	19	43	4				23	19
TASHKENT	150.36	69.1	19	44	2	26	50	6	23	29 PP
WARSAK DAM	150.96	84.5	19	43	0					
Y.-SAKHLINSK	151.71	302.8	19	43	-1					
VISHAKHAPTNM	151.81	125.5	19	54	10				30	25
PORT BLAIR	152.00	148.8	19	47	3					
LAHORE	152.46	90.9	19	45	0					
TUKUBASAN	153.52	279.2	19	43A	-3	27	28	40	23	41 PP
NEW DELHI	153.64	99.0	19	49A	2				23	43 PP
FRUNSE	154.34	65.9	19	49	2				23	48 PP
DEHRA DUN	155.02	96.0	19	52	4				23	18
MATUSIRO	155.07	279.3	19	46	-2				23	50 PP
BOKARO	157.68	118.8	19	57	5					
CHATRA	160.47	114.2	19	56A	1				24	22 PP
CHITTAGONG	160.59	132.7	20	0	5	20	36		21	2 PKP2
SHILLONG	162.96	125.9	19	57A	-1				30	7
IRKUTSK	164.20	6.3	19	58	-1				24	41 PP
CHANGCHUN	164.35	303.1	19	56A	-3				24	39 PP
HONG KONG	164.50	205.2	20	5	6				24	40 PP
LHASA	164.86	112.6	20	1A	2				24	46 PP
CANTON	165.51	203.5	20	1A	1				24	44 PP
ZO-SE	167.09	249.0	20	0A	-1				24	54 PP
KUNMING	167.97	160.6	20	2A	0				24	57 PP
ULAN-BATOR	168.68	0.7	20	5	3				25	9 PP
NANKING	169.35	248.3	20	3A	0				25	6 PP
PEKING	172.09	298.5	20	4A	0				25	19 PP
CHENGTU	173.55	155.5	20	5A	0				25	28 PP
SIAN	177.24	212.9	20	7A	1				25	41 PP
LANCHOW	177.30	100.5	20	6A	0				25	50 PP

OCTOBER 19 11.H 19.M 20.S EPICENTRE -37.08 -70.55 DEPTH= 149.KM

A= 0.26627 B=-0.75411 C=-0.60034 D=-0.9429 E=-0.3329
G=-0.1999 H= 0.5661 K=-0.7997 HT= -0.6

DEPTH OF FOCUS= 0.018R

SE= 1.49

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SANTIAGO	3.64	358.7	0	56	-1	1	32	-8					
LA PLATA	10.46	81.8	2	27	0	4	22	0					
PORT STANLEY	17.16	152.4	3	52	0				4	19	15	16	SCS
AREQUIPA	20.56	357.4	4	31	2	8	13	8					
LA PAZ	20.61	6.6	4	31	2	8	12	6					
HUANCAYO	25.29	349.0	5	16K	2	9	25	-2					
ARGENTINE I.	28.45	174.5	5	42	-1	10	22	4			16	10	SCS
BOGOTA	41.61	354.7	7	37	2	13	45	5					
CHINCHINA	42.10	352.5	7	40K	1	13	50	3			17	12	SS
BALBOA HTS.	46.57	347.7	8	16	1								
BYRD STATION	46.94	190.4	8	17	-1						8	52	
CARACAS	47.45	4.8	8	19	-2						17	56	SCS
GRENADA	49.57	11.4	8	37	-1								
ST. VINCENT	50.74	11.7	8	48	1								
DOMINICA	52.81	11.1	9	1	-1								
SOUTH POLE	53.11	180.0	9	3	-1						9	38	
ST. KITTS	54.63	9.2	9	15	0						9	51	
SAN JUAN	55.32	5.1	9	17	-4				9	56			
SCOTT BASE	60.32	191.8	9	55A	0				10	31	12	13	PP
TACUBAYA	62.34	329.3	10	10	1	18	28	6					
CAPE HALLETT	63.11	197.4	10	13A	-1	18	31	0	10	49	19	40	*SS
MAWSON	69.89	162.8	10	55	-2	19	52	-1	11	36	13	31	PP
COLUMBIA	71.39	350.8	11	4	-2	20	6	-4					
MBOUR	71.82	55.2	11	10	2	20	21	6					
LITTLE ROCK	74.32	341.5	11	20	-3	20	41	-2					
WINDHOEK	74.97	107.0	11	27K	0								
GRAHAMSTOWN	75.81	121.0									12	30	
MIRNY	75.92	173.3	12	3	31								
FAYETTEVILLE	76.03	340.4	11	31K	-2	21	1	-1					
WICHITA MTS.	76.05	336.5	11	31	-2	21	2	0	12	15	14	50	PP
C. GIRARDEAU	76.08	344.5	11	31	-2	21	2	-1	12	8			
MORGANTOWN	76.82	352.6	11	37A	0				12	17			
KIMBERLEY	77.17	116.3	11	38K	-1								
BLOOMINGTON	77.30	347.4	11	38K	-2				12	15			
ST. LOUIS 1	77.50	344.3	11	40	-1	21	17	-1	12	17			
FLORISSANT	77.69	344.3							12	17			
PALISADES	77.77	357.4	11	43	1	21	23	2	12	15	22	29	PPS
TUCSON	78.57	326.0	11	47	0	21	32	3	12	25	22	31	
TUCSON TELE.	78.60	326.1	11	47	0				12	23			
LAWRENCE	79.02	340.6	11	47	-2								
MANHATTEN	79.60	339.7	11	51K	-1	21	37	-3					
DUBUQUE	81.31	345.1	12	1	0	21	55	-3	12	38			
HALIFAX	81.56	5.0	12	5K	2								
TUAI	82.10	226.9	12	6	1				12	42			
OTTAWA	82.23	356.3	12	6A	0								
BREBEUF	82.25	357.8	12	7A	1	22	10	3					
KAIMATA	82.74	221.1	12	13	4								
CHATEAU	82.76	225.7	12	9	0				12	47			
TONGARIRO	82.76	225.7	12	9	0				12	49			
GLEN CANYON	82.90	328.0	12	10	1	22	21	7					
COBB RIVER	83.04	222.9	12	11	1								
BOULDER CITY	83.50	325.3	12	13	1				12	46			
PASADENA	83.59	321.9	12	14K	1	22	20	-1	12	49	15	16	PP
KARAPIRO	83.62	226.7	12	13	0				12	50			
LARAMIE	84.35	334.2	12	17	1						13	1	
BULAWAYO	85.08	111.4	12	20A	0						12	59	
FLAMING GRGE	85.40	331.5	12	22	0				13	0	22	42	
SALT LAKE C.	86.23	329.8	12	25	-1								
FRESNO	86.48	322.5	12	27	0								
EUREKA	86.89	326.5	12	30	1				13	6	13	26	*SP
VINEYARD	87.24	321.4	12	32	1								
LICK	87.83	321.6	12	29K	-5								
BROKEN HILL	88.43	106.8	12	38	2						13	17	
BERKELEY	88.55	321.6	12	38K	1								

RENO	88.68	324.1	12 36	-2							
BOZEMAN	90.09	332.9	12 44	0							
MINERAL	90.17	323.5	12 44K	-1							
AFIAMALU	90.45	252.3	12 46	0					13 24		
SHASTA	90.82	323.3	12 47	-1							
BUTTE	90.95	332.2	12 49	1					13 27		
BANGUI	91.95	86.0	12 55	2						16 34	PP
FORT NELSON	93.21	206.9	13 0A	1					13 38		
HUNGRY HORSE	93.45	332.6	12 59	-1					13 37	29 56	PKKP
MOORLANDS	93.70	207.0	13 2A	1					13 40		
CORVALLIS	94.24	325.2							13 48		
LWIRO	96.11	97.4	13 14	2							
PENTICTON	96.38	330.2	13 11	-2							
RIVERVIEW	99.46	214.2								17 35	PP
BRISBANE	104.04	219.0								17 6	
KASPERSKE H.	113.51	45.4								19 12	
COLLMBERG	114.26	43.2	18 24	2						21 44	PKS
BERGEN	115.09	32.1								23 17	
HELWAN	116.14	71.2								19 26	PP
COLLEGE	117.88	331.9	18 23	-6							
SKALSTUGAN	119.49	30.7	18 33	1							
LWOW	119.92	48.2								20 1	
JERSULEM	119.98	71.1	18 35	2						19 38	PP
KSARA	121.39	69.3								20 10	PP
PORT MORESBY	121.80	225.3			25 24	3				20 11	
NURMIJARVI	123.89	36.4	18 40K	-1					19 24		
KIRUNA	124.10	27.3	18 41	0					19 24		
KAJAANI	126.14	32.6	18 47	2					19 27		
SODANKYLA	126.32	28.5	18 45	0					19 28		
KEVO	126.83	25.5	18 44	-2							
SOTCHI	127.86	59.7	18 49	1							
MOSCOW	129.51	44.2	18 52	1							
TIFLIS	130.87	63.5	18 56	2							
MAKHACH-KALA	133.14	62.6								21 30	PP
TEHERAN	133.89	73.3	18 59	-1						21 32	PP
LEMBANG	136.29	177.4	19 21K	17						20 0	PKP2
KARACHI	141.93	96.4	19 14	0						22 23	PP
SVERDLOVSK	142.28	42.5	19 21	6							
POONA	143.77	110.9	19 16A	-2							
TIKSI	143.95	349.7	19 25	7							
QUETTA	144.18	88.4	19 20A	2					20 1	22 35	PP
MADRAS	144.51	124.8	19 20	1							
SAMARKAND	146.83	72.3	19 24	1							
STALINABAD	148.02	74.7	19 27	2							
WARSAK DAM	149.14	84.2	19 32A	5							
LAHORE	150.58	90.3	19 30	1							
YAKUTSK	152.03	339.6	19 37K	6							
FRUNSE	152.82	66.9	19 34	2							
Y.-SAKHLINSK	153.55	302.6	19 42	9							
TUKUBASAN	155.44	277.3	20 2	27						43 58	SS
MATUSIRO	157.00	277.4	20 10A	33						24 24	PP
CHATRA	158.56	112.1	19 42K	3						20 17	
SHILLONG	161.14	122.5	19 43A	1						21 5	
VLADIVOSTOK	161.82	296.3	20 30	47							
LHASA	162.94	110.4	19 47	3					20 29	24 23	PP
KUNMING	166.77	152.4	19 50	3					20 31	24 43	PP
ZO-SE	168.59	241.9	19 50	1					20 31	24 48	PP
ULAN-BATOR	169.01	9.0							20 30		
NANKING	170.82	239.7							20 31	25 5	PP
CHENGTU	172.16	143.2	19 51	0					20 32	25 3	PP
PEKING	173.96	301.3	19 53	2					20 33	25 15	PP
LANCHOW	175.36	101.1	19 54	2						25 25	PP
SIAN	177.14	171.2	19 54	2					20 36	25 32	PP

OCTOBER 19 19.H 26.M 29.S EPICENTRE -55.28 146.45 DEPTH= 0.KM

A=-0.47684 B= 0.31622 C=-0.82014 D= 0.5527 E= 0.8334
G= 0.6835 H=-0.4533 K=-0.5722 HT= -7.3

SE= 1.63

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
MACQUARIE I.	7.25	89.0	1	47	-2							
FORT NELSON	12.37	3.1	2	31K	-29	5	13	-7				
MOORLANDS	12.86	2.5	3	9	3							

TARRALEAH	12.99	0.0	3	9	1						
CAPE HALLETT	19.79	158.7	4	33	-1	8	37	25			
CANBERRA	20.04	6.1	4	36K	-1	8	24	7	4	40	5 3 PP
WILKES	20.39	222.8	4	40A	-1	8	36	11			5 55
KAIMATA	20.66	62.2	4	56	13						
ADELAIDE	21.00	342.1	4	46K	-1	8	44	7			
RIVERVIEW	21.70	10.6	4	53K	-1				5	0	5 20 PP
WELLINGTON	23.27	64.8	5	9	-1	9	31	12			9 45 PCP
SCOTT BASE	23.77	169.5	5	17K	3	9	39	12			5 58 PP
CHATEAU	25.21	62.5	5	31	3						
TUAI	26.33	64.1	5	38	-1						
MIRNY	27.38	224.4	5	48	0						
BRISBANE	28.24	12.0	5	55	-1						8 46
MUNDARING	31.54	305.1	6	24	-2						
PERTH	31.74	304.6									9 26
SOUTH POLE	34.72	180.0	6	55	1	13	15	51			
CHARTERS TS.	35.13	359.7	6	55	-2	12	32	2			
BYRD STATION	36.82	163.1	7	12	1	13	21	25			
KOUMAC	37.18	28.3	7	14A	0						
MAWSON	38.55	217.7	7	25A	-1				7	38	8 54 PP
DARWIN	44.51	338.0	8	14	0						
PORT MORESBY	45.76	1.0	8	23A	-1	15	11	3	8	35	9 45
AFIAMALU	52.39	54.7	9	18	2						
LEMBANG	57.35	312.3	9	51A	-1	17	51	3	10	0	10 27
MEDAN	70.55	308.4	11	14K	-4						
NHATRANG	74.17	322.1	11	38	-2						
TANANARIVE	79.60	252.0	12	11K	1						
CANTON	83.02	329.6	12	29	1						22 47
BULAWAYO	88.30	236.2	12	53	-1						
KUNMING	88.36	321.2	12	55A	1	23	44	5			
ZO-SE	88.72	338.5	12	54	-2	23	42	0			
NANKING	90.17	336.8	13	1	-2	23	39	-17			23 56 S
CHITTAGONG	90.21	311.0	13	0	-3	23	36	-20			
MATUSIRO	91.73	353.4	13	9A	-1	24	17	8			17 7 PP
CHENGTU	93.00	324.4	13	15A	-1	23	52	-29			24 22 S
SHILLONG	93.01	312.5	13	15A	-1						
BROKEN HILL	93.25	239.0	13	18A	1						
SIAN	94.79	329.6	13	24A	0	24	42	6			
POONA	95.55	294.5	13	26K	-2						
CHATRA	96.14	309.4	13	28K	-2						
LHASA	96.94	313.8	13	34	0	24	12	1			17 32
PEKING	98.40	337.0	13	39	-2						
QUETTA	108.66	296.0	18	0	777						18 54 PP
WOODY	120.97	71.1	18	54	0				20	38	
TEHERAN	121.20	288.7	18	53	-2						
EUREKA	125.29	70.0	19	3	0						31 51 PKKP
JERUSALEM	127.32	273.4	19	7K	1						
HELWAN	128.12	268.6	19	9K	1						
TIFLIS	129.07	289.2	19	10	0						
COLLEGE	129.88	30.5	19	8	-3						
PENTICTON	130.23	58.8	19	9	-3						
SVERDLOVSK	131.47	313.0	19	13	-1						
WICHITA MTS.	131.60	87.0	19	15	0				19	33	22 40 PKS
HUNGRY HORSE	132.39	63.0	19	17	1						21 44 PP
SOTCHI	133.08	287.7	19	15	-2						
FAYETTEVILLE	135.09	89.2	19	21K	0						
SAN JUAN	135.64	133.0	20	25	63						
SIMFEROPOL	137.04	285.5	19	19	-6						23 21 PKS
MOSCOW	141.33	301.0	19	29	-3						
LWOW	145.44	285.5	19	39	0						
PULKOVO	146.60	304.4	19	43	2						
APATITY	147.48	318.9	19	44	1						
KRAKOW	147.83	283.3	19	45A	2						
WARSAW	148.28	287.6	19	41	-3						19 50 PKP2
BRATISLAVA	148.44	278.5	19	47	3						
CHORZOW	148.47	283.2	19	48	3						19 59 PKP2
LJUBLJANA	148.74	273.2	19	48A	3						20 22
RACIBORZ	148.81	282.3	19	49A	4						20 3 PKP2
KAJAANI	149.05	311.5	19	50	5						
HELSINKI	149.28	303.4	19	49	3						
NURMIJARVI	149.52	304.0	19	50A	4						
PALISADES	150.00	101.4	19	51	4						42 58 SS
SODANKYLA	150.04	317.8	19	51A	4						
KEVO	150.08	322.6	19	50A	3						
PRUHONICE	150.81	279.8	19	54	6						
KASPERSKE H.	150.94	277.7	19	53	5						
MONACO	151.41	263.4	19	55	6						
OTTAWA	151.74	92.7	19	48	-2						

COLLMBERG	152.30	281.3	19	56A	6					23	38 PP
KIRUNA	152.43	318.4	19	57K	6						
RAVENSBURG	152.49	272.4	19	57	6						
UPPSALA	152.75	300.8	19	57K	6						
JENA	152.93	279.7	19	58	7					20	50
BREBEUF	153.00	94.4	19	57	6						
EBINGEN	153.08	272.6	19	58	7						
TUBINGEN	153.20	273.3	20	0	8						
STUTTGART	153.20	274.0	19	59	7						
BASLE	153.53	270.3	19	59	7						
HEIDELBERG	153.83	274.8	19	58	5						
BENSBERG	155.44	276.9	20	21	26						
SKALSTUGAN	155.76	308.6	20	5K	10						
GARCHY	155.97	265.9	20	23	28						
PARIS	157.10	268.7	20	27	30						

OCTOBER 21 11.H 43.M 43.S EPICENTRE -17.91-178.51 DEPTH= 578.KM
A=-0.95180 B=-0.02483 C=-0.30572 D=-0.0261 E= 0.9997
G= 0.3056 H= 0.0080 K=-0.9521 HT= 5.2

DEPTH OF FOCUS= 0.086R

SE= 2.18

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	2.93	264.9				2	23	4					
AFIAMALU	7.60	59.3	1	53K	-2	3	32	5					
RAOUL ISLAND	11.30	177.4				4	37	4					
PORT VILA	12.55	268.8	2	47A	3	5	7	11					
NOUMEA	14.79	250.4	3	8K	2	5	44	8					
KOUMAC	16.47	258.0	3	24K	2	6	13	7					
ONERAHI	18.87	198.2	3	48	3								
KARAPIRO	20.61	193.5	4	1	0								
TUAI	21.15	189.4	4	4	-2	7	14	-10					
TONGARIRO	21.83	192.5	4	16	4								
HONIARA	22.55	289.1	4	16	-3								
BRISBANE	28.07	245.2	5	5	-3	9	10	-3					
RIVERVIEW	31.42	233.8	5	27A	-9								
CHARTERS TS.	33.35	260.5	5	52	0						12	24	
CANBERRA	33.63	232.5	5	55K	0	10	41	2			8	17	PCP
PORT MORESBY	34.38	279.6	6	2K	1						14	2	
MOORLANDS	38.02	222.6	6	31K	0						8	32	PCP
FORT NELSON	38.16	221.8	6	32	0						8	31	PCP
TARRALEAH	38.43	223.3	6	34	0								
ADELAIDE	41.55	237.2	6	59K	0	12	32	-3					
HAWAII V.OB.	43.57	32.7	7	14	-1								
HONOLULU	43.80	28.0	7	17	0								
KIPAPA	43.94	28.0	7	17	-1								
MUNDARING	60.04	243.0	9	12K	-1								
SCOTT BASE	60.41	183.6									21	37	
MATUSIRO	67.85	323.4	10	2K	-1								
SOUTH POLE	72.20	180.0	10	27	-1								
PARAISO	75.63	43.8	10	52A	4								
PT. REYES	76.33	42.1	10	51A	0								
SAN FRANCSCO	76.42	42.6	10	52	0								
VINEYARD TE.	76.52	43.9	10	53A	1								
BERKELEY	76.60	42.6	10	53A	0								
LICK	76.69	43.3	10	53A	0								
HONG KONG	77.02	298.7	10	56A	1								
PASADENA	77.29	47.6	10	55	-2								
FRESNO	77.59	44.6	10	58	0								
NANKING	77.93	309.5	10	58	-2	19	26	-41					
SHASTA	78.17	40.2	11	1A	0								
MINERAL	78.45	40.8	11	3K	0								
RENO	79.12	42.3	11	15A	9								
CORVALLIS	79.96	36.6	11	11A	0								
CHANGCHUN	80.07	322.4	11	11	0	20	34	5					
EUREKA	81.59	44.0	11	19	0				13	27	14	33	PP
TUCSON	81.71	52.4	11	21	1								
TUCSON TELE.	81.84	52.3	11	21	1				13	30			
VICTORIA	82.30	33.4	11	22	-1								
GLEN CANYON	83.34	47.9	11	28	0								
PEKING	83.72	315.4	11	29	-1	21	8	4					
MAWSON	83.82	199.8	11	28K	-2								
PENTICTON	84.79	34.2	11	34A	-1								

SALT LAKE C.	84.97	44.4	11	35	-1							
COLLEGE	85.80	12.6	11	37	-3	21	21	-3	13	46		
SIAN	86.28	307.6	11	43K	1							
FLAMING GRGE	86.69	45.2	11	44	0						15	15 PP
BUTTE	87.06	39.6	11	45	-1							
HUNGRY HORSE	87.37	37.1	11	46	-1						15	20 PP
KUNMING	87.75	297.2	11	51	2							
BOZEMAN	87.82	40.4	11	50	1						15	24 PP
BANFF	88.00	34.1	11	51A	1							
CHENGTU	88.70	302.7	11	55	2	21	57	6				
LARAMIE	89.45	46.1	11	57	0							
WICHITA MTS.	92.06	54.2	12	8A	-1	22	33	13			21	47 SKS
QUETTA	119.70	294.9	17	46	1							
SODANKYLA	127.99	348.0	17	54	-7						20	27 SKP
KAJAANI	130.54	345.2	18	6	0						20	38 SKP
BULAWAYO	133.76	216.4	18	12	0							
NURMIJARVI	134.33	344.2	18	11	-2						20	49 SKP
BROKEN HILL	138.26	221.3	18	12	-8							
KSARA	145.44	304.0	18	35	2							
COLLMBERG	145.46	347.2	18	34	1				20	53	21	19
HALLE	145.48	348.5	18	33	0							
PRUHONICE	146.33	344.7	18	37K	3							
LWIRO	146.46	236.1	18	39	5							
JERUSALEM	146.58	300.9	18	38K	3							
BENSBERG	146.72	353.5	18	37	2							
KASPERSKE H.	147.36	345.2	18	34	-2							
STUTTGART	148.58	350.1	18	37	0							
STRASBOURG	148.99	351.9	18	44	6							
PARIS	149.17	358.7	18	44	6							
FOLINIERE	149.18	2.6	18	37	-1							
LJUBLJANA	149.93	341.7	18	40A	1						18	49 PKP2
HELWAN	150.33	299.2	18	47K	7						19	12
GARCH	150.69	357.8	18	40	-1						19	2 PKP2
BANGUI	158.51	233.3	18	51	0						19	31

OCTOBER 21 17.H 34.M 34.S EPICENTRE -10.91 166.19 DEPTH= 164.KM

A=-0.95378 B= 0.23446 C=-0.18798 D= 0.2387 E= 0.9711
G= 0.1825 H=-0.0449 K=-0.9822 HT= 6.4

DEPTH OF FOCUS= 0.021R

SE= 1.30

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
HONIARA	6.32	282.9	1	32K	0	2	49	5				
KOUMAC	9.77	190.6	2	18	0	4	5	-1				
NOUMEA	11.33	178.8	2	39	1						4	40
PORT MORESBY	18.80	272.8	4	11K	1	7	38	8	4	23	8	3
BRISBANE	20.69	215.7	4	29	0	8	8	3				
AFIAMALU	21.72	100.2	4	38	-1							
ONERAHI	25.84	164.6	5	20	2							
RIVERVIEW	26.65	208.8				9	50	3			6	33
KARAPIRO	28.19	164.2	5	38	-2							
CANBERRA	28.89	210.0	5	46A	0				6	21	6	50 PP
TONGARIRO	29.38	165.1	5	49	-1							
TUAI	29.45	162.4	5	49	-2							
WELLINGTON	31.18	167.5	6	5	-1							
KAIMATA	31.82	172.7	6	11	-1							
GEBBIES PASS	33.15	171.4	6	24	1							
ADELAIDE	34.62	221.8	6	36K	0				7	11	9	6
MOORLANDS	35.53	204.5	6	44	1						9	10 PCP
TARRALEAH	35.71	205.4	6	46	1						9	10 PCP
FORT NELSON	35.87	203.9	6	46	0						9	11 PCP
HAWAII V.OB.	48.48	51.8	8	28	0							
MUNDARING	50.52	237.5	8	44	0						9	20
MATUSIRO	54.05	332.2	9	8A	-2	16	39	8			10	13 PCP
LEMBANG	57.94	268.7	9	38A	0	17	26	3	10	28	10	50
ZO-SE	60.06	315.6	9	47	-5	17	53	3			10	22 *SP
CAPE HALLETT	61.41	178.6	10	0K	-1							
SCOTT BASE	66.94	179.9	10	37	0							
PEKING	68.65	320.8	10	47	-1						11	23 *SP
SIAN	70.45	312.3	10	59A	0						11	32 *SP
KUNMING	71.42	301.2	11	6A	1	20	13	5			11	41 *SP
CHENGTU	72.57	307.0	11	10	-1	20	23	2			11	45 *SP

LANCHOW	74.98	312.0	11	26A	1	20	53	5			12	2	*SP
PARAISO	81.86	50.7	12	7	4								
PT. REYES	82.09	48.9	12	4	0								
BERKELEY	82.47	49.2	12	6	0								
CALISTOGA	82.50	48.4	12	6A	0								
CONCORD	82.64	49.2	12	7	0								
LHASA	82.72	302.0	12	9A	2								
VINEYARD TE.	82.75	50.5	12	8A	1								
LICK	82.75	49.9	12	7A	0								
COLLEGE	83.03	18.0	12	7	-2				12	46	13	9	
SHASTA	83.35	46.5	12	10A	0								
MINERAL	83.79	47.1	12	12A	0								
FRESNO	83.96	50.9	12	13	0								
CORVALLIS	84.11	42.6	12	15	1								
PASADENA	84.44	53.8	12	16	0								
RENO	84.83	48.3	12	17	-1								
MAWSON	85.01	202.0	12	18A	0								
CHATRA	85.25	298.3	12	20A	0								
EUREKA	87.65	49.2	12	32	1				13	8	15	59	PP
PENTICTON	88.11	39.0	12	33A	0								
TUCSON	89.89	57.2	12	43	1								
GLEN CANYON	90.35	52.5	12	45	1								
SALT LAKE C.	91.03	48.8	12	47	0								
HUNGRY HORSE	91.36	41.0	12	47	-2								
FLAMING GRGE	92.88	49.0	12	56	0								
NEW DELHI	94.26	298.1	13	2A	0								
WICHITA MTS.	100.38	56.5	13	28	-2						29	46	PKKP
SODANKYLA	117.56	343.6	18	27	0								
KIRUNA	118.82	345.9	18	29K	0								
KAJAANI	119.48	340.4	18	31	1								
NURMIJARVI	122.95	338.5	18	37A	0						19	16	
SKALSTUGAN	124.25	346.2	18	40K	0								
KIMBERLEY	125.74	222.4	18	45	3								
UPPSALA	125.82	341.0	18	42K	-1								
BULAWAYO	128.09	233.6	18	49	2								
SAN JUAN	128.99	75.2	18	49	0								
BROKEN HILL	131.10	239.9	18	55	2								
COLLMBERG	134.16	336.8	18	59	1						21	35	PP
KASPERSKE H.	135.61	334.4	19	2	1						21	41	
STUTTGART	137.62	337.4	19	5	0								
BANGUI	147.23	261.1	19	24	2				20	4			
TOLEDO	149.87	344.9	19	33	7						19	40	PKP2
COIMBRA	150.44	351.6	19	34K	7						19	42	PKP2

OCTOBER 22 9.H 50.M 23.S EPICENTRE -19.85 172.87 DEPTH= 0.KM

A=-0.93402 B= 0.11687 C=-0.33756 D= 0.1242 E= 0.9923
G= 0.3350 H=-0.0419 K=-0.9413 HT= 4.7

SE= 2.90

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PORT VILA	4.80	295.4	1	20	5	2	44	32				
SUVA	5.53	73.1	1	22	-4	2	23	-8				
NOUMEA	6.47	246.8	1	37A	-2	3	7	13				
KOUMAC	8.10	263.5	2	2	0						4	48
AFIAMALU	15.83	70.5	3	44	-2	6	52	10				
ONERAHI	15.91	175.5	3	49	2						7	37
HONIARA	16.22	307.9	3	53	2							
KARAPIRO	18.16	173.2	4	14	-1							
TUAI	19.24	169.8	4	27	-1							
TONGARIRO	19.42	173.8	4	30	0							
BRISBANE	19.86	244.0	4	34	-1	8	21	7				
COBB RIVER	21.16	180.3	4	53	4							
WELLINGTON	21.42	176.1	4	49	-3	8	51	6			6	9
KAIMATA	22.63	182.8	5	13	9							
RIVERVIEW	23.79	229.8	5	19A	4	9	39	11	5	35	5	47 PP
CHARTERS TS.	25.00	264.8	5	26	1							
CANBERRA	26.07	228.8	5	36	-1	10	4	-3			6	21 PP
PORT MORESBY	26.93	289.0	5	45K	0						11	27
MOORLANDS	31.25	218.2	6	23	0							
FORT NELSON	31.46	217.3	6	25	0							
TARRALEAH	31.59	219.0	6	26	0							
ADELAIDE	33.66	236.3	6	43	-1							
MUNDARING	51.86	244.5	9	10K	-2						9	47
CAPE HALLETT	52.49	181.0	9	13	-4	16	47	4			20	37 SS

SCOTT BASE	58.12	181.5	10	55K	57					12	6 PP
MATUSIRO	64.95	329.6	10	43	-1	19	31	6			
BYRD STATION	66.74	169.9	10	51	-4						
MIRNY	67.94	205.2	11	5	2	20	5	4			
SOUTH POLE	70.27	180.0	11	8	-9						
ZO-SE	70.91	314.6	11	22	1	20	43	7			
HONG KONG	71.00	303.2				20	45	8		25	1 SS
Y.-SAKHLINSK	71.90	338.8	11	29	2	20	55	7			
NANKING	73.11	314.1	11	34	0	21	7	6			
CHANGCHUN	76.89	326.7	11	57K	1	21	51	8			
MAWSON	79.14	201.5	12	5	-3					12	16 PCP
PEKING	79.60	319.3	12	12	1	22	18	6			
SIAN	81.18	311.1	12	24K	5						
KUNMING	81.51	300.5	12	24	3	22	42	10			
CHENGTU	83.03	305.9	12	30	1	22	53	5			
BERKELEY	83.69	46.1	12	34	2	23	1	7		28	55 SS
VINEYARD TE.	83.71	47.5	12	27A	-5						
LICK	83.84	46.8	12	35K	2						
CALISTOGA	83.87	45.3	12	34K	1						
PASADENA	84.74	51.0	12	39	2	23	13	8		24	13 PS
ARGENTINE I.	84.77	159.2	12	35	-2						
FRESNO	84.83	48.1	12	40	2						
SHASTA	85.06	43.6	12	39	0						
MINERAL	85.40	44.3	12	41A	1						
LANCHOW	85.69	310.6	12	43	1	23	26	12			
RENO	86.18	45.7	12	46	2						
BOULDER CITY	88.01	50.6	12	54	1						
VICTORIA	88.57	36.6	12	56	0						
EUREKA	88.77	47.1	12	57	0				13	10	
TUCSON	89.45	55.4	13	2	2				13	19	14 49
CHITTAGONG	89.55	293.9				23	50	0			17 45
TUCSON TELE.	89.57	55.4	13	3	2						
COLLEGE	89.67	15.7	12	58	-3						
SHILLONG	90.68	296.9	13	0	-6						
GLEN CANYON	90.80	50.9	13	7	1						
PENTICTON	91.13	37.2	13	8	0						
LHASA	92.84	300.4	13	19	3						
FLAMING GRGE	93.95	47.9	13	22	1						
HUNGRY HORSE	93.95	39.8	12	52	-29						
MADRAS	96.80	281.3								27	7
WICHITA MTS.	99.88	56.7	13	47	-1	24	32	6		26	58 SP
MANHATTEN	102.68	52.8								28	17 PPS
BOMBAY	105.32	284.9								20	47
ROLLA	105.93	55.0								27	57 PS
C. GIRARDEAU	107.64	56.0								34	13 SS
LA PAZ	110.03	116.7	19	18	45						
BLOOMINGTON	110.33	54.5								28	27 PS
TASHKENT	1'2.87	307.4	19	28	49						
PALISADES	120.10	53.5								32	38 PPS
BULAWAYO	127.04	223.4	18	38	-28						
TIFLIS	131.17	308.5	19	17	3						
SOTCHI	134.40	312.1								21	41
KSARA	139.47	299.1	20	19	49	26	13	-25		23	57 PP
KISHINEV	140.13	321.2								22	30 PP
COPENHAGEN	141.31	342.3				26	31	-10			
HELWAN	143.85	293.7	19	39	2						
COLLMBERG	144.85	338.0	19	38	-1				20	32	19 45 PKP2
DURHAM	144.89	354.4	19	33	-6				19	52	21 34
HALLE	145.04	339.1	19	40	1				20	23	
PRUHONICE	145.34	335.2	19	41	1						23 5 PP
JENA	145.65	338.9	19	41	1	26	17	-31	19	58	22 51 PP
SOFIA	145.71	318.4	19	44	4						
VIENNA-H.	145.90	331.6	19	44	3						22 43
BELGRADE	146.19	323.7	19	45	4						20 8 PKP2
KASPERSKE H.	146.40	335.2	19	45	3						21 0
BENSBERG	146.96	343.3	19	47	4						21 44
ATHENS	147.72	310.6	19	46K	2						
STUTTGART	148.27	339.2	19	48	3						20 17
LJUBLJANA	148.38	330.6	19	49	4						20 20
STRASBOURG	148.92	340.7	19	52	6						
BANGUI	150.57	241.9	19	54	6				20	42	
FOLINIERE	150.66	351.0								28	19 SS
TARANTO	150.73	319.9	19	59	11						
GARCY	151.40	345.4	19	55	6						
FLORENCE X.	151.61	331.3	19	57	7						
ROSELEND	151.67	337.8	19	57	7						20 37
ROME	152.44	327.2	19	59	8	26	24	-33			24 8 PP
MESSINA	153.15	317.7									20 52

TOLEDO	159.86	353.1								20	41	PKP2
GRANADA	162.46	350.6								24	23	PP

OCTOBER 23 0.H 8.M 33.S EPICENTRE -60.39 -34.10 DEPTH= 0.KM

A= 0.41131 B=-0.27843 C=-0.86793 D=-0.5606 E=-0.8281
G=-0.7187 H= 0.4865 K=-0.4967 HT= -9.0

SE= 2.26

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ARGENTINE I.	14.53	237.5	3	28	-1	6	32	20					
PORT STANLEY	15.79	292.8	3	44	-1								
SOUTH POLE	29.78	180.0	6	9	-2								
BYRD STATION	30.51	200.0	6	15	-2								
MAWSON	38.87	142.7	7	27A	-2	13	32	4			8	58	PP
SCOTT BASE	41.42	186.5	7	49	-1	14	4	-2			9	32	PP
HERMANUS	42.81	77.3	8	7	6						14	27	
CAPE HALLETT	46.53	190.0	8	29	-2	15	26	6			10	27	PP
GRAHAMSTOWN	47.29	83.4	8	35A	-2								
KIMBERLEY	50.15	78.3	8	58	-1								
LA PAZ	50.22	315.7	9	0	0	16	16	4					
WILKES	50.90	162.5	9	5A	0	16	23	2	9	19	10	59	PP
AREQUIPA	51.46	311.8	9	11	2								
PRETORIA	54.31	79.4	9	53	23								
HUANCAYO	56.95	309.7	9	49	0	17	51	8					
BULAWAYO	59.26	76.3	10	2	-4								
BROKEN HILL	64.09	72.9	10	34	-4								
MACQUARIE I.	64.99	188.4	10	45	1								
TANANARIVE	69.63	92.5	11	13	0						11	48	
BOGOTA	71.94	317.7	11	26	-1	20	57	9			21	19	SCS
ROXBURGH	72.78	197.0	11	36	4	21	1	3			21	39	SCS
CHINCHINA	72.80	316.3	11	28	-4	21	2	4					
GEBBIES PASS	73.99	199.9	11	42	3								
TRINIDAD	74.07	332.0	11	37	-3								
LWIRO	74.93	67.1	11	44A	-1	21	33	11					
KAIMATA	75.34	199.2	12	2	15								
GRENADA	75.50	332.1	11	49	1								
MBOUR	75.77	17.1	12	3	14	21	36	5					
WELLINGTON	75.96	202.0	11	51	0	21	37	4			22	10	SCS
ST. VINCENT	76.47	332.8	12	0	7								
COBB RIVER	76.52	200.5	11	57	3								
MOORLANDS	77.53	181.0	12	0	1						14	58	PP
TARRALEAH	77.67	180.4	12	3	3								
CHATEAU	77.83	203.1	12	1	0								
TONGARIRO	77.83	203.1	12	2	1								
TUAI	77.89	204.5	12	2	1								
DOMINICA	78.56	333.2	12	6	1								
KARAPIRO	79.05	203.5	12	6	-2								
ANTIGUA	80.44	333.2	12	14	-1								
ST. KITTS	80.83	332.4	12	17	0								
ONERAHI	81.37	203.1	12	20	0								
SAN JUAN	82.65	329.5	12	24	-3								
CANBERRA	84.61	182.5	12	37	0	23	5	1	12	47	15	55	PP
MUNDARING	84.80	155.0	12	36	-2	23	3	-2					
ADELAIDE	84.81	174.1	12	37A	-1	23	7	2	12	45	12	40	PCP
RIVERVIEW	86.03	184.4	12	44K	0	23	21	4	12	43	16	15	PP
BRISBANE	92.37	186.1	13	13	-1						23	52	
TACUBAYA	95.12	300.7	13	28	2						16	50	
NOUMEA	95.93	199.1	13	30	0								
SUVA	97.44	211.0									26	53	
CHARTERS TS.	99.82	180.3	13	48	0	24	26	0					
ALMERIA	100.31	25.3	13	51	1	24	34	5			18	2	PP
GRANADA	100.40	24.3	14	9A	19						18	9	PP
LISBON	100.86	19.6				24	39	8			18	3	PP
ALICANTE	102.18	26.4	13	55	-3	24	34	-4			27	9	PS
TOLEDO	102.91	23.3				24	49	8			18	9	PP
HELWAN	104.52	54.7									18	32	PP
PALISADES	106.18	329.7				25	2	6			18	44	PP
MESSINA	106.33	38.7				24	58	1			21	5	PPP
BAGNERES	106.84	25.5	18	40	777								
C. GIRARDEAU	107.42	316.5				25	7	6			18	49	PP
JERUSALEM	107.79	56.8	14	47	777						18	56	PP
FAYETTEVILLE	107.96	312.4	18	36	777								
BLOOMINGTON	108.10	319.6				25	9	5			18	49	PP
WICHITA MTS.	108.42	308.4	18	43	777	25	7	1			19	2	PP

ROLLA	108.76	315.0				25	15	8	18	51 PP
ROME	108.82	34.9				25	7	0	19	0 PP
FLORISSANT	109.03	316.6							19	0 PP
KODAIKANAL	109.44	103.9							22	57
ISOLA	109.49	30.1	19	12A	777				29	44 PPS
KSARA	109.83	56.3	14	34	777	26	45	93	19	12 PP
FLORENCE X.	110.22	33.3	18	57	23				23	21
BREBEUF	110.34	331.5							19	0 PP
PORT MORESBY	110.44	181.3	19	9	35	26	31	77	20	21 PP
ROSELEND	110.86	30.1							20	18
PAVIA	110.96	31.3							19	47 PP
TUCSON	111.37	297.7	18	39	3				19	16
MANHATTEN	111.59	312.2							19	19 PP
PADOVA	111.89	33.1							23	57
TRIESTE	112.63	34.3							19	30 PP
SOFIA	112.91	42.4							19	26
MADRAS	113.14	104.9	19	30	51				22	15
LJUBLJANA	113.21	34.7							19	26 PP
ISTANBUL KA.	113.48	47.4				25	48	22	19	47 PP
STRASBOURG	113.78	29.0							19	45 PP
BELGRADE	113.87	39.3							19	33 PP
STUTTGART	114.33	29.9							19	43 PP
BOMBAY	114.60	95.0							27	33
KEW	114.77	22.5							29	26 PS
POONA	114.79	96.1	18	45	2				19	43 PPP
BUCHAREST	115.37	43.5				25	37	4	27	51
GLEN CANYON	115.70	299.8	18	42	-2				19	48 PP
KASPERSKE H.	115.77	32.6	18	46	1				33	13
BENSBERG	115.86	27.6							19	39 PP
PASADENA	116.26	293.1	18	46	0	25	39	2	19	53 PP
BOULDER CITY	116.28	296.8	18	48	2					
DE BILT	116.48	25.9							29	45 PS
KARACHI	116.72	86.5	18	50	4					
PRUHONICE	116.80	32.9	18	53	6				20	3
JENA	116.90	30.5	18	54	7	27	57	138	20	8 PP
HALLE	117.51	30.5				27	57	136	19	57 PP
COLLMBERG	117.60	31.3	18	51	3				20	4 PP
DURHAM	117.69	20.6				25	24	-18	13	58
FLAMING GRGE	118.09	303.8	18	50	1				20	5 PP
TEHERAN	118.22	67.0	18	55	6				20	13 PP
KRAKOW	118.39	36.4				25	49	5	20	10 PP
SIMFEROPOL	118.70	48.7							20	15 PP
SALT LAKE C.	118.98	302.0	18	43	-8					
LWOW	119.43	39.2	18	54	2					
EUREKA	119.69	298.1	18	55	3				20	7 PP
SOTCHI	119.71	53.5							19	15
VINEYARD TE.	119.88	292.3	18	55A	2					
TIFLIS	120.25	58.3	18	57	4					
LICK	120.48	292.5	18	56A	2					
WARSAW	120.64	35.9	19	4	10				20	30 PP
QUETTA	121.10	83.0	18	55	0				20	30 PP
BERKELEY	121.20	292.4	18	55	0				41	51 PKPPKP
RENO	121.44	295.3	18	57	1					
COPENHAGEN	121.45	28.8	18	59	3	27	4	69	20	32 PP
BOZEMAN	122.70	305.7	18	50	-8					
MINERAL	122.90	294.6	19	0A	2					
BUTTE	123.60	304.9	19	0	0					
NEW DELHI	124.87	92.9	19	4A	2				27	27
LAHORE	125.87	88.3	18	58	-6					
HUNGRY HORSE	126.06	305.7	19	2	-2				20	57
UPPSALA	126.44	29.5	19	1K	-4				38	14 SS
DEHRA DUN	126.72	92.4	19	3	-3					
CHITTAGONG	126.73	110.7	19	5	-1				21	0 PP
CHATRA	128.31	103.2	19	10	1					
SKALSTUGAN	128.53	24.5	19	11K	2					
HELSINKI	128.61	33.3	19	7	-2					
SAMARKAND	128.72	76.1	19	10	0					
STALINABAD	128.73	78.4	19	13	3					
NURMIJARVI	128.81	32.9	19	8A	-2				22	29 PKS
MOSCOW	128.87	43.6	19	8	-2					
PENTICTON	129.12	302.8	19	10	0					
SHILLONG	129.50	108.7	19	9A	-2				20	59
TASHKENT	131.10	76.5	19	14	0					
TOCKLAI	131.86	110.8							19	47
NAMANGAN	132.00	78.7	19	20	4					
KAJAANI	132.57	31.7	19	18	1				22	44 SKP
KIRUNA	133.91	25.4	19	17	-2				21	52 PP
KUNMING	134.01	120.4	19	22	2				21	49 PP

FRUNSE	134.84	79.3	19 23	2			
SODANKYLA	134.94	28.5	19 22	1		22 52	SKP
TROMSOE	135.10	23.3	19 20	-2			
HONG KONG	135.94	135.5	19 50	27		21 59	PP
CANTON	136.38	134.1	19 27	3		22 9	PP
APATITY	136.76	31.2	19 25	0			
KEVO	136.90	26.5	19 28	3		22 58	SKP
CHENGTU	139.37	117.9	19 27	-2		22 5	PP
RESOLUTE	140.56	338.6	19 31A	-1			
SEMIPALATNSK	142.93	75.3	19 32	-4			
ALERT	143.39	354.0	19 30K	-6			
LANCHOW	143.83	113.1	19 35	-2			
COLLEGE	150.48	307.5	19 41	-7		24 16	PKKP
PEKING	152.52	124.4	19 52	1		23 51	
ABUYAMA	153.60	160.6	19 52A	-1			
ULAN-BATOR	154.40	101.5	19 56	2			
TUKUBASAN	155.53	168.6	19 56	1	26 35 -25	24 11	PP
MATUSIRO	155.63	164.9	19 56	1		24 5	PP
IRKUTSK	155.92	91.0	20 6	10			
VLADIVOSTOK	160.73	147.5	20 7	5			
Y.-SAKHLINSK	166.48	170.6	20 4	-3			
PETROPAVLOVK	169.84	229.1	20 7	-2			
MAGADAN	177.40	253.3	20 11	-1			

OCTOBER 23 14.H 39.M 40.S EPICENTRE 3.57 126.65 DEPTH= 51.KM

A=-0.59583 B= 0.80073 C= 0.06186 D= 0.8023 E= 0.5970
G=-0.0369 H= 0.0496 K=-0.9981 HT= 7.1

DEPTH OF FOCUS= 0.003R

SE= 2.83

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
MANILA	12.32	333.9	2	56	0	5	26	14				
BAGUIO CITY	14.09	335.4	3	19	0	6	3	8				
DARWIN	16.38	165.4	3	45	-3	6	51	3				
HENGCHUN	19.19	343.1	4	27	4	8	8	17				
TAWU	19.48	343.8	4	28	2	7	59	2				
TAITUNG	19.80	344.8	4	28	-1	8	7	3				
HSINKONG	20.08	345.7	4	32	0	8	20	10				
TAINAN	20.29	342.7	4	36	2							
ALISHAN	20.62	344.6	4	41	3							
ISIGAKIZIMA	20.78	353.6	4	41	2							
HWALIEN	20.85	347.0	4	41	1	9	23	58				
TAICHUNG	21.26	344.8	4	41	-3							
ILAN	21.60	347.8	4	49	1	8	42	3				
LEMBANG	21.63	241.5	4	51A	3	8	54	15			5	49 PP
TAIPEI	21.90	347.4	4	54	3	8	57	12				
DJAKARTA	22.04	244.0	4	49	-3	8	56	9			7	20
HONG KONG	22.21	328.0	4	52K	-2	8	52	2				
CANTON	23.29	327.6	5	4	0	9	13	4				
PORT MORESBY	24.15	122.4	5	8K	-5						5	52
RABAUL	26.64	106.6	5	34	-2							
YAKUSIMA	26.98	7.3	5	37	-2							
ZO-SE	27.86	349.9	5	47A	0	10	28	2				
MEDAN	27.92	270.9	5	49A	1	10	46	20			6	31
KAGOSIMA	28.09	7.1	5	49K	0						9	18
MIYAZAKI	28.55	8.5	5	54	0	10	47	10				
TOMIE	28.97	3.7	6	14	17							
NAGASAKI	29.17	5.6	5	56	-3	10	22	-24				
NANKING	29.29	346.2	5	59A	-1	9	51	-57				
KUMAMOTO	29.34	7.0	6	0	-1							
SIMIDU	29.65	10.8	5	53	-10	10	55	1				
SAGA	29.72	6.2	6	0	-4							
OOITA	29.87	8.4	6	6	1							
HUKUOKA	30.06	6.2	6	9K	2	10	40	-20				
MUROTO	30.35	12.5	6	10	0						15	54
CHARTERS TS.	30.39	141.4	6	7	-3	11	11	5				
KOTI	30.51	11.4	6	5	-6	11	17	9				
MATUYAMA	30.65	10.0	6	14	2	11	26	16			7	14
SIOMISAKI	30.92	14.9	6	15	0						7	16
HIROSIMA	31.11	9.3	6	20	4							
TAKAMATU	31.36	11.8	6	19	1						7	20
KUNMING	31.44	315.2	6	18	-1	11	25	3				

SUMOTO	31.56	13.1	6	24	4					7	23
OSAKA	32.00	13.9	6	25	1					7	41
ABUYAMA	32.22	13.8	6	24K	-2						
TU	32.30	15.3	6	28	1						
KYOTO	32.41	14.0	6	28	0					14	42
KAMEYAMA	32.43	15.2	6	29	1						
TOTTORI	32.54	11.5	6	20	-9						
TOYOOKA	32.69	12.4	6	32	2						
HIKONE	32.77	14.6	6	33	2						
NAGOYA	32.86	15.7	6	32	0					7	42
GIHU	33.03	15.3	6	36	3						
SAIGO	33.05	9.9	6	35	2						
TSURUGA	33.09	14.1	6	38	4						
OSIMA	33.22	19.3								7	39
MISIMA	33.40	18.5								7	48
IIDA	33.43	16.7	6	38	1					7	55
HUNATU	33.69	18.0	6	38	-1						
KOHU	33.79	17.6	6	39	-1					7	56
YOKOHAMA	33.91	19.2								7	53
MATUMOTO	34.15	16.4	6	38	-5						
TOKYO C.M.O.	34.17	19.2								7	16
HONGO	34.20	19.2								8	43
TOYAMA	34.37	15.1								7	5
CHENGTU	34.40	324.0	6	43	-2	12	6	-2			
OIWAKE	34.40	17.1	6	44	-1					8	6
KUMAGAYA	34.48	18.4	6	44	-2					8	0
MATUSIRO	34.49	16.6	6	41A	-5	12	4	-6		8	0 PP
PORT BLAIR	34.55	285.4	7	16	30					12	0
NAGANO	34.61	16.5	6	46	-1						
MAEBASI	34.62	17.8	6	45K	-2					8	3
TUKUBASAN	34.78	19.2	6	40A	-8	12	16	2	6 48	8	0 PP
KAKIOKA	34.81	19.3	6	44	-4						
UTUNOMIYA	35.01	18.7	6	36	-14					8	22
MITO	35.05	19.6	6	50	0						
HONIARA	35.61	111.5	6	54	-1						
SHIRAKAWA	35.64	18.8	6	57	2						
ONAHAMA	35.71	19.7	6	56	0						
AIKAWA	35.89	15.7	6	58	0						
HUKUSIMA	36.29	18.7	7	4	3						
MUNDARING	36.71	194.9	7	3A	-1					12	45
YAMAGATA	36.71	18.2	7	3	-1						
PERTH	36.79	195.5	7	15	10	12	50	5		8	45 PP
SENDAI	36.91	18.8	7	7	1	12	44	-3			
ISINOMAKI	37.19	19.2	7	8	0						
PEKING	37.51	346.7	7	10A	-1	12	55	-1			
MIZUSAWA	37.76	18.5	7	14	1	13	6	6			
TOCKLAI	38.23	310.3	7	17	0						
MORIOKA	38.30	18.2	7	17	-1						
CHITTAGONG	38.58	302.0	7	19	-1	13	15	3		17	28 SCS
AOMORI	39.21	17.0	7	29	4						
VLADIVOSTOK	39.66	6.0	7	30	1	13	30	2		8	58 PP
BRISBANE	39.78	142.3	7	28	-2	13	15	-15			
SHILLONG	39.92	306.6	7	27	-4	13	33	1		9	20 PPP
ADELAIDE	39.98	164.5	7	30A	-2	13	38	5			
CHANGCHUN	40.11	358.5	7	32A	-1	13	38	3			
HAKODATE	40.12	16.4	7	33	0						
SAPPORO	41.45	16.3	7	31	-13	13	56	1			
CALCUTTA	41.59	300.3	7	46	1	14	3	6			
OBIHIRO	41.86	18.3	7	47	0						
KUSIRO	42.30	19.4	7	49	-2	14	43	35			
LHASA	42.54	311.4	7	54A	1	14	15	4			
RIVERVIEW	43.80	150.1	8	6A	3	14	41	11		9	54 PP
CANBERRA	44.00	153.4	8	3	-2				8 8	9	47 PP
KOUMAC	44.02	124.6	8	4	-1						
BOKARO	44.26	300.9	8	8	1	14	39	3		14	51 PPS
CHATRA	44.27	305.5	8	4A	-3	14	35	-1		18	1
MELBOURNE	44.56	159.2	8	10	1	14	47	6			
VISHAKHAPTNM	44.73	291.6	8	12	2	14	48	5		10	0 PP
Y.-SAKHLINSK	45.47	15.4	8	14	-2	14	54	0			
NOUMEA	46.62	125.4	8	20	-5						
MADRAS	46.86	284.4	8	27K	0	15	17	4		10	24 PP
ULAN-BATOR	47.34	342.0	8	30	-1	15	16	-4			
TARRALEAH	49.07	160.6	8	48	4						
HYDERABAD	49.20	289.9	8	43	-2	15	47	1		14	6 PCS
KODAIKANAL	49.23	280.4								9	8
MOORLANDS	49.44	160.0	8	48	1						
FORT NELSON	49.93	160.2	8	54	3	16	0	4			
IRKUTSK	51.97	342.8	9	6A	-1	16	28	3		18	49 PS
DEHRA DUN	53.00	305.7	9	15	1	16	40	1		11	5 PP

NEW DELHI	53.12	303.3	9	14A	-1	16	38	-2	10	28	PCP
POONA	53.70	290.3	9	17A	-2	16	46	-2	14	23	PCS
BOMBAY	54.72	290.6	9	25	-2	17	3	1	11	30	PP
SUVA	55.39	114.8				17	20	9			
PETROPAVLOVK	55.90	22.7	9	34	-1	17	14	-4	11	42	PP
LAHORE	56.42	305.8	9	36	-3	17	26	1			
YAKUTSK	58.36	1.7	9	52	-1	17	46	-4	10	48	PCP
MAGADAN	58.86	14.1	9	59	3	18	3	7	13	38	PPP
ONERAHI	59.33	135.6	10	3	3						
WARSAK DAM	59.42	307.7	9	59	-1						
FRUNSE	60.42	318.2	10	7	0	18	19	2	12	28	PP
KARACHI	61.02	296.4	10	9	-2	18	31	7	39	32	PKPPKP
KAIMATA	61.17	143.5	10	23	11						
KARAPIRO	61.24	137.2	10	11	-2	18	6	-21			
TONGARIRO	61.89	138.4	10	16	-1	18	58	23			
CHATEAU	61.90	138.4	10	15	-2	19	2	27			
QUETTA	62.16	302.3	10	17	-2	18	41	2	39	39	PKPPKP
WELLINGTON	62.51	140.8	10	22	1	18	44	1			
GEBBIES PASS	62.59	144.0	10	25	3						
TUAI	62.77	137.3	10	22	-1	18	19	-27			
AFIAMALU	63.47	107.4	10	27	0	19	2	7	15	19	SCP
TASHKENT	63.51	314.9	10	28	0	18	56	0	12	58	PP
MACQUARIE I.	63.78	159.7	10	32	3						
WILKES	70.71	186.8	11	20A	7	20	26	4	13	49	PP
ASHKABAD	70.76	308.9	11	12	-1	20	28	5	14	0	PP
SVERDLOVSK	74.06	328.5	11	31	-2	20	58	-2			
HONOLULU	74.97	69.0	11	40	2						
KIPAPA	75.05	68.9	11	39	1						
GORIS	80.27	309.3	12	7A	0	22	9	2	15	6	PP
CAPE HALLETT	80.67	167.7	12	10A	0	22	20	8	17	3	
TANANARIVE	80.87	250.3	12	11	0				13	15	
TIFLIS	81.55	311.5	12	15A	1	22	25	4	15	27	PP
KHEYS	83.06	351.1	12	23A	1	22	37	1	15	25	PP
SCOTT BASE	84.19	172.1	12	27	-1	22	51	4	15	43	PP
COLLEGE	84.88	25.3	12	30	-1	22	53	-1	15	38	PP
MOSCOW	86.52	325.5				23	11	1	16	15	PP
APATITY	87.96	337.4	12	46K	0						
KSARA	88.68	303.6	12	52	3	23	38	8			
SIMFEROPOL	89.30	314.8	12	53	1	23	36	0	16	38	PP
KEVO	90.01	339.9	12	53	-3						
PULKOVO	90.13	329.8	12	56	0	23	44	0			
SODANKYLA	90.58	337.6	12	57	-1	23	47	-1	16	5	PP
KAJAANI	90.72	334.3	12	58	-1	23	50	1	16	44	PP
TROMSOE	92.78	340.5	13	8	-1	24	10	3	13	38	
KIRUNA	92.79	338.6	13	7	-2	24	7	0	16	52	PP
NURMIJARVI	92.80	331.0	13	10	1	23	41	-26	16	37	PP
ISTANBUL KA.	93.39	311.3	13	21	10	24	14	2	17	7	PP
ALERT	93.93	1.2	13	14K	0						
BUCHAREST	95.04	315.0				24	2	13	20	30	
LWOW	95.40	320.6	13	21	0	24	1	10	17	18	PP
UPPSALA	96.36	331.3	13	26	1	24	35	39	17	23	PP
WARSAW	96.70	323.4							24	8	
SKALSTUGAN	97.41	335.7	13	31	1				17	42	PP
BYRD STATION	97.54	170.7	13	35	5			15 17			
KRAKOW	97.92	321.4	13	33	1				15	41	
LWIRO	97.97	268.2	13	32A	0						
RESOLUTE	97.99	10.3	13	31	-1						
BULAWAYO	98.77	250.3	13	46	10						
BROKEN HILL	98.80	256.0	13	36	0						
BELGRADE	98.90	316.2	13	30	-6	25	5	56	24	32	SKKS
RACIBORZ	98.99	321.8	13	39	2						
TITOGRAD	100.33	314.1				24	25	9	27	8	PS
PRUHONICE	101.26	322.4	13	48	1				17	48	
COLLMBERG	101.73	324.0	13	52	3	25	55	92	18	27	PP
KIMBERLEY	102.12	241.5							18	55	
KASPERSKE H.	102.14	321.8	13	49	-2						
HALLE	102.27	324.5	13	56	4	25	28	63			
TARANTO	102.30	312.6							23	46	
PENTICTON	102.48	37.8	13	55	3						
LJUBLJANA	102.56	318.6	13	56	3				18	9	PP
JENA	102.70	324.0	13	58	5	25	35	68	17	59	PP
TRIESTE	103.20	318.4	14	0	4	24	31	1	18	13	PP
SHASTA	103.37	46.9	13	58	2						
MINERAL	104.05	47.0	14	2	3						
MESSINA	104.18	310.7				24	40	6	18	25	PP
BERKELEY	104.26	49.6	14	2	2	24	38	3	18	14	PP
LICK	104.88	50.0	14	3A	0						
STUTTGART	104.91	322.6	14	2	-1	25	59	82	18	25	PP

BENSBERG	105.23	325.2	14	24	777				17	55 PP
ROME	105.31	315.1				24	56	17	18	28 PP
FLORENCE X.	105.51	317.2	14	1	777	25	40	60		
STRASBOURG	105.90	322.8	18	46	777				25	2
HUNGRY HORSE	106.26	37.3	14	13	777				17	36 PKP
HERMANUS	106.37	235.3				24	58	14		
PAVIA	106.38	319.2							18	40 PP
CHIAVARI	106.61	318.3							18	20
MONACO	108.10	318.3							18	46 PP
ISOLA	108.17	318.8	17	41A	777				18	45 PP
EUREKA	108.42	46.4	17	33	777				18	48 PP
PASADENA	108.52	52.3	18	29	777	25	4	11	18	48 PP
BOZEMAN	109.26	38.9	18	11	777					
BOULDER CITY	110.51	49.5	18	35	8				20	23
FLAMING GRGE	112.46	42.8	18	35	4				14	52 P
TUCSON	114.95	52.0	18	50	14					
TUCSON TELE.	115.00	51.9	18	50	14				19	31
TOLEDO	117.47	318.9	18	57	16				20	4 PP
MANHATTEN	121.74	38.7	18	50	1				20	30 PP
WICHITA MTS.	122.94	44.2	18	32	-19	25	55	8	20	30 PP
DUBUQUE	123.04	32.3	18	52	1					
FAYETTEVILLE	125.12	40.4	18	37	-18				20	42 PP
ROLLA	125.42	37.2	18	41	-15				22	14 PP
C. GIRARDEAU	127.22	36.2	18	59	0					
BLOOMINGTON	127.62	32.5	18	42	-18				20	56 PP
BREBEUF	127.92	18.0	19	7	6				21	6 PP
MORGANTOWN	130.53	27.1	19	24	18				22	31 PP
PALISADES	131.82	20.9							21	30 PP
SAN JUAN	154.82	29.6	19	53	6				23	47 PP
CHINCHINA	156.19	69.3	19	53	4					
HUANCAYO	156.67	112.4	19	58	8					
BOGOTA	157.75	68.7	20	10	19				24	34 PP
ANTIGUA	157.78	21.9	19	58	7					
FORT FRANCE	160.24	22.9	19	57	3					
CARACAS	160.55	43.9	20	3	9	27	10	18		
LA PAZ	160.61	132.5	20	0	6					

OCTOBER 24 7.H 25.M 28.S EPICENTRE 44.99 146.73 DEPTH= 144.KM
A=-0.59329 B= 0.38921 C= 0.70464 D= 0.5485 E= 0.8361
G=-0.5892 H= 0.3865 K=-0.7096 HT= -3.5

DEPTH OF FOCUS= 0.018R

SE= 4.06

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KURILSK	0.84	73.2	0	20	-4	0	36	-6				
NEMURO	1.86	206.9	0	24	-10	0	44	-16				
ABASHIRI	2.01	241.9	0	40	5	1	6	4				
KUSIRO	2.63	220.7	0	36	-7	1	4	-12				
OBIHIRO	3.29	232.1	0	45	-7	1	25	-6				
ASAHIGAWA	3.36	250.3	0	51	-2	1	30	-3				
Y.-SAKHLINSK	3.45	307.3	0	54	0	2	37	62				
WAKKANAI	3.60	278.6	0	57	1	1	42	3				
HIROO	3.67	223.6	0	49	-8	1	28	-12				
RUMOE	3.81	255.9	0	56	-3	1	37	-6				
URAKAWA	4.04	226.7	0	55K	-7	1	41	-8				
SAPPORO	4.33	245.5	1	3K	-3	1	52	-4				
TOMAKOMAI	4.42	239.5	1	6	-1	1	55	-3				
MURORAN	4.96	239.4	1	8	-6	2	2	-9				
UGLEGORSK	5.18	323.7	1	19	2	2	21	5				
SUTTSU	5.19	247.3	1	12	-5	2	11	-5				
MORI	5.33	239.3	1	13	-6	2	13	-7				
HAKODATE	5.39	235.9	1	13K	-7	2	13	-8				
HATINOHE	5.88	222.5	1	17	-9	2	15	-18				
AOMORI	6.04	228.4	1	23	-5	2	23	-14				
MIYAKO	6.40	215.1	1	32	-1	2	25	-20				
MORIOKA	6.71	219.8	1	29	-8	2	34	-19				
MIZUSAWA	7.19	217.4	1	36	-8	2	46	-18				
ISINOMAKI	7.71	213.6	1	40	-11	2	57	-20				
SENDAI	8.01	215.0	1	49	-6	3	4	-20				
YAMAGATA	8.26	217.5	1	48K	-10	3	12	-18				
SEVERO-KUR.	8.48	44.6	1	59	-2							
HUKUSIMA	8.63	215.2	1	52	-11	3	20	-19				
OKHA	8.92	345.2	2	10	3						4	3

NIIGATA	9.12	221.9				3	26	-25			
ONAHAMA	9.16	210.8								2	54
SHIRAKAWA	9.27	214.2	2	4	-7	3	36	-18			
AIKAWA	9.43	225.3	2	6	-8						
MITO	9.83	211.1	2	9	-10	3	51	-16			
UTUNOMIYA	9.91	214.0	2	8	-12	3	52	-17			
KAKIOKA	10.07	211.9	2	12	-10	3	54	-19			
TUKUBASAN	10.11	212.2	2	11	-11	3	51	-23			
MAEBASI	10.37	216.7				4	9	-11		5	28
NAGANO	10.53	220.8	2	26	-2						
MATUSIRO	10.63	220.3	2	19A	-10	4	8	-18		4	48
OIWAKE	10.65	218.5	2	34	4						
TOKYO C.M.O.	10.72	212.2				4	10	-19			
VLADIVOSTOK	10.84	265.3				4	26	-6			
MATUMOTO	10.98	220.3	2	41	7						
PETROPAVLOVK	11.20	39.9	2	36	-1					4	42
KOHU	11.20	216.6	2	29	-8	4	28	-12			
HUNATU	11.26	215.4				5	6	25		4	25
AJIRO	11.52	213.1	2	27	-14	4	26	-21			
IIDA	11.65	218.7	2	32	-11	4	34	-16			
OSIMA	11.66	211.4				4	31	-20			
MAGADAN	14.79	8.1	3	26	3						
CHANGCHUN	15.35	273.2	3	27K	-3	6	9	-7		4	2 *SP
PEKING	22.99	268.3	4	50K	-3	8	47	-2		5	26 *SP
ZO-SE	24.32	244.0	5	4K	-1					5	52 *SP
NANKING	25.26	248.9	5	12K	-2	9	34	7		5	51 *SP
ULAN-BATOR	27.39	290.5	5	32	-2						
IRKUTSK	28.62	300.1	5	42	-3						
SIAN	30.79	262.9	6	3K	-1						
LANCHOW	33.48	269.7	6	26K	-1	11	38	1			
HONG KONG	34.95	240.5	6	37	-3	12	0	0			
CHENGTU	36.22	261.6	6	49	-2	12	19	-1			
COLLEGE	40.26	36.9	7	25	1				7 55	8	11 *SP
KUNMING	40.52	255.7	7	26K	0	13	24	0			
KHEYS	45.75	346.8	8	6	-3					9	43 PCP
LHASA	45.98	270.3	8	11K	1	14	48	5			
CHITTAGONG	49.90	262.0	8	40	-1						
FRUNSE	50.39	294.7	8	44	0	15	51	6		16	28 PS
CHATRA	50.39	270.0	8	43K	-1	15	47	2		10	37 PP
KIPAPA	50.75	98.7	8	46	-1						
HONOLULU	50.77	98.8	8	46	-1						
ALERT	51.91	4.7	8	36A	-20						
RESOLUTE	53.87	16.8	9	8	-2						
PORT MORESBY	54.14	179.5	9	8	-4	16	38	2			
TASHKENT	54.58	295.5	9	16	0	16	48	6		18	52 SCS
LAHORE	56.63	283.0	9	29	-1	17	12	3			
WARSAK DAM	57.12	287.0	9	33K	-1						
APATITY	57.13	335.2	9	33A	-1						
KEVO	57.44	339.0	9	35	-1					10	27 PCP
VICTORIA	58.16	51.5	9	39	-2						
SODANKYLA	59.20	337.1	9	46	-2						
TROMSOE	59.49	341.3	9	48	-2						
PENTICTON	59.78	49.1	9	51A	-1						
KIRUNA	60.50	339.4	9	55	-2						
BANFF	60.83	45.6	9	58A	-1						
KAJAANI	61.21	334.0	10	1	-1					10	43 PCP
QUETTA	62.52	286.1	10	9K	-2	18	26	1			
MOSCOW	63.28	323.2	10	17	1					10	52 PCP
SHASTA	63.29	58.3	10	15A	-1						
HUNGRY HORSE	63.32	47.5	10	15	-1				10	46	
ASHKABAD	63.43	297.9	10	16	-1	18	42	6			
MINERAL	63.98	58.2	10	20A	0						
PT. REYES	64.60	60.9	10	24	0						
NURMIJARVI	64.79	332.4	10	24	-1					10	58 PCP
SAN FRANCSCO	65.05	60.9	10	26	-1						
BERKELEY	65.11	60.7	10	27A	0						
RENO	65.56	58.0	10	31A	1						
BUTTE	65.57	48.8	10	31	1				10	59	
STA. CRUZ C.	65.81	61.3	10	31A	-1						
LICK	65.82	60.8	10	31A	-1						
SKALSTUGAN	65.93	339.5	10	36	3						
PARAISO	66.00	62.1	10	36	3						
VINEYARD TE.	66.35	61.2	10	36K	1						
BOZEMAN	66.60	48.3	10	37	0						
FRESNO	67.32	60.3	10	42	1						
UPPSALA	67.52	334.9	10	41	-2						
EUREKA	67.88	56.0	10	45	0				11	9	
TIFLIS	69.06	308.4	10	53K	1	19	51	7		20	39 PS

TEHERAN	69.15	299.9	10 53K	0	19 54	9					
NOUMEA	69.34	160.5	10 51	-3					13 47		
SALT LAKE C.	69.41	52.7	10 55	1							
GORIS	69.68	305.8	10 58K	2	19 50	-1			13 33	PP	
PASADENA	70.03	61.5	10 58	0					11 28		
FLAMING GRGE	70.67	51.2	11 2	0							
GOTEBORG	70.96	336.2	11 13	9							
GLEN CANYON	72.12	55.5	11 11	0							
BRISBANE	72.24	174.4	11 10	-1							
SIMFEROPOL	72.40	316.6	11 12K	0	20 28	6			21 9	SCS	
LARAMIE	72.48	48.8	11 12	-1							
RACIBORZ	75.28	328.6	11 30	1					11 49	PCP	
TUCSON	75.83	58.6	11 33	1			12 3				
COLLMBERG	76.08	332.1	11 33K	0					11 49	PCP	
PRUHONICE	76.67	330.6	11 37	0							
JENA	76.87	332.7	11 37	-1					12 38		
BRATISLAVA	77.26	328.1	11 41	1							
VIENNA-H.	77.47	328.6	11 42K	1							
KASPERSKE H.	77.73	330.6	11 42	0							
BENSBERG	78.21	335.2	11 45K	0							
MANHATTEN	78.70	45.1	11 47A	-1			12 16				
DUBUQUE	78.94	39.4	11 59	10			12 18				
SOFIA	79.16	321.2	11 53	3					12 1	PCP	
STUTTGART	79.48	332.9	11 53	1							
LAWRENCE	79.54	44.4	11 52	0							
KEW	79.79	339.8	11 53	-1							
CANBERRA	79.97	178.1	11 52	-3					12 29		
LJUBLJANA	80.00	328.4	11 55K	0							
EBINGEN	80.10	332.8	11 56	1							
STRASBOURG	80.13	333.7	11 56	1							
RAVENSBURG	80.24	332.2	11 56	0							
TRIESTE	80.63	328.7	11 59	1							
WICHITA MTS.	81.05	49.3	12 0A	0	22 2	6	12 30		27 24	SS	
BASLE	81.12	333.3	12 2	1							
MUNDARING	81.48	205.9	11 59K	-4							
PARIS	81.49	337.0	12 4	1							
JERUSALEM	81.51	306.8	12 4K	1							
BESANCON	81.87	334.2	12 6	1							
ROLLA	82.02	43.0	12 6A	1			12 36				
FLORISSANT	82.03	41.5	12 6	1			12 36				
ST. LOUIS 1	82.23	41.5	12 6	0			12 36				
FAYETTEVILLE	82.30	45.6	12 7A	0			12 36				
GARCHY	82.71	336.0	12 9	0					12 32		
ATHENS	82.75	318.1	12 9	0			12 37				
ROSELEND	82.90	332.3	12 12	2							
BREBEUF	83.07	27.3	12 13K	2							
FLORENCE X.	83.15	329.2	11 59	-12							
BLOOMINGTON	83.49	38.8	12 14A	1			12 44				
C. GIRARDEAU	83.61	41.8	12 13A	0			12 43				
ISOLA	84.26	332.1	12 18	1							
LITTLE ROCK	84.26	45.2	11 56	-21							
MONACO	84.53	331.7	12 13	-5					30 41		
MORGANTOWN	85.89	34.3	12 26K	1			12 56				
KARAPIRO	86.54	157.6	12 27	-1							
PALISADES	86.95	29.6			23 6	12			17 18	PPP	
CAPE HALLETT	118.16	172.1	18 29	-1							
SCOTT BASE	123.19	175.0	18 39	-1							
MAWSON	128.44	209.1	18 50	0			19 20				
HUANCAYO	131.41	60.9									
ARGENTINE I.	153.53	150.9	19 51	18			18 59		23 11		

OCTOBER 25 8.H 54.M 36.S EPICENTRE -9.75 -78.55 DEPTH= 105.KM

A= 0.19571 B=-0.96612 C=-0.16826 D=-0.9801 E=-0.1985
G=-0.0334 H= 0.1649 K=-0.9857 HT= 6.6

DEPTH OF FOCUS= 0.011R

SE= 1.99

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
AREQUIPA	9.58	134.9	2	16	0	4	11	9				
LA PAZ	12.16	124.6	2	51	1	5	11	7				
CHINCHINA	14.91	11.4	3	26	0	6	12	3				
BOGOTA	14.96	17.6	3	28	1	6	12	2				
CARACAS	23.20	30.2	4	56	-2	9	7	9				

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TRINIDAD	26.49	40.5	5 29	0			13 28	
GRENADA	27.36	38.0	5 37	0				
ST. VINCENT	28.51	37.3	6 2	15				
BARBADOS	29.50	40.0	6 0	4				
DOMINICA	30.14	34.5	6 16	14				
SAN JUAN	30.52	23.7	6 4	-1		6 22	6 58	PP
ST. KITTS	31.13	30.2	6 10	0				
ANTIGUA	31.41	31.8	6 11	-2			6 35	
TACUBAYA	35.40	324.9	6 51	4			7 51	
COLUMBIA	43.57	357.0	7 55	0				
PORT STANLEY	45.12	161.9	8 7	0				
LITTLE ROCK	46.18	344.2	8 14A	-2				
FAYETTEVILLE	47.92	342.9	8 30A	1		8 47	10 32	PP
C. GIRARDEAU	47.94	348.2	8 28	-1	15 20 2			
WICHITA MTS.	48.13	337.7	8 30	-1	15 26 6		9 57	PCP
MORGANTOWN	49.14	358.6	8 39A	0				
BLOOMINGTON	49.25	351.8	8 38	-1	15 30 -6			
ST. LOUIS 1	49.36	347.9	8 39	-1	15 41 3			
FLORISSANT	49.54	347.9	8 41A	-1				
PALISADES	50.69	4.5			16 9 13		17 5	
LAWRENCE	50.90	343.2	8 52	0				
MANHATTEN	51.51	342.1	8 55A	-2	16 12 5			
TUCSON	51.92	324.9	9 1	1				
TUCSON TELE.	51.92	325.1	9 2	2				
DUBUQUE	53.18	348.8	9 7	-2	16 28 -2			
OTTAWA	54.95	2.4	9 21	-1				
BREBEUF	55.17	4.2	9 23K	-1			11 15	PCP
ARGENTINE I.	56.30	172.8	9 23	-9				
LARAMIE	56.58	335.8	9 34	0				
BOULDER CITY	56.90	325.0	9 36	0				
PASADENA	57.61	321.2	9 42A	1	17 41 12		21 24	SS
FLAMING GRGE	57.90	332.7	9 43	0				
SALT LAKE C.	58.92	330.9	9 51	1				
EUREKA	60.04	327.1	9 58	0		10 15	39 26	PKPPKP
FRESNO	60.34	322.5	10 0	0				
VINEYARD TE.	61.30	321.5	9 59	-7				
LICK	61.83	321.9	10 12K	2				
RENO	62.21	324.8	10 14A	2				
BOZEMAN	62.42	334.8	10 14	0				
BERKELEY	62.55	322.0	10 16A	1				
BUTTE	63.34	334.1	10 20	0				
MINERAL	63.77	324.4	10 23K	0				
SHASTA	64.45	324.3	10 26	-1				
HUNGRY HORSE	65.79	334.9	10 35	-1			12 42	
CORVALLIS	67.51	327.0	10 47A	0				
BANFF	68.59	336.0	10 52	-1				
PENTICTON	68.96	332.6	10 56	0				
BYRD STATION	72.81	186.9	11 19	0				
SOUTH POLE	80.31	180.0	12 2	1				
BENI ABBES	83.26	58.0	12 18	2		12 45	12 59	*SP
TOLEDO	84.53	48.2	12 25	3		12 48	13 21	
RESOLUTE	84.88	355.7	12 24	0				
SCOTT BASE	85.57	191.1	12 29	2		12 52	15 43	PP
CAPE HALLETT	87.07	196.6	12 36	1				
COLLEGE	90.18	336.5	12 49	0		13 11		
AFIAMALU	90.79	255.8	12 54	2				
ALERT	92.41	2.1	13 0K	0				
MAWSON	98.05	166.0	13 26	1				
PORT MORESBY	130.70	248.7	19 4K	5				
MUNDARING	136.18	198.2	19 11K	2				
MATUSIRO	137.37	314.6	19 1	-10			22 41	
QUETTA	141.96	52.7	19 18	-1				
WARSAK DAM	143.47	44.1	19 22	0				
NEW DELHI	150.50	47.2	19 37K	3				
CHATRA	158.30	36.6	19 47	3				

OCTOBER 25 14.H 20.M 18.S EPICENTRE -20.58-173.89 DEPTH= 0.KM

A=-0.93161 B=-0.09979 C=-0.34948 D=-0.1065 E= 0.9943
G= 0.3475 H= 0.0372 K=-0.9369 HT= 4.5

SE= 2.63

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S

AFIAMALU	6.93	17.2	1	39	-7	2	46	-20				
SUVA	7.65	287.1	2	3	7							
RAOUL ISLAND	9.37	202.2	2	19	-1	3	58	-9				
PORT VILA	17.05	276.6	4	4A	2	7	9	-2				
NOUMEA	18.39	261.1	4	19	1	8	6	25				
AUCKLAND	18.99	208.9									8	4
KARAPIRO	19.57	205.7	4	32	0							
TUAI	19.73	201.1	4	33	-1	8	21	9				
CHATEAU	20.67	203.8	4	45	1							
TONGARIRO	20.67	203.8	4	45	1							
BRISBANE	31.13	250.9	6	25	2						10	23
RIVERVIEW	33.61	239.5	6	40	-4						14	57
CANBERRA	35.69	237.7	7	0A	-2				7	8		
CHARTERS TS.	37.31	263.6	7	14	-2						12	56
PORT MORESBY	39.14	280.6	7	30K	-1	15	10	98			17	10 SS
MOORLANDS	39.24	227.3	7	31	-1							
FORT NELSON	39.31	226.5	7	32A	-1							
ADELAIDE	43.92	240.6	8	7A	-4							
CAPE HALLETT	52.54	186.1	9	21	3	16	52	8				
DARWIN	53.43	269.6	9	23	-1							
SCOTT BASE	58.08	184.7	10	0	2				10	22	12	6 PP
MUNDARING	62.76	243.9	10	28A	-2							
BYRD STATION	63.94	170.9	10	36	-1							
SOUTH POLE	69.54	180.0	11	13	0							
MATUSIRO	72.62	321.2	11	30A	-2						21	46 SCS
VINEYARD	75.53	41.2	11	49A	1							
BERKELEY	75.72	39.8	11	51	2							
LICK	75.75	40.6	10	51K	-59							
PASADENA	75.97	44.9	11	52	1	21	38	4			22	18 PS
UKIAH	75.98	38.3	11	55	4							
FRESNO	76.53	42.0	11	55	1							
LEMBANG	76.89	267.6	11	57A	1						19	48
SHASTA	77.50	37.5	11	59	0							
MINERAL	77.72	38.2	12	1K	0							
RENO	78.26	39.8	12	5K	1							
BOULDER CITY	79.26	45.1	12	11	2							
TUCSON	79.97	50.1	12	16	3							
EUREKA	80.57	41.7	12	15	-1							
GLEN CANYON	81.98	45.7	12	23	0							
HONG KONG	82.12	297.3	12	22	-2	22	40	1				
MAWSON	82.76	198.9	12	27A	-1						12	31 PCP
NANKING	82.99	307.9	12	29	0	22	52	4				
SALT LAKE C.	83.89	42.4	12	35	2							
PENTICTON	84.62	32.2	12	27	-10							
CHANGCHUN	84.86	320.6	12	36	-2	23	9	3				
FLAMING GRGE	85.55	43.3	12	43	1							
BUTTE	86.40	37.8	12	45	-1							
HUNGRY HORSE	86.93	35.3	12	50	2						13	13
COLLEGE	87.51	10.8	12	49	-2							
LARAMIE	88.22	44.5	12	56	1							
PEKING	88.69	313.8	12	55	-2	23	49	6				
WICHITA MTS.	90.13	52.8	13	4	0	24	2	6			25	12 PS
SIAN	91.36	306.1	13	13	4	24	20	13				
KUNMING	92.84	295.6	13	18	2	24	28	8				
CHENGTU	93.81	301.2	13	23	2	24	37	9				
FAYETTEVILLE	93.97	53.0	13	22	1							
PALISADES	110.57	52.8									34	47 SS
QUETTA	124.76	293.0	19	4	2							
LWIRO	148.23	227.1	19	51A	6							
CHORZOW	148.65	344.1	19	48	2							
MUNSTER	148.65	358.2	19	52	6							
RACIBORZ	149.04	344.8	19	51	5							
NIEDZIKA	149.07	341.8	19	51	5						20	33
BENSBERG	149.67	358.7	19	56	9						21	12
PRUHONICE	149.91	349.1	19	52	4						21	26
KSARA	150.54	302.8	19	53	4						20	18 PKP2
KASPERSKE H.	150.90	349.9	19	53	4							
BRATISLAVA	151.08	344.7	19	55	6							
JERUSALEM	151.69	299.1	19	58	8							
BELGRADE	153.07	337.1	19	57K	5						22	21
LJUBLJANA	153.68	346.7	19	56	3							
TRIESTE	154.22	347.6	19	57	3							
GRANADA	161.42	25.0									21	1 PKP2

OCTOBER 25 16.H 24.M 22.S EPICENTRE 14.30 56.56 DEPTH= 81.KM

A= 0.53427 B= 0.80891 C= 0.24541 D= 0.8344 E=-0.5511
G= 0.1352 H= 0.2048 K=-0.9694 HT= 5.9

DEPTH OF FOCUS= 0.008R

SE= 2.26

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KARACHI	14.39	41.7	3	19	-2								
BOMBAY	16.24	71.4	3	42	-3	6	54	12			4	12	PPP
POONA	17.11	73.4	3	55K	-1	7	15	13			4	10	PP
QUETTA	18.48	29.5	4	10	-2	7	25	-7			4	26	*SP
HYDERABAD	21.29	78.7	4	39A	-3	8	46	18			9	48	SS
TEHERAN	21.85	348.6	4	48	1	8	54	15					
MADRAS	22.99	90.4	5	1A	2	9	24	25			5	41	PP
NEW DELHI	23.84	50.1	5	11A	4	9	42	28			10	56	SS
WARSAK DAM	23.86	32.1	5	10	3								
DEHRA DUN	25.41	47.6	5	28	6	9	53	13			5	57	PP
VISHAKHAPTNM	25.92	78.9	5	25	-2	10	9	20			6	17	PP
JERUSALEM	26.15	315.3	5	30	1	10	31	39					
STALINABAD	26.48	21.8	5	36	4	10	19	21					
SAMARKAND	26.88	18.0	5	36A	1	10	15	11					
KSARA	27.00	319.6	5	38	2	10	36	30			6	34	PP
TASHKENT	29.11	19.9	5	57	2								
TIFLIS	29.17	341.8	5	58	2								
NAMANGAN	29.67	23.5	6	3	3								
ANDIJAN	29.75	24.7	6	3	2								
CHATRA	31.17	61.6	6	14K	0						11	10	
LWIRO	32.04	241.3	6	19	-2								
SOTCHI	32.55	337.0	6	26	0	11	48	14					
TANANARIVE	34.18	195.3	6	45	5						7	17	
SHILLONG	34.93	65.7	6	45K	-1	12	21	10					
LHASA	35.27	58.6	6	49	0								
ISTANBUL KA.	35.82	323.4	6	54	0	12	34	9					
SIMFEROPOL	35.99	332.5	6	56K	1	12	41	14					
BUCHAREST	39.65	325.3	7	27	1	13	14	-9			8	18	PP
BROKEN HILL	39.85	225.4	7	29	2								
KISHINEV	40.00	330.3	7	28K	-1								
SEMIPALATNSK	40.83	23.2	7	37K	2								
MEDAN	42.87	100.3	7	52	0								
BELGRADE	43.13	322.2	7	52K	-2						9	41	PP
MESSINA	43.32	311.1	7	57	1	14	31	14					
MOSCOW	43.85	344.6	8	1K	1	14	41	16					
BULAWAYO	43.89	219.4	8	1	1								
KUNMING	44.60	68.7	8	8	2								
CHENGTU	46.42	61.2	8	12	-9								
BRATISLAVA	46.89	324.4	8	24	0								
LJUBLJANA	47.35	320.6	8	28	0						10	21	PP
VIENNA-H.	47.35	324.1	8	28	0						10	16	PP
RACIBORZ	47.36	327.1	8	33	5								
TRIESTE	47.64	319.8	8	30	0						10	25	PP
PRUHONICE	49.27	325.2	8	41	-2						9	5	
KASPERSKE H.	49.39	323.9	8	42	-2								
COLLMBERG	50.80	326.1	8	55	1						10	59	PP
JENA	51.39	325.1	8	56	-3				9	21	11	3	PP
ISOLA	51.44	315.6	9	0	1								
HALLE	51.47	325.9	8	59	0								
NURMIJARVI	51.65	340.5	8	59	-2								
STUTTGART	51.74	321.8	8	59	-3								
KIMBERLEY	52.68	215.6	9	9	0								
WINDHOEK	53.26	227.1	9	9	-4								
ULAN-BATOR	53.29	40.2	9	13	0								
KAJAANI	53.58	344.7	9	15K	0								
UPPSALA	53.66	336.8	9	15K	-1								
BENSBERG	53.90	323.5	9	16	-2								
LEMBANG	54.83	109.1	9	23	-1								
APATITY	55.32	349.4	9	27	-1	17	14	10					
SODANKYLA	56.54	346.6	9	36K	-1						14	42	SCP
PEKING	57.74	51.6	9	44	-1	17	39	3					
FOLINIERE	57.79	319.0	9	44	-1								
SKALSTUGAN	58.00	338.4	9	45	-2								
KIRUNA	58.38	344.8	9	48K	-2						14	55	PCS
KEVO	58.43	348.4	9	48K	-2								
TROMSOE	60.09	345.7	10	0	-1								
CHANGCHUN	64.94	48.1	10	35	1	19	15	8					
MBOUR	70.92	280.5	11	13	2								
MATUSIRO	75.00	55.6	11	33	-2								
MAWSON	81.80	177.6	12	12	0								

COLLEGE	98.93	10.3	13	55	22					17	37 PP
BYRD STATION	114.23	180.8	18	31	1						
WICHITA MTS.	125.83	334.7	18	56	3					20	48 PP
EUREKA	126.05	352.8	18	58	5					20	41 PP

OCTOBER 26 0.H 38.M 18.S EPICENTRE -3.12 148.02 DEPTH= 0.KM

A=-0.84701 B= 0.52881 C=-0.05408 D= 0.5296 E= 0.8483
G= 0.0459 H=-0.0286 K=-0.9985 HT= 7.1

SE= 3.00

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
RABAUL	4.28	104.6	1	6K	-2						2	12
PORT MORESBY	6.30	187.9	1	37A	0	3	0	9			2	36
HONIARA	13.41	118.4	3	12	-3							
CHARTERS TS.	16.95	185.7	4	2A	1	7	17	8				
DARWIN	19.34	240.7	4	31	1	8	14	11				
BRISBANE	24.56	169.8	5	24	1	9	42	0				
PORT VILA	24.64	127.5	5	22A	-2	9	42	-1				
NOUMEA	26.14	138.4	5	36	-2	10	19	11				
RIVERVIEW	30.69	174.9	6	22	3	11	22	0			7	22 PP
MANILA	32.02	304.2	6	34	3						13	10
CANBERRA	32.05	178.5	6	30A	-1	11	31	-12	6	38	7	31 PP
ADELAIDE	32.85	194.2	6	37A	-1	12	2	7				
SUVA	33.32	118.8				12	2	-1			10	42
BAGUIO CITY	33.35	306.4	6	39	-3	12	7	4				
MELBOURNE	34.66	184.3	6	53	-1	12	7	-16				
HENGCHUN	36.53	314.4									17	37
TAINAN	37.55	315.1	7	27	9							
TAICHUNG	37.98	317.0	7	12	-10							
TAIPEI	38.01	318.9	6	8	-74	12	13	-62				
SAVANNAH	38.44	181.0	7	26A	0				7	33		
MOORLANDS	39.15	181.0	7	33	1						7	39 *SP
ABUYAMA	39.56	343.8	7	44A	9							
FORT NELSON	39.64	180.8	7	35A	-1	13	41	1				
TUKUBASAN	39.83	350.0	7	33A	-4	12	54	-48			9	0 PP
MATUSIRO	40.50	347.8	7	40	-3	13	46	-7			11	26
AFIAMALU	41.10	107.6	7	57	9	14	44	43			10	7 PP
DJAKARTA	41.16	264.2	6	53	-55						7	51
MUNDARING	41.44	222.6	7	50A	0	13	53	-13				
NHATRANG	41.47	292.3	7	51	0							
HONG KONG	41.62	309.0	7	53	1	13	53	-16			9	30 PP
PERTH	41.68	222.9				14	13				9	36
ZO-SE	42.57	325.1	8	0A	0	14	22	-1				
CANTON	42.69	309.4	8	3A	2	14	30	5				
TONGARIRO	43.76	148.7	8	9	0							
CHATEAU	43.77	148.7	8	9	0							
TUAI	44.33	147.0	8	12	-2							
NANKING	44.66	323.8	8	16	-1	14	57	3				
WELLINGTON	44.96	151.3	8	15	-4	15	0	2			18	26 SCS
ROXBURGH	46.13	159.2				15	18	3				
VLADIVOSTOK	48.27	344.2	8	45	0						10	35 PP
MEDAN	49.76	277.3	8	58	1	16	8	2			9	34
Y.-SAKHLINSK	50.15	355.3	8	57	-3	16	12	1			11	41 PPP
CHANGCHUN	51.00	338.9	9	4A	-2	16	22	-1				
PEKING	51.93	329.0	9	12	-1	16	35	-1				
KUNMING	52.12	305.3	9	16A	1	16	41	3				
SIAN	52.30	318.7	9	15A	-1							
CHENGTU	53.74	312.1	9	26	-1	17	0	0				
PETROPAVLOVK	56.65	7.7	9	48	0						12	5 PP
LANCHOW	56.73	317.5	9	49	1							
PORT BLAIR	56.91	286.0	9	59	9						15	28
HONOLULU	58.04	62.6	10	1	3	18	9	11				
TOCKLAI	59.34	303.6	10	9	2							
HAWAII V.OB.	60.04	65.6	10	17	6	18	27	3				
CHITTAGONG	60.41	297.8	10	17	3	18	34	6	10	22	12	32 PP
SHILLONG	61.37	301.3	10	20A	-1	18	45	4			14	8 PPP
ULAN-BATOR	62.23	330.0	10	28	2							
MAGADAN	62.52	1.6	10	27	-1							
LHASA	63.44	305.3	10	35	1							
CALCUTTA	63.52	297.0	10	39	4	19	17	9				
CHATRA	65.78	301.2	10	50A	1	19	39	3			13	29 PP
BOKARO	66.14	297.6	10	52	0	19	46	6				
IRKUTSK	66.36	332.4	10	51A	-2						19	46
YAKUTSK	66.46	350.7	10	53	-1	19	42	-2			13	23 PP

VISHAKHAPTNM	67.04	290.6	11	1K	3	19	59	8		13	32 PP
WILKES	68.33	195.3	11	5	-1	19	59	-7		15	39 PCS
MADRAS	69.21	285.1	11	12K	1	20	22	5		14	0 PP
KODAIKANAL	71.48	281.8	11	44	19						
HYDERABAD	71.54	289.4	11	22A	-3	20	46	2		21	17 PS
DEHRA DUN	74.42	302.5	11	48	6	21	22	5		14	40 PP
NEW DELHI	74.77	300.6	11	45A	1	21	22	2		14	49 PP
SCOTT BASE	75.33	176.0	11	47K	0	21	27	0		14	20 PP
POONA	76.04	289.8	11	51	0	21	36	2		14	47 PP
BOMBAY	77.05	290.1	11	58	1	21	49	3		16	29 PPP
LAHORE	77.81	303.0	12	1	0						
FRUNSE	80.03	314.3	12	14	1	22	21	4		15	19 PP
WARSAK DAM	80.56	305.0	12	17A	1						
COLLEGE	82.13	22.8	12	22	-2	22	35	-4		12	57
TASHKENT	83.61	312.0	12	33	1	22	58	4		15	47 PP
QUETTA	83.85	300.6	12	33A	0	23	2	6	12 39	17	48 PPP
MAWSON	85.28	202.5	12	39A	-1	23	18	8		16	10 PP
SOUTH POLE	86.90	180.0	12	47	-1						
SVERDLOVSK	91.16	326.7	13	7	-2						
CALISTOGA	91.46	51.6	13	11	1						
ASHKABAD	91.64	307.7	13	11	0					23	48 SKKS
BERKELEY	91.67	52.3	13	17	6	24	16	6		25	38 SP
SHASTA	91.70	49.5	13	12	1						
LICK	92.14	52.9	13	14K	1						
MINERAL	92.29	49.9	13	16K	2						
KHEYS	93.05	350.5	13	16	-1	24	8	-14			
FRESNO	93.59	53.5	13	22	2						
RENO	93.64	50.7	13	20	0						
PENTICTON	93.89	40.9	13	21	0						
PASADENA	94.89	56.2	13	26	0	24	47	9		17	19 PP
EUREKA	96.61	50.8	13	33	-1					16	57
TEHERAN	97.20	305.5	13	35	-1					17	42 PP
HUNGRY HORSE	97.61	41.8	13	38	0						
BOULDER CITY	97.61	54.3	13	37	-1						
RESOLUTE	99.96	13.9	13	30	-19						
GORIS	101.00	309.5	13	52A	-1					16	34
TUCSON	101.09	57.9	18	1	247					19	51
TIFLIS	101.94	311.9	13	59	1					18	13 PP
APATITY	102.10	339.1	14	3	5						
MOSCOW	103.97	326.9	14	7K	0	24	50	4		18	26
SODANKYLA	104.55	340.0	14	9	0					18	26 PP
KAJAANI	105.67	336.8	14	14	777					18	23 PP
KIRUNA	106.33	341.7	14	15	777	25	1	4		18	40 PP
PULKOVO	106.35	332.2								18	41 PP
SIMFEROPOL	108.99	316.6				25	18	10		19	10 PP
KSARA	110.08	304.8								19	18 PP
WICHITA MTS.	110.93	54.0	18	38	2	25	24	8		19	6 PP
JERUSALEM	110.97	302.8								19	18 PP
MANHATTEN	111.52	49.0				25	24	5		28	48 PS
UPPSALA	111.92	335.5								28	47 PS
ISTANBUL KA.	113.63	313.8								19	33 PP
ISTANBUL UN.	113.70	313.8								19	34 PP
LWOW	113.75	324.1								19	38 PP
FAYETTEVILLE	114.13	51.7	19	23	41						
BUCHAREST	114.59	318.0	19	45K	62					22	20
HELWAN	114.61	301.4	19	47	64					31	24
ROLLA	115.40	49.3	18	47	3					29	25 PS
KRAKOW	116.01	325.6								19	47
ST. LOUIS 1	116.43	48.0				25	32	-6		19	58 PP
COPENHAGEN	116.65	333.7								19	56 PP
BROKEN HILL	117.63	252.0	18	51	2						
BUDAPEST	117.78	323.4								20	6
BELGRADE	118.12	320.2	19	38A	48					20	16 PP
BRATISLAVA	118.56	324.8								20	19 PP
BLOOMINGTON	118.97	46.3								20	9 PP
PRUHONICE	119.00	327.6								20	20 PP
LWIRO	119.01	265.7								20	17 PP
COLLMBERG	119.05	329.5	19	0	9					20	16 PP
HERMANUS	119.13	227.5				26	7	20		30	20
HALLE	119.46	330.1								20	20
TITOGRAD	119.95	318.2	19	14	21					20	35 PP
JENA	119.99	329.8	19	2	9	27	39	109		20	15 PP
KASPERSKE H.	120.00	327.2	18	54	1					20	13 PP
LJUBLJANA	121.17	323.8	18	57	1					20	56
TRIESTE	121.84	323.8	19	5	8					26	59 SKKS
BENSBERG	122.12	331.9								20	56
STUTTGART	122.49	328.9	18	58	0					20	37 PP
PADOVA	123.07	324.4								21	51

STRASBOURG	123.39	329.4	19	6	6					23	30 PP
FLORENCE X.	124.35	323.1	19	12	10					23	40 PP
MESSINA	124.37	315.2	19	9	7	26	5	0		20	51 PP
ROME	124.62	320.6	19	14	12	28	32	147		23	40 PPP
PAVIA	124.75	325.5								30	7
COLUMBIA	125.01	50.0	19	2	-1						
CHIAVARI	125.18	324.6	19	41K	38					37	49
ROSELEND	125.42	326.6								21	5
WASHINGTON	125.72	42.9	19	12	8					20	56
PALISADES	126.69	39.1				26	23	12		20	59 PP
CLERMONT-FD.	127.62	329.5	19	17	9						
HUANCAYO	134.35	110.1	19	26	5						
ALICANTE	134.66	324.7	19	21	0	29	50	199		22	56 PKS
TOLEDO	135.52	329.0								22	2 PP
CHINCHINA	136.43	86.1	19	29A	5					23	7 PKS
ALMERIA	136.83	324.7	19	33K	8					22	25 PP
GRANADA	137.24	326.0								23	8
BOGOTA	137.98	86.6	19	37	10					22	58 PKS
LA PAZ	139.31	119.8	19	34	4	26	44	6			
SAN JUAN	143.30	63.1	19	36	-1						
CARACAS	144.56	76.3	19	39	0	26	48	1			
ST. KITTS	146.68	62.8	19	47	4						
ANTIGUA	147.55	62.5	19	48	4						
DOMINICA	148.59	65.5	19	33	-13						
ST. VINCENT	149.37	69.3								20	5 PKP2
TRINIDAD	149.87	74.2	19	52	4						
MBOUR	161.44	308.0	20	56	53					31	30 SKKS

OCTOBER 26 15.H 27.M 6.S EPICENTRE -0.36 98.75 DEPTH= 31.KM

A=-0.15220 B= 0.98833 C=-0.00623 D= 0.9883 E= 0.1522
G= 0.0009 H=-0.0062 K=-1.0000 HT= 7.2

SE= 2.53

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DJAKARTA	9.92	125.8	2	18	-6	4	22	7					
LEMBANG	10.93	126.2	2	37K	-1	4	37	-3			8	34	PCP
PORT BLAIR	13.37	333.6	3	14	4						6	6	
MADRAS	22.70	306.4	5	1A	1	9	8	6			5	30	PP
VISHAKHAPTNM	23.54	320.5	5	9A	0	9	30	13			5	51	PP
CHITTAGONG	23.57	343.8	5	10A	1	9	24	6	5	18	5	44	PP
CALCUTTA	24.90	336.7	5	23	1	9	51	11			5	53	
KUNMING	25.62	8.4	5	31A	2	9	58	6					
SHILLONG	26.62	346.0	5	37A	-1	10	9	0			6	28	PPP
MANILA	26.66	55.0	5	36	-2								
HYDERABAD	26.69	312.5	5	37A	-1	10	10	0			11	31	SS
HONG KONG	27.07	32.7	5	42	0	10	22	6			6	24	PP
BOKARO	27.14	333.3	5	45A	2	10	24	7			6	39	PPP
TOCKLAI	27.22	352.2	4	59	-44								
BAGUIO CITY	27.23	51.2	5	42	-1	10	26	7					
CANTON	27.29	30.4	5	44A	0	10	23	3					
CHATRA	29.24	338.4	6	2	0	10	53	2			7	10	PPP
LHASA	30.73	346.8	6	17	2								
POONA	30.84	308.8	6	14A	-2	11	17	1			9	11	PCP
CHENGTU	31.25	8.8	6	19	0	11	29	6					
BOMBAY	31.85	308.3	6	25	0	11	34	2			7	11	PP
DARWIN	33.98	111.8	6	41	-2								
PERTH	35.32	154.4	7	4	9						12	36	
NEW DELHI	35.41	326.1	6	56A	1	12	27	0			8	16	PP
MUNDARING	35.51	154.0	6	56A	0	12	29	0					
SIAN	35.72	14.5	7	0A	2	12	40	8					
DEHRA DUN	36.32	328.9	7	5	2	12	45	4			8	20	PP
LANCHOW	36.53	6.9	7	7	2								
NANKING	37.40	28.6	7	13A	1	13	2	4					
ZO-SE	37.84	32.2	7	17A	1	13	9	4					
LAHORE	39.28	326.1	7	25	-3	13	21	-5			8	59	PP
KARACHI	39.62	311.5	7	33A	2								
WARSAK DAM	42.66	325.9	7	56	0								
QUETTA	42.88	317.9	7	57A	-1	14	24	4	8	5	9	42	PP
PEKING	43.23	19.6	8	0A	0	14	29	4					
FRUNSE	48.15	336.2	8	39	0	15	39	4			10	33	PP
ULAN-BATOR	48.60	7.3	8	44	1						10	38	PP
PORT MORESBY	48.99	102.1	8	46K	0	15	45	-2			18	39	SCS
TASHKENT	49.33	330.8	8	48	-1	15	53	1			16	8	PS
CHANGCHUN	49.98	25.0	8	52A	-2	15	48	-13					

ADELAIDE	50.73	137.0	8	59A	0	16	16	5	9	8	18	44 SCS
MATUSIRO	51.82	40.6	9	6	-1	16	15	-11				
VLADIVOSTOK	52.50	30.3	9	26	13						12	25 PPP
IRKUTSK	52.65	4.3	9	14A	0	16	55	17				
TUKUBASAN	52.89	42.1				17	22	41			29	3
ASHKABAD	53.26	320.3	9	16	-2	16	46	0			19	3 SCS
TANANARIVE	53.48	246.6	9	19	-1							
MELBOURNE	56.52	136.7	9	43	1							
TEHERAN	56.81	314.3	9	43A	-1	17	34	1				
CANBERRA	58.23	132.3	9	53	-1	17	53	1	10	2	13	32 PPP
BRISBANE	58.32	122.3	9	55	0	17	58	5				
RIVERVIEW	59.24	129.9	10	0A	-1	18	6	1	10	9	18	26 PS
TARRALEAH	59.77	140.6	10	6	1				10	15		
SAVANNAH	59.95	139.7	10	7	1				10	16		
MOORLANDS	60.31	140.4	10	17	9							
FORT NELSON	60.66	140.8									18	59 PS
Y.-SAKHLINSK	60.80	33.0	10	11	-1	18	24	-1				
GORIS	62.10	316.1	10	19	-1							
TIFLIS	64.13	317.7	10	33A	-1	19	8	1			13	0 PP
SVERDLOVSK	64.71	338.0	10	36	-2	19	14	0			13	4 PP
WILKES	66.37	174.8	10	46K	-2	19	30	-5			11	16 PCP
YAKUTSK	66.49	15.3	10	48	-1	19	36	0			13	14 PP
JERUSALEM	67.90	304.6	10	57	-1						13	17
KSARA	67.91	306.9	10	58A	0	19	59	6			13	21 PP
LCO. MARQUES	68.49	242.2	11	5A	3	20	6	6	11	13	11	26 PCP
CHANGALANE	68.91	242.0	11	5	1	20	6	1				
NOUMEA	69.28	113.6	11	6	0							
LWIRO	69.96	267.8	11	11	0	20	17	0				
PORT VILA	70.45	108.6	11	15	1							
HELWAN	70.71	301.8	11	14	-1	20	24	-2				
BROKEN HILL	70.83	254.9	11	14A	-2							
BULAWAYO	71.26	248.9	11	16	-2							
MAWSON	71.56	193.7	11	18K	-2	20	45	9	11	27	13	56 PP
MAGADAN	72.07	25.0	11	24	1							
SIMFEROPOL	72.55	317.7	11	25A	-1	20	45	-2			14	7 PP
PETROPAVLOVK	72.66	33.2	11	26	-1						14	10 PP
MOSCOW	74.45	329.1	11	36A	-1	21	6	-3			14	22 PP
ISTANBUL KA.	75.02	312.8	11	38A	-3	21	28	13			14	27 PP
ISTANBUL UN.	75.07	312.7	11	29	-12	21	7	-9				
ROXBURGH	76.20	136.9				21	32	4				
COBB RIVER	77.72	132.0	11	57	1							
BUCHAREST	77.92	315.6	11	57A	0	21	45	-2			14	43 PP
ATHENS	78.45	308.8	11	55	-5							
WELLINGTON	79.27	131.9				22	1	0				
TONGARIRO	79.53	129.7	12	6	0						18	55
CHATEAU	79.54	129.7	12	6	0						18	55
SOFIA	79.55	313.5	12	15	9							
PULKOVO	79.59	331.4	12	4	-2	22	2	-2			15	10 PP
LWOW	80.45	320.7	12	10	-1	22	12	-1			22	30 SCS
TUAI	80.73	129.1	12	9	-3						18	42
APATITY	81.11	339.3	12	13A	-1	22	20	0				
HERMANUS	81.15	235.4				22	23	2			27	39 SS
BELGRADE	81.96	315.3	12	17	-1	22	25	-4			12	27 PCP
KAJAANI	82.12	335.2	12	18	-1							
TITOGRAD	82.48	312.8	12	21	0	22	32	-2			15	21 PP
NURMIJARVI	82.52	331.3	12	20	-1	22	33	-2			22	57 SCS
WARSAW	82.78	322.7	12	21	-2	22	35	-2			22	57 SCS
KRAKOW	83.10	320.4	12	24	0	22	39	-1			25	14
KHEYS	83.21	353.8	12	24	-1	22	42	0			15	36 PP
SODANKYLA	83.51	338.2	12	27	1	22	47	2			23	3 SCS
CHORZOW	83.73	320.6	12	29	1						12	35 PCP
HURBANOVO	83.92	318.1									13	39
KEVO	84.08	340.6	12	29	0							
RACIBORZ	84.21	320.3	12	30	0						12	39 PCP
BRATISLAVA	84.69	318.3	12	32	0							
MESSINA	84.87	308.2	12	32	-1	22	57	-1			15	35 PP
SCOTT BASE	85.10	168.6	12	35A	1	22	59	-1			15	57 PP
VIENNA-H.	85.18	318.3	12	35	0						23	0
LUANDA	85.52	261.2	12	46A	10	23	23	19				
UPPSALA	85.84	330.0	12	37A	-1	23	6	-1			23	0 SKS
KIRUNA	85.93	338.1	12	38A	0	23	10	2			22	59 SKS
LJUBLJANA	86.24	316.0	12	39	-1						17	3
PRUHONICE	86.54	319.9	12	42	1						16	16 PP
TRIESTE	86.75	315.6	12	40	-2	23	13	-3			23	6 SKS
TROMSOE	86.79	339.8	12	42	-1							
KASPERSKE H.	87.10	319.1	12	41	-3							
ROME	87.46	311.8	12	47A	1	23	22	-1			16	8 PP
PADOVA	88.06	315.3	13	7	18	23	13	-16			17	48 PPP

COPENHAGEN	88.20	325.6	12	49A	0	23	21	-9			23	11 SKS
HALLE	88.28	321.4	12	50	0	23	15	-16				
FLORENCE X.	88.44	313.6	12	36	-15	22	30	-62				
JENA	88.49	320.8	12	51	0	23	24	-9			16	15 PP
GOTEBORG	88.57	327.6	12	52	1							
SKALSTUGAN	88.74	333.5	12	52A	0							
AFIAMALU	89.40	103.8	12	57	2							
SOUTH POLE	89.64	180.0	12	55	-1							
CHIAVARI	89.84	314.1				24	31	46			15	49
STUTTGART	89.92	318.6	12	58	0	23	46	0			22	29
STRASBOURG	90.92	318.4									23	24
MUNSTER	90.98	321.8	13	3	0							
ROSELEND	91.04	315.3	13	8	5							
MONACO	91.21	313.5									13	24
BENSBERG	91.28	320.8	13	5	1						13	31
ISOLA	91.47	314.0	13	6	1							
KEW	95.94	321.6				24	25	27				
DURHAM	96.26	325.0				24	49	49				
COLLEGE	100.10	23.5	17	16	212						17	49 PP
RESOLUTE	105.33	3.7	14	9	777							
PENTICTON	121.18	28.3	18	49	-1							
HUNGRY HORSE	124.43	26.0	18	58	1						19	42
SHASTA	125.21	37.8	19	0	2							
MINERAL	125.90	37.7	19	1K	2							
BERKELEY	126.94	40.5									20	56
RENO	127.49	37.4	19	4	2							
LICK	127.64	40.7	19	6K	3							
BOZEMAN	127.80	26.2	19	6	3							
FRESNO	129.17	40.2	19	8	2							
SALT LAKE C.	131.13	30.9	19	12	3							
PASADENA	131.79	41.9	19	14	3						21	33 PP
FLAMING GRGE	132.23	28.9	19	12	1						22	37
BOULDER CITY	132.79	37.7	19	15	2							
GLEN CANYON	134.02	34.2	19	17	2							
MANHATTEN	138.87	18.2	19	23	-1						22	14 PP
PALISADES	138.99	351.5	19	23	-1						22	11 PP
MORGANTOWN	140.90	358.4	19	16	-11						22	31 PP
ST. LOUIS 1	141.02	11.2	19	32	4						23	17 PP
BLOOMINGTON	141.06	6.5	19	27	-1						22	25 PP
WASHINGTON	141.45	354.8	19	19	-9						22	29
WICHITA MTS.	142.17	23.6	19	25	-5						22	38 PP
C. GIRARDEAU	142.43	10.9	19	29	-1						22	35 PP
FAYETTEVILLE	142.47	17.3	19	28	-2						22	37 PP
LITTLE ROCK	144.22	15.7	19	32	-1							
COLUMBIA	146.54	359.7	19	41	4							
TACUBAYA	154.16	41.9	20	26	37						21	58
SAN JUAN	156.73	321.2	20	24	32							
LA PAZ	158.83	217.1	19	59	4						24	19 PP
CHINCHINA	172.75	309.3	20	5K	-1						25	28 PP

OCTOBER 26 19.H 28.M 33.S EPICENTRE -0.29 98.80 DEPTH= 0.KM

A=-0.15306 B= 0.98820 C=-0.00506 D= 0.9882 E= 0.1531
G= 0.0008 H=-0.0050 K=-1.0000 HT= 7.2

SE= 3.49

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DJAKARTA	9.92	126.3	2	29	3	5	15	55					
LEMBANG	10.93	126.6	2	39K	-1	5	42	57					
MADRAS	22.70	306.2	5	5	1	9	12	3			5	32	PP
VISHAKHAPTNM	23.52	320.3	5	13K	1	9	30	7			5	55	PP
CHITTAGONG	23.52	343.6	5	13A	1	9	27	4	5	27	6	1	PPP
KUNMING	25.55	8.3	5	34A	3	10	20	22					
SHILLONG	26.57	345.9	5	39A	-2	10	11	-4					
MANILA	26.58	55.1	5	41	0								
HYDERABAD	26.68	312.3									10	32	
HONG KONG	26.99	32.7				10	57	36					
BOKARO	27.10	333.1	5	47	1								
TOCKLAI	27.16	352.1	5	49	3								
CANTON	27.20	30.4									6	21	
CHATRA	29.20	338.3	6	4A	-1								
LHASA	30.67	346.7	6	19A	1								
POONA	30.84	308.7	6	17K	-2								
CHENGTU	31.18	8.7	6	21	-1	11	43	15					

BOMBAY	31.85	308.2	6	28	0	11	36	-3		13	55 SS
NEW DELHI	35.38	326.0	6	56A	-3						
MUNDARING	35.54	154.1	7	5	5						
SIAN	35.65	14.5	7	0	-1						
DEHRA DUN	36.29	328.8	7	16	9	13	4	16		9	0 PPP
LANCHOW	36.46	6.9	7	9	1						
ZO-SE	37.76	32.2	7	20	1						
LAHORE	39.25	326.0	7	29	-2	13	18	-15			
WARSAK DAM	42.63	325.8	7	58	-1						
QUETTA	42.86	317.8	8	0A	-1	14	22	-4	8 16	9	48 PP
PEKING	43.15	19.6	8	4	1	14	51	20			
STALINABAD	47.51	327.9	8	32	-6						
NAMANGAN	47.90	332.3	8	41A	0	15	37	-2			
FRUNSE	48.11	336.1	8	43	0	15	41	-1			
ULAN-BATOR	48.53	7.3	8	46	0				10 39		
PORT MORESBY	48.96	102.2	8	49K	0						
SAMARKAND	49.26	327.5	8	49	-3	15	51	-7			
TASHKENT	49.30	330.7	8	51A	-1	15	53	-5			
CHARTERS TS.	50.41	116.0	8	58	-3						
ADELAIDE	50.74	137.1	9	2A	-1						
MATUSIRO	51.74	40.6	9	8	-3						
VLADIVOSTOK	52.41	30.3	9	28	12						
SEMIPALATNSK	52.93	345.2	9	19	-1						
TANANARIVE	53.55	246.6	9	20	-4						
TEHERAN	56.80	314.3	9	46	-2						
CANBERRA	58.24	132.4	9	57	-1				10 5	10	41 PCP
BRISBANE	58.31	122.3	9	58	-1						
RIVERVIEW	59.25	129.9	10	3	-2						
TIFLIS	64.11	317.7	10	36	-2						
SVERDLOVSK	64.66	337.9	10	38	-3						
JERUSALEM	67.90	304.6	11	0K	-2						
KSARA	67.91	306.9	11	0	-2						
HELWAN	70.72	301.8	11	26	7						
MAWSON	71.64	193.7	11	20	-5				11 30	11	41 PCP
PETROPAVLOVK	72.58	33.2	11	29	-1						
MOSCOW	74.42	329.0	11	39K	-2	21	9	-7			
KIMBERLEY	75.87	240.5	11	54	5						
TONGARIRO	79.54	129.7	12	8	-2						
CHATEAU	79.54	129.7	11	54	-16						
PULKOVO	79.56	331.4	12	17	7	22	21	10			
BANGUI	80.24	274.5	12	12	-1				12 21		
APATITY	81.06	339.3	12	25A	7						
KAJAANI	82.08	335.2	12	22	-1						
NURMIJARVI	82.49	331.3	12	23	-2					13	10
SODANKYLA	83.47	338.2	12	29	-1	23	12	20		13	3
CAPE HALLETT	84.13	163.1	12	41	7						
RACIBORZ	84.19	320.3	12	42	8						
VIENNA-H.	85.17	318.3	12	37	-2						
UPPSALA	85.81	330.0	12	40	-2						
KIRUNA	85.88	338.1	12	41	-1						
LJUBLJANA	86.23	316.0	12	42A	-2						
PRUHONICE	86.52	319.9	12	43	-3						
TRIESTE	86.74	315.6	12	53	6						
KASPERSKE H.	87.08	319.0	12	46	-2						
HALLE	88.26	321.4								13	16
JENA	88.47	320.8	13	1	6						
GOTEBORG	88.54	327.6	13	4	9						
SKALSTUGAN	88.71	333.5	13	4	8						
STUTTGART	89.90	318.6	12	59	-3						
ROSELEND	91.03	315.3	13	10	3						
BENSBERG	91.26	320.8	13	6	-2						
COLLEGE	100.02	23.5	17	23	215					18	5
PENTICTON	121.10	28.4	18	54	0						
HUNGRY HORSE	124.35	26.0	19	0	-1						
CHINA LAKE	131.08	39.8	19	15	1					22	36
FLAMING GRGE	132.15	28.9	19	16	0					22	39
PALISADES	138.94	351.6								47	12 PKPPKP
WICHITA MTS.	142.09	23.6	19	28	-6					22	23 PP
FAYETTEVILLE	142.39	17.4	19	31A	-3						

OCTOBER 28 10.H 46.M 43.S EPICENTRE 33.33 48.74 DEPTH= 59.KM

A= 0.55212 B= 0.62932 C= 0.54692 D= 0.7517 E=-0.6595
G= 0.3607 H= 0.4111 K=-0.8372 HT= 0.7

DEPTH OF FOCUS= 0.004R

SE= 3.15

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
TEHERAN	3.25	41.6	0	48K	-2	1	38	10				
TIFLIS	8.94	340.7	2	6	-3	3	48	-1				
MAKHACH-KALA	9.67	354.6	2	15	-4	4	2	-5				
KSARA	10.74	276.1	2	28	-5	4	26	-7				
JERUSALEM	11.51	265.9	2	40	-4							
SOTCHI	12.43	328.0	2	53K	-3							
HELWAN	15.23	261.6	3	30A	-3	6	17	-3				
QUETTA	15.81	96.6	3	43	3	6	43	10			3	56 PP
SAMARKAND	15.96	61.5	3	43A	1							
SIMFEROPOL	16.19	320.0	3	41	-4	6	36	-6				
STALINABAD	17.03	66.5	3	57	2							
ISTANBUL KA.	17.45	301.9	3	56	-4	7	7	-4				
ISTANBUL UN.	17.49	301.8	3	58A	-3						9	38
TASHKENT	18.15	58.0	4	8	-1							
WARSAK DAM	19.00	81.7	4	20	1							
NAMANGAN	19.77	60.7	4	27	-1							
KISHINEV	20.38	318.0									5	29
BUCHAREST	20.74	308.9	4	38	0	8	26	5				
ATHENS	20.83	289.9	4	37A	-2							
LAHORE	21.66	87.7	4	49	2							
FRUNSE	22.40	57.4	4	56	2							
MOSCOW	23.69	344.3	5	6	-1	9	19	5				
LWOW	24.59	319.4	5	17	2	9	34	4				
BELGRADE	24.65	306.0	5	27	11						10	39 SS
NEW DELHI	24.83	93.3	5	22	4	9	53	19				
TITOGRAD	24.88	300.0	5	24	6	9	42	8			5	52 PP
SVERDLOVSK	24.88	15.6	5	17K	-1	9	38	4				
DEHRA DUN	25.05	88.9	5	25	5	9	56	19				
BOMBAY	25.88	117.7	5	32	4	10	3	12			6	25 PPP
BUDAPEST	26.49	311.1	5	34	1							
POONA	26.87	117.0	5	39	2							
KRAKOW	27.00	316.8	5	37	-1						6	25 PPP
HURBANOVO	27.14	311.4	5	34	-5							
REGGIO CALA.	27.20	289.5	5	37	-3	10	17	4				
MESSINA	27.28	289.8	5	39	-2	10	20	6	5	50	6	24 PP
CHORZOW	27.65	316.7	5	47	3						6	38 PPP
BRATISLAVA	27.94	311.5	5	43	-4							
RACIBORZ	28.01	315.8	5	46	-1						6	22 PP
VIENNA-H.	28.43	311.3	5	48A	-3							
SEMIPALATNSK	28.71	44.1	5	55	2							
LJUBLJANA	29.00	306.1	5	54A	-2						6	43 PP
PULKOVO	29.11	340.8	5	56	-1							
TRIESTE	29.44	305.1	5	58	-2	11	4	16				
KASPERSKE H.	30.46	311.7	6	5	-4						6	36
PADOVA	30.69	304.1				11	17	9			13	7 SS
HELSINKI	31.05	337.0	6	11	-3							
NURMIJARVI	31.41	337.2	6	14	-3	11	19	0			12	49 SCP
COLLMBERG	31.54	315.5	6	15	-3						7	15 PP
HALLE	32.22	315.4	6	22	-2						9	12 PCP
CHUR	32.54	306.2	6	24	-3							
RAVENSBURG	32.66	308.0	6	25	-3							
STUTTGART	33.10	309.6	6	29	-3						7	7
KAJAANI	33.41	343.4	6	32	-3							
UPPSALA	33.49	331.8	6	32K	-3						14	5 SS
COPENHAGEN	33.60	322.7	6	34A	-2							
HEIDELBERG	33.60	310.6	6	32	-4							
MONACO	33.63	300.2	6	34	-3						12	59
ROSELEND	33.65	303.4	6	41A	4						7	6
CHATRA	33.74	90.7	6	43A	5							
ISOLA	33.94	301.0	6	37	-2						7	51 PP
FELDBERG	33.97	312.0	6	34	-6							
BASLE	33.97	307.0	6	34	-6							
STRASBOURG	34.04	308.9	6	37	-3							
NEUCHATEL	34.31	306.0	6	39	-4							
GOTEBORG	34.76	325.7	6	44	-2							
MUNSTER	34.93	314.7	6	46	-2							
BENSBERG	34.94	312.9	6	46	-2						7	5
BESANCON	35.00	306.3	6	46	-2						7	9
APATITY	35.40	349.9	6	51	-1							
SODANKYLA	36.44	345.8	6	58	-3							
CLERMONT-FD.	36.83	303.4	7	1	-3						7	18
GARCHY	36.98	305.9									13	11
PARIS	37.53	308.4									13	11
SKALSTUGAN	37.78	334.3	7	9	-3							

SHILLONG	38.13	90.1	7	18K	3						
KIRUNA	38.21	343.1	7	13	-2					8	42 PP
KEVO	38.43	348.0	7	14	-3						
BERGEN	39.05	327.2	7	20	-2						
CHITTAGONG	39.38	94.8	7	18	-7	13	12	-10	7 29	9	12 PPP
KEW	39.66	312.2	7	29	2						
TROMSOE	39.95	344.3	7	27	-3					9	0 PP
LWIRO	40.09	211.9	7	33A	2						
BANGUI	40.22	230.8	7	33	1	13	39	4			
DURHAM	40.93	317.1	7	38A	0	13	48	3			
TOLEDO	42.36	294.6	7	48	-2					9	28 PP
BENI ABBES	43.08	280.1	7	55	-1					9	36 PP
BROKEN HILL	51.30	205.5	9	3A	3						
TANANARIVE	51.97	181.4	9	8A	3					11	11
BULAWAYO	56.54	202.8	9	39	1						
YAKUTSK	57.03	33.7	9	40A	-2	17	33	3			
ALERT	59.84	351.8	9	58A	-3						
MBOUR	62.05	269.3	10	17	1						
WINDHOEK	63.25	212.9	10	27	3						
PIETERMZBURG	64.98	197.7	10	38A	3						
GRAHAMSTOWN	69.50	199.7	10	58	-6						
RESOLUTE	69.64	350.3	11	2	-3						
MATUSIRO	70.71	58.6	11	11A	0						
PETROPAVLOVK	74.72	36.1	11	38	3						
HALIFAX	81.05	318.0	12	9A	-1						
COLLEGE	81.26	7.1	12	10	-1					13	33
SHAWINIGAN	84.62	323.8	12	28	0						
BREBEUF	85.78	323.4	12	33K	-1						
OTTAWA	86.88	324.4	12	38	-1						
MUNDARING	90.89	128.3	12	59	1						
HUNGRY HORSE	97.24	348.5	13	28	1						
MAWSON	101.19	174.5	13	48	3						
WICHITA MTS.	105.69	332.5	13	45	777					18	14 PP
CANBERRA	115.90	116.6	18	39	3						
SCOTT BASE	128.16	166.2								21	7 PP
CAPE HALLETT	130.87	159.8	19	8	3						

OCTOBER 28 22.H 44.M 32.S EPICENTRE -13.75 165.08 DEPTH= 64.KM
A=-0.93892 B= 0.25027 C=-0.23619 D= 0.2576 E= 0.9663
G= 0.2282 H=-0.0608 K=-0.9717 HT= 6.0

DEPTH OF FOCUS= 0.005R

SE= 5.06

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
HONIARA	6.61	310.0	1	42	6	3	6	15				
KOUMAC	6.81	186.3	1	38	-1	2	54	-2				
NOUMEA	8.60	171.5	2	0	-4	3	33	-7				
SUVA	13.57	110.6	3	15	5							
RABAUL	15.88	305.5									4	0
BRISBANE	17.77	218.3	4	11	7	7	43	26				
PORT MORESBY	18.08	281.9	4	21K	13	7	57	33			4	38 PP
CHARTERS TS.	19.06	248.1	4	29	10	8	11	25				
AFIAMALU	22.47	93.2	4	45	-9	8	40	-12			5	5 PP
ONERAHI	23.47	160.7	5	7	3							
RIVERVIEW	23.65	210.0	5	12A	6	9	26	13	5	22	5	47 PP
KARAPIRO	25.82	160.7	5	25	-1							
CANBERRA	25.91	211.2	5	32	5	9	48	-2			9	0 PP
TONGARIRO	26.98	161.9	5	37	0							
CHATEAU	26.98	161.9	5	37	0							
TUAI	27.14	159.0	5	36	-3							
MELBOURNE	29.91	213.1	6	11	8	11	5	10				
GEBBIES PASS	30.55	169.2	6	9	0							
ADELAIDE	31.81	223.8	6	27A	7	11	40	15				
ROXBURGH	31.83	174.3				11	36	11			7	30 PP
SAVANNAH	31.91	205.8	6	26	5						6	51
MOORLANDS	32.51	205.0	6	33	7							
TARRALEAH	32.70	206.0	6	37	9							
MUNDARING	48.11	239.3	8	41K	6	15	37	9				
PERTH	48.42	239.4									15	55
MANILA	51.89	301.3	9	13	9						16	13
MATUSIRO	56.08	334.0	9	38	4						15	8
LEMBANG	56.84	270.8	9	49K	9	17	43	17				
DJAKARTA	57.74	271.3				17	56	18				

CAPE HALLETT	58.62	178.2	9	53	1	18	2	12	10	3	12	0	PP
ZO-SE	61.36	317.3									10	31	
HONG KONG	61.42	305.1	10	20	9	17	47	-39					
CANTON	62.48	305.4	10	16	-1								
NANKING	63.54	316.7	10	32	6								
WILKES	63.67	201.5	10	32A	6	19	4	10			11	2	PCP
SCOTT BASE	64.11	179.6	10	31A	2	19	1	2			13	0	PP
KUNMING	71.98	302.4	11	27	9								
CHENGTU	73.43	308.1	11	34	7								
BYRD STATION	74.02	169.9	11	30	0	20	56	0					
SOUTH POLE	76.34	180.0	11	45	2								
CHITTAGONG	80.22	295.9	12	14	9	22	32	29			12	21	PCP
SHILLONG	81.25	299.0	12	17K	7						18	9	
MAWSON	81.98	202.2	12	17K	3				12	38	12	27	PCP
LHASA	83.32	302.6	12	29	8								
LICK	85.41	50.0	12	30A	-1								
CHATRA	85.65	298.8	12	39K	7								
COLLEGE	86.05	18.3	12	35	1						13	1	
SHASTA	86.08	46.6	12	35	1								
MINERAL	86.52	47.2	12	36A	-1								
PASADENA	86.98	53.9	12	38	-1						24	28	PS
RENO	87.52	48.4	12	42	1								
MADRAS	88.20	283.8	12	58	13	23	41	19			16	25	PP
BOULDER CITY	90.15	53.0	12	54	0								
EUREKA	90.31	49.4	12	54	-1								
TUCSON	92.33	57.5	13	5	1								
TUCSON TELE.	92.45	57.5	13	5	0								
GLEN CANYON	92.93	52.8	13	7	0						13	42	
ARGENTINE I.	93.00	161.3	13	7	0								
HUNGRY HORSE	94.21	41.3	12	40	-33						14	12	
DEHRA DUN	94.30	300.0									13	41	
POONA	95.41	287.7	13	24	6								
BOZEMAN	95.49	44.5	13	8	-10								
BOMBAY	96.44	287.8									16	8	
WICHITA MTS.	102.84	57.1	14	8	16	24	34	10			18	28	PP
FAYETTEVILLE	106.57	56.1	14	7A	777								
CHINCHINA	119.62	92.1				25	40	8			29	58	PS
BOGOTA	121.04	92.9									30	11	PS
KIRUNA	121.29	345.1	18	48	3						22	11	
BREBEUF	121.53	44.8	18	47	1								
PALISADES	122.23	50.1									20	20	PP
KIMBERLEY	112.92	221.9	19	2	13								
NURMIJARVI	125.16	337.3	18	57	4								
SKALSTUGAN	126.72	345.2	19	4	8								
UPPSALA	128.12	339.8									21	3	PP
CARACAS	129.13	87.6	19	3	2						21	23	PP
KSARA	129.95	302.7	19	9	7						21	24	PP
SAN JUAN	130.71	77.5	19	5	1								
JERUSALEM	130.85	300.2	19	11	7						22	52	PKS
LWOW	132.02	326.8	19	12	6								
WARSAW	132.07	331.0									21	9	
ISTANBUL KA.	133.09	314.0	19	12	4						21	31	PP
COPENHAGEN	133.11	339.1				27	16	65			21	34	PP
KRAKOW	133.99	329.2									21	58	
COLLMBERG	136.29	334.8	19	22	8						23	1	PP
HALLE	136.57	335.7									22	2	
JENA	137.15	335.5	19	16	0								
KASPERSKE H.	137.65	332.3	19	22	6						22	59	
DE BILT	138.49	341.3									22	16	PP
LJUBLJANA	139.36	328.3	19	17A	-3								
STUTTGART	139.77	335.2	19	19	-1						22	23	PP
TRIESTE	140.03	328.4									22	25	
STRASBOURG	140.53	336.2	19	21	-1						21	58	PP
PARIS	142.20	341.2	19	24	-1						22	40	PP
PAVIA	142.59	331.6	19	29	4						22	54	PP
FLORENCE X.	142.61	328.3	19	18	-7						22	19	PP
ROSELEND	143.05	333.3	19	29	3								
ROME	143.24	325.0	19	29	3	26	53	25	19	45	22	30	PP
GARCHY	143.34	339.4	19	28	1						19	54	
MESSINA	143.64	317.6	19	27	0	27	24	56	19	43	22	42	PP
ISOLA	144.33	332.5	19	32	4								
MONACO	144.51	331.6	19	33	4								
CLERMONT-FD.	144.63	338.0	19	34	5								
BAGNERES	148.03	338.9	19	41	6								
TORTOSA	149.85	336.3	19	57	20								
TOLEDO	152.27	341.8									19	54	PKP2
COIMBRA	153.04	349.0	19	55	13								
ALMERIA	154.44	336.4	19	47	3						23	49	PP

GRANADA 154.57 338.6 20 16K 32 24 2 PP

OCTOBER 29 9.H 12.M 15.S EPICENTRE 48.98-128.53 DEPTH= 0.KM

A=-0.41041 B=-0.51535 C= 0.75231 D=-0.7822 E= 0.6230
G=-0.4687 H=-0.5885 K=-0.6588 HT= -5.0

SE= 2.74

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
VICTORIA	3.41	95.9	0	54A	-2								
SEATTLE	4.37	105.4	1	11	2						1	35	
PENTICTON	5.86	83.3	1	29A	-1								
BANFF	8.64	70.4	2	10A	1								
ARCATA	8.69	157.1	2	9	-1						2	51	
SHASTA	9.36	150.0	2	19K	0								
HUNGRY HORSE	9.62	88.3	2	22	-1	4	15	2					
MINERAL	9.94	147.7	2	28K	1								
UKIAH	10.56	156.9	2	35	-1								
CALISTOGA	11.19	155.3	2	43K	-1								
BUTTE	11.20	99.3	2	45	0	5	6	14					
RENO	11.32	143.3	2	47K	1								
BERKELEY	12.00	155.4	2	55K	0	5	15	4					
BOZEMAN	12.32	99.0	2	59	-1								
BRANNER	12.45	155.9	3	0A	-1								
LICK	12.67	154.1	3	3K	-1								
STA. CRUZ C.	12.89	155.9	3	6	-1								
EUREKA	13.07	131.9	3	11	1								
VINEYARD	13.29	154.2	3	11	-2								
FRESNO	13.77	149.2	3	19	0								
SALT LAKE C.	14.38	118.6	3	29	2	6	25	17					
FLAMING GRGE	15.73	113.6	3	45	0								
BOULDER CITY	16.43	137.2	3	55	1								
PASADENA	16.70	148.7	3	57K	0								
GLEN CANYON	17.21	127.9	4	5	2								
LARAMIE	17.87	106.8	4	13	1	7	44	15					
COLLEGE	18.95	334.3	4	23	-2	8	6	12			5	1	
TUCSON TELE.	21.34	134.6	4	52	1								
TUCSON	21.36	135.0	4	52	1	8	58	14					
MANHATTEN	24.78	101.2	5	26	1	9	57	12					
WICHITA MTS.	26.26	111.7	5	39	0						6	20	
CHIHUAHUA	26.64	131.5									10	55	
DUBUQUE	26.99	89.5	5	46A	1	10	25	3	5	53			
FAYETTEVILLE	28.14	104.3	5	57A	1	10	49	8					
ROLLA	28.55	99.0	5	59A	-1	10	46	-1	6	8			
FLORISSANT	29.05	96.0	6	4	0	10	55	0	6	15			
ST. LOUIS 1	29.23	96.2	6	6A	0	11	2	4	6	15			
RESOLUTE	29.42	17.4	6	5A	-2	11	3	2			8	24	PCP
LITTLE ROCK	30.13	104.5	6	14K	0	11	20	8					
C. GIRARDEAU	30.42	97.8	6	16A	0	11	19	2	6	24			
TERRE HAUTE	30.72	92.6	5	50	-29	10	45	-37					
BLOOMINGTON	31.38	92.2	6	26	1	11	24	-8					
CLEVELAND	33.49	84.9	6	44A	1	12	13	8					
MORGANTOWN	35.46	86.6	7	0A	0								
OTTAWA	35.47	75.3	6	59	-1								
PENNSYLVANIA	36.22	83.5	7	5	-2	12	48	1					
SHAWINIGAN	36.85	72.1	7	12	0								
WASHINGTON	37.74	85.7	7	20	1	13	4	-6			8	48	PP
TACUBAYA	37.77	131.0	7	23	3	13	15	4			15	33	SS
COLUMBIA	37.96	95.2	7	21	0	13	21	7					
CHAPEL HILL	38.11	91.1	7	22	0								
PALISADES	38.70	80.7	7	27	0	13	25	0			8	55	PP
FORDHAM	38.80	80.9	7	28	0	13	24	-3					
HALIFAX	43.45	70.1	8	8K	2								
PETROPAVLOVK	44.19	304.1	8	12	0	14	45	-1			9	55	PP
KHEYS	50.60	358.6	9	0	-3	16	20	3			11	1	PP
YAKUTSK	53.12	324.7	9	20	-2	16	54	2					
SAN JUAN	58.30	98.4	9	58	-1								
KIRUNA	61.20	12.9	10	28K	9								
ST. KITTS	61.27	96.5	10	17	-2								
ANTIGUA	61.99	96.0	10	19	-5								
SODANKYLA	62.46	10.6	10	27	0								
CHINCHINA	62.58	116.4	10	30	2	19	9	13			26	23	SSS
APATITY	63.00	7.7	10	22	-9								
SKALSTUGAN	63.62	18.4	10	34	-1								

CARACAS	63.62	105.0	10	33	-2	19	17	8		
DOMINICA	63.62	97.0	10	34	-1					
BOGOTA	63.78	115.3	10	36	0	19	22	11	19	49 PS
FORT FRANCE	64.20	97.2							19	16
VLADIVOSTOK	64.39	306.8	10	43	3	19	18	0	13	6 PP
ABERDEEN	65.31	28.8							27	2
MATUSIRO	65.43	297.9	10	43	-4					
TRINIDAD	67.06	100.4	10	54	-3					
CHANGCHUN	67.26	311.1							21	51
DURHAM	67.44	30.1				19	55	0	20	57 SKS
UPPSALA	68.09	17.6	11	2K	-2	20	6	3		
NURMIJARVI	68.73	13.9	11	12	4					
IRKUTSK	69.57	328.5	11	10	-3					
PULKOVO	70.25	11.2	11	22	5	20	30	1	15	42 PPP
KEW	70.61	31.4				20	34	1		
COPENHAGEN	70.73	22.2							27	45 SSS
DE BILT	71.86	28.0				20	51	4		
ULAN-BATOR	72.23	324.4	11	26	-3					
FOLINIERE	72.81	33.0	11	34	2					
AFIAMALU	73.36	224.0							30	3 SSS
BENSBERG	73.47	27.4	11	37	1				12	41
PARIS	73.82	31.3	11	40	2					
SVERDLOVSK	74.28	354.8	11	37K	-4	21	15	0	21	53 PS
HALLE	74.36	24.4	11	42	1	21	20	4		
FELDBERG	74.51	27.1	11	52	10					
PEKING	74.59	313.9	11	45	2	21	17	-1		
JENA	74.78	24.9	11	42	-2	21	20	0	14	41 PP
COLLMBERG	74.83	23.9	11	43	-1	21	28	7	14	38 PP
MOSCOW	75.02	8.1	11	45	0				12	5 PCP
HEIDELBERG	75.31	27.3	11	48	1					
GARCHY	75.34	31.8	11	47	0				14	49
STRASBOURG	75.75	28.3	11	49	0				14	15
WARSAW	75.89	18.7							21	38
STUTTGART	76.04	27.2	11	51	0	21	40	6	12	2 PCP
BESANCON	76.35	30.0	11	52	-1					
PRUHONICE	76.44	23.5	11	54	1				12	17
BASLE	76.62	28.9	11	54	0				21	17
CLERMONT-FD.	76.65	32.5	11	56	2					
HUANCAYO	76.70	126.4	11	56	1					
KASPERSKE H.	76.96	24.5	11	55	-1					
CHORZOW	77.25	20.7	11	58	0				12	3 PCP
RACIBORZ	77.26	21.2							12	4 PCP
KRAKOW	77.69	20.2	12	1	1	21	57	5	12	37
BAGNERES	77.87	35.8	12	1	0					
VIENNA-H.	78.50	23.1	12	3	-2					
BRATISLAVA	78.76	22.7	11	59	-7					
LWOW	78.79	17.7	12	12	6	22	8	4		
TOLEDO	78.85	40.3	12	6	-1	22	13	9	15	14 PP
ZO-SE	79.00	305.0	12	11	4	22	6	0		
PAVIA	79.21	29.0							36	50
ISOLA	79.40	30.8	12	11	1					
NANKING	79.53	307.2	12	12	2	22	11	-1		
MONACO	79.93	30.8	12	6	-6					
LJUBLJANA	80.03	25.2	12	13	0				12	26 PCP
TRIESTE	80.18	25.8	12	14	0	22	21	3	12	24 PCP
FLORENCE X.	81.12	28.3	12	25	6	22	55	27		
GRANADA	81.29	41.5	12	22K	2					
ALICANTE	81.63	38.7	12	14	-7	22	18	-16	27	30 SS
ALMERIA	82.06	40.9	12	24	0				12	31 PCP
BELGRADE	82.72	21.7	12	29	2	22	50	5	12	33 PCP
ROME	83.21	28.2	12	33A	3	22	57	7	15	45 PP
BUCHAREST	84.37	18.0				23	5	4		
TITOGRAD	84.66	23.3	11	52	-45				22	23 SCS
SIMFEROPOL	85.23	12.3	12	40	0	23	13	3		
FRUNSE	86.33	343.2	12	44	-1	23	23	3	15	59 PP
MESSINA	87.54	27.6	13	0	9	23	32	0	16	24 PP
BENI ABBES	87.86	44.3	12	53	0					
CHENGTU	87.91	316.8				23	37	2		
ISTANBUL KA.	88.18	16.8	12	52	-2				16	10 PP
TASHKENT	88.72	346.7	12	57	0					
TIFLIS	89.49	5.0	13	2	2	23	41	-9	24	51 PS
CANTON	89.58	305.7				23	52	1		
KUNMING	93.21	314.9	13	20	2					
ASHKABAD	93.23	354.6				24	29	6		
LHASA	94.12	326.2	13	28	6					
KSARA	96.40	13.0	13	23	-9				17	21 PP
SHILLONG	97.48	323.8	13	36	-1					
QUETTA	99.99	346.4							17	17 PP
RIVERVIEW	108.94	240.2	18	31	777				34	20 SS

CAPE HALLETT	128.27	200.0	19	10	1							
SCOTT BASE	132.50	195.1	19	15	-2							
BULAWAYO	145.88	40.6	19	43	2							
TANANARIVE	149.84	7.4	19	53	6							
MAWSON	160.45	193.1	20	0	-1						20	50 PKP2

OCTOBER 30 2.H 16.M 30.S EPICENTRE 42.50-126.72 DEPTH= 10.KM

A=-0.44218 B=-0.59280 C= 0.67310 D=-0.8016 E= 0.5979
G=-0.4025 H=-0.5395 K=-0.7396 HT= -2.6

SE= 2.73

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ARCATA	2.55	128.4	0	40	-2	1	10	-4				
CORVALLIS	3.24	48.9	0	53A	1							
SHASTA	3.71	117.5	0	58	-1							
UKIAH	4.29	140.6	1	6	-1							
MINERAL	4.41	117.4	0	57A	-12	1	44	-17				
PT. REYES	5.31	145.0	1	51K	29							
BERKELEY	5.75	142.1	1	24	-4	2	36	1				
RENO	6.00	117.2	1	33K	2						3	5
BRANNER	6.16	144.0	1	33A	-1							
VICTORIA	6.45	19.9	1	38	0							
LICK	6.46	141.2	1	37K	-1							
STA. CRUZ C.	6.59	144.9	1	36	-4							
VINEYARD TE.	7.06	142.6	1	47	1							
FRESNO	7.82	134.7	1	58K	1							
PENTICTON	8.42	33.5	2	4	-1							
EUREKA	8.67	106.8	2	7	-2							
HUNGRY HORSE	10.66	52.4	1	37	-59							
PASADENA	10.70	138.4	2	38	1							
BUTTE	10.74	66.1	2	39	2							
SALT LAKE C.	11.27	93.8	2	47	3							
BOULDER CITY	11.28	121.3	2	47	2							
BANFF	11.56	37.5	2	49	1							
BOZEMAN	11.71	69.0	2	50	0							
GLEN CANYON	12.88	110.4	3	9	3							
FLAMING GRGE	13.10	93.3	3	8	-2							
LARAMIE	15.78	87.2	3	44	0							
TUCSON	16.23	123.9	3	52	2							
TUCSON TELE.	16.23	123.4	3	52	2							
CHIHUAHUA	21.68	123.0	4	54	1						9	2
MANHATTEN	22.98	88.1	5	8	2	9	20	8				
WICHITA MTS.	23.24	100.2	5	10	1	9	39	23			6	51
COLLEGE	25.41	339.0	5	30	1						9	0
FAYETTEVILLE	25.87	93.4	5	35A	1	10	15	14				
DUBUQUE	26.45	77.6	5	40	1	11	2	51	5	50		
ROLLA	26.87	88.1	5	44	1							
FLORISSANT	27.69	85.3	5	41	-9							
LITTLE ROCK	27.79	94.6	5	52	1							
ST. LOUIS 1	27.85	85.6	5	51	-1	10	36	3				
C. GIRARDEAU	28.83	87.7	6	1	0	11	16	27				
BLOOMINGTON	30.41	82.5	6	16	1	11	16	2	6	26		
TACUBAYA	32.72	126.2	6	36	1	11	28	-23			8	1
MORGANTOWN	35.04	78.6	6	55A	0							
RESOLUTE	35.32	14.0	6	58	0							
PENNSYLVANIA	36.14	75.8	7	6	1	12	53	9				
OTTAWA	36.33	67.5	7	6	0							
COLUMBIA	36.50	88.0	7	1	-7							
CHAPEL HILL	37.12	83.9	7	13	0							
WASHINGTON	37.38	78.4	7	13	-2							
BREBEUF	37.74	66.8	7	13A	-5	13	14	6				
SHAWINIGAN	38.05	64.9	7	21	0							
PALISADES	38.90	73.8	7	26	-2	13	32	6			8	52 PP
FORDHAM	38.97	74.0	7	29	1	13	32	5				
HALIFAX	44.77	64.8	8	17K	1							
SAN JUAN	56.24	95.7	9	43	0							
CHINCHINA	58.63	114.8	10	1A	1	18	12	10				
YAKUTSK	59.22	327.7	10	3	-1							
CARACAS	60.80	103.2	10	15K	0	18	38	8				
KIRUNA	67.24	12.9	10	56	-1	19	44	-6				
SODANKYLA	68.60	10.7	11	5	0							
MATUSIRO	69.73	301.2	11	12	0	20	22	2			15	14
HUANCAYO	71.83	126.4	11	26	1							

KAJAANI	71.86	11.5	11 25	0						
DURHAM	72.43	29.8	11 56K	27	21	24	33		22	21 SKS
GOTEBORG	74.36	21.6	11 38	-2						
NURMIJARVI	74.71	14.2	11 41	-1						
KEW	75.48	31.3	11 46	0						
IRKUTSK	75.80	330.5	11 48A	0						
COPENHAGEN	76.25	22.4	11 58	7						
PULKOVO	76.35	11.7	11 55	4	21	37	2			
WITTEVEEN	76.90	26.9	11 56	2						
DE BILT	76.99	28.1	12 5	10						
FOLINIERE	77.56	33.1	11 52	-6						
ULAN-BATOR	78.29	326.4	12 3	1						
BENSBERG	78.63	27.7	12 4	0					12	48
PARIS	78.70	31.5	12 4	0						
LA PAZ	79.64	123.7	12 11	2	22	4	-6			
PEKING	80.07	316.1	12 11	-1	22	18	3			
JENA	80.11	25.3	12 10	-2	22	12	-3		23	6 PS
GARCHY	80.17	32.1	12 12	0						
COLLMBERG	80.23	24.3	12 13K	0					15	16 PP
STRASBOURG	80.85	28.7	12 17	1					15	28
STUTTGART	81.21	27.7	12 18	0	22	35	8			
MOSCOW	81.25	8.9	12 17	-1						
PRUHONICE	81.86	24.1	12 22	1					13	7
KASPERSKE H.	82.31	25.0	12 24	1						
BAGNERES	82.37	36.3	12 22	-2						
CHORZOW	82.85	21.4	12 25	-1						
TOLEDO	82.95	40.7	12 27	0	22	52	8		16	29 PP
ROSELEND	83.41	30.4	12 28	-1						
ZO-SE	83.84	306.9	12 32	1	22	56	3			
VIENNA-H.	83.95	23.8	12 33	1						
PAVIA	84.24	29.7	12 46	13					15	20
ISOLA	84.30	31.5	12 34	0						
NANKING	84.54	309.1	12 35	0	23	2	2		22	49 SKS
LWOW	84.56	18.5	12 35	0	23	13	13			
PADOVA	85.01	27.9							13	38
GRANADA	85.28	42.2	12 40K	2					13	34
LJUBLJANA	85.33	25.9	12 39	0				12 44		
TRIESTE	85.43	26.6	12 39	0				12 45		
ALMERIA	86.10	41.7	12 36K	-7						
FLORENCE X.	86.21	29.1	12 52	9	23	50	34			
KISHINEV	88.27	16.5	12 52	-1						
ROME	88.29	29.2	12 54A	1	23	48	12		24	47 PS
LANCHOW	89.22	321.3	12 57	-1						
SIMFEROPOL	91.27	13.5	13 8	1						
MESSINA	92.66	28.9	12 41	-33					25	37
FRUNSE	92.91	344.5	13 15A	0						
PORT MORESBY	93.44	260.5	13 20	3	23	47	-35		25	33 PS
SOTCHI	93.45	9.8	13 17	0						
CHENGTU	93.55	318.1	13 19	1	24	29	6			
ISTANBUL KA.	93.98	18.1	13 21	1					17	13 PP
CANTON	94.44	306.8			24	42	11			
NAMANGAN	95.26	346.1	13 28	3						
TIFLIS	95.82	6.4	13 29	1						
KUNMING	98.72	315.8	17 46	245						
KSARA	102.39	14.8	18 16	258					27	16
QUETTA	106.59	347.7	18 35	777						
SCOTT BASE	126.54	194.0	19 4	0						
BROKEN HILL	144.81	44.9	19 38K	1						
MIRNY	147.62	208.5	19 41	-1						
MAWSON	154.31	188.5	19 50	-2				20 2	23	48 PP

OCTOBER 30 8.H 33.M 27.S EPICENTRE 73.83 54.81 DEPTH= 0.KM

A= 0.16153 B= 0.22907 C= 0.95991 D= 0.8172 E=-0.5763
G= 0.5532 H= 0.7845 K=-0.2803 HT=-12.6

SE= 2.13

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KEVO	9.53	258.6	2	19	-2	4	0	-10				
SODANKYLA	11.26	249.3	2	40	-5	4	39	-14				
KIRUNA	12.61	259.1	2	58A	-5	5	11	-14			5	31 SS
KAJAANI	13.61	238.3	3	13	-4	5	37	-13				
NURMIJARVI	17.43	236.1	4	1	-5	7	1	-18				
SKALSTUGAN	18.03	257.7	4	9A	-4	7	18	-15			7	40 SS

UPPSALA	19.72	244.7	4	30	-3	8	3	-8	4 54 PPP
ALERT	20.83	340.8	4	45A	0	8	42	8	
GOTEBORG	23.05	248.8	5	7A	-1				
COPENHAGEN	24.71	245.9	5	21	-3	9	49	5	12 14
WARSAW	25.82	231.7	5	33	-1				14 11
ABERDEEN	27.33	263.7							13 44
LWOW	27.46	226.0	5	49	0				10 58
KRAKOW	28.11	231.5	5	53	-2				12 49
RACIBORZ	28.47	233.7	6	21	23				16 56
COLLMBERG	28.56	241.1	5	58A	-1	11	24	37	6 57 PP
HALLE	28.63	242.5	5	59	-1				
SKALNATE PL.	28.86	230.5							21 18
JENA	29.25	242.5	6	5	0	11	12	14	6 50 PP
PRUHONICE	29.41	238.2	6	6A	-1				
CHEB	29.84	240.9							11 20
BENSBERG	30.34	247.7	6	15	0				16 41
KASPERSKE H.	30.43	238.7	6	16A	0				6 50
BRATISLAVA	30.51	233.8							6 42
HURBANOVO	30.55	232.2							6 48
RESOLUTE	30.57	344.7	6	17	0				
VIENNA-H.	30.60	234.7	6	18	1				12 39 SS
HEIDELBERG	31.38	244.7	6	24	0				
STUTTGART	31.82	243.6	6	28	0				12 46
KEW	31.88	256.4	6	28	-1				12 48 PCS
BUCHAREST	32.25	220.2							13 29
STRASBOURG	32.38	245.2	6	33	0				12 33
BELGRADE	32.97	227.6							7 17
LJUBLJANA	33.10	235.6	6	40	1				7 6
PARIS	33.54	251.3	6	43	0				
FOLINIERE	34.37	254.4	6	48	-2				
GARCHY	34.79	249.5	6	52	-2				
ISTANBUL KA.	35.00	214.9	6	53	-3				12 39
ISTANBUL UN.	35.04	215.0	6	55	-1				
PAVIA	35.19	241.3				12	48	17	16 18 SS
ROSELEND	35.29	243.3	6	58	0				
TITOGRAD	35.50	227.8							17 47
CLERMONT-FD.	36.18	248.5	7	6	0				
ISOLA	36.66	243.2	7	10	0				8 36 PP
MONACO	36.98	242.5	7	10	-3				
ROME	37.50	235.7							15 47
TEHERAN	38.20	184.5	7	25	2				16 5
BAGNERES	39.47	250.1	7	33	0				
MESSINA	40.35	230.4							15 6
COLLEGE	40.75	14.6	7	46	2				
KSARA	41.19	204.2	7	47A	-1	14	4	2	9 23 PP
CHANGCHUN	43.10	93.2	8	3	0				17 45
JERUSALEM	43.28	204.6	8	5A	0				
TOLEDO	43.57	252.9	8	7	0	14	29	-8	9 18 PCP
PEKING	44.10	104.5	8	11	0				18 1
QUETTA	44.16	164.8	8	12	0	14	53	8	9 57 PP
LANCHOW	44.65	119.5	8	21	5				
HELWAN	45.66	208.9	7	8	-76				
GRANADA	45.98	251.1	8	30A	4	14	47	-25	
NEW DELHI	46.78	152.6	8	33A	0				
CHENGTU	49.84	121.4	8	50	-6				
CHATRA	50.02	141.4	8	58A	0				
SHILLONG	52.12	136.4	9	11A	-3				
NANKING	52.30	105.4	9	19	4				
MATUSIRO	53.49	84.5							21 15
KUNMING	54.87	124.6	9	34	0				
BANFF	55.12	352.6	9	35	-1				
BOMBAY	55.85	159.3							23 51
OTTAWA	56.44	320.0	9	45	0				
PENTICTON	57.09	355.7	9	49	-1				
HUNGRY HORSE	57.88	351.2	9	56	0				10 47
VICTORIA	57.94	358.6	9	55A	-1				
PALISADES	60.34	317.2	10	11	-2	18	31	4	14 3 PPP
HONG KONG	60.37	113.6	10	10	-3				10 44
FLAMING GRGE	65.03	346.8	10	43	-1				
EUREKA	66.81	352.2	10	56	1				
FAYETTEVILLE	68.39	333.3	11	4A	-1				
GLEN CANYON	69.11	348.4	11	10	0				
BOULDER CITY	70.26	351.1	11	16	-1				
WICHITA MTS.	70.26	336.9	11	17A	0	20	35	7	25 16 SS
TUCSON TELE.	73.66	347.3	11	39	2				
TUCSON	73.76	347.4	11	40	3				
LWIRO	77.63	206.7	12	0A	1				

A THERMO-NUCLEAR EXPLOSION

OCTOBER 30 21.H 15.M 41.S EPICENTRE 29.01 142.08 DEPTH= 50.KM

A=-0.69101 B= 0.53829 C= 0.48244 D= 0.6145 E= 0.7889
G=-0.3806 H= 0.2965 K=-0.8759 HT= 2.1

DEPTH OF FOCUS= 0.003R

SE= 3.26

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
OSIMA	6.19	338.9	1	35	4							
MERA	6.20	342.6	1	33	2							
OMAESAKI	6.47	330.5	1	41	6							
AJIRO	6.53	338.0	1	35	-1	2	47	-3				
MISIMA	6.65	337.2	1	39	2							
YOKOHAMA	6.73	342.8	1	35	-3	2	47	-7				
TYOSI	6.77	351.5	1	38	-1	2	47	-9				
TOKYO C.M.O.	6.94	344.1	1	41	0	2	52	-8				
SIOMISAKI	6.99	310.9	1	56	14	3	42	41				
HUNATU	7.05	337.4	1	37	-6						4	53
KOHU	7.28	336.7	1	47	1	3	4	-4				
KAKIOKA	7.38	347.9	1	42	-5	3	3	-8				
TUKUBASAN	7.38	347.4	1	43	-4	3	5	-6				
TITIBU	7.40	340.7	1	46	-2							
IIDA	7.42	332.1	1	49	1	3	37	25				
MITO	7.47	349.9	1	45	-4	3	3	-10				
KUMAGAYA	7.48	342.9	1	47K	-2	3	9	-4				
NAGOYA	7.52	326.1	1	53	4							
UTUNOMIYA	7.75	346.7	1	49	-3	3	13	-7				
MAEBASI	7.79	341.8	1	54	1	3	15	-6				
GIHU	7.80	326.1	1	51	-2							
OIWAKE	7.88	338.7	1	54	0	3	25	2				
OSAKA	7.92	316.9									2	11
HIKONE	7.96	323.1	1	56	1	3	54	29				
ONAHAMA	7.98	353.2	1	57	1	3	13	-13				
MATUMOTO	8.01	335.4	1	57	1							
ABUYAMA	8.05	318.2	1	56A	-1							
KYOTO	8.06	319.6	1	58	1	3	35	8				
SUMOTO	8.10	312.8	1	59	2	3	52	24			7	4
MATUSIRO	8.19	337.5	1	55K	-3	3	26	-5			2	36
SHIRAKAWA	8.24	349.6	1	55	-4	3	21	-11				
NAGANO	8.31	337.9	2	1	1	3	55	21				
KOTI	8.60	303.9	2	2	-2	3	42	1				
TAKAMATU	8.65	309.8	2	12	7							
TAKADA	8.69	339.3	2	3	-2							
TOYAMA	8.70	333.1	2	14	8	4	1	18				
HUKUSIMA	8.82	351.6	2	2	-5	3	37	-9				
SENDAI	9.29	354.2	2	8	-6	3	45	-13				
YAMAGATA	9.33	351.6	2	9K	-5	3	48	-11				
ISINOMAKI	9.42	356.3	2	8	-7	3	47	-14				
OOITA	9.90	297.8	2	26	4							
SAKATA	10.04	349.9	2	14	-10							
MIZUSAWA	10.13	355.8	2	22	-3	4	4	-14				
KAGOSIMA	10.29	287.2	2	32	5						4	55
KUMAMOTO	10.49	294.1	2	33	3	4	40	13				
MORIOKA	10.69	356.2	2	29	-4	4	18	-14				
AKITA	10.81	351.8				4	40	5			2	51
HUKUOKA	11.00	297.4	2	40	3	4	55	16				
NAGASAKI	11.12	292.5	2	40	1	5	9	27				
HAKODATE	12.82	355.5				5	15	-8			3	25
MORI	13.12	355.0	3	14	9							
URAKAWA	13.13	2.3	3	9	4	5	19	-12				
OBIHIRO	13.91	3.4									3	48
SAPPORO	14.04	357.8	3	22	5						6	8
KUSIRO	14.07	7.0	3	17	-1							
NEMURO	14.57	10.2									5	46
VLADIVOSTOK	16.29	332.5	3	43	-3	6	49	4				
Y.-SAKHLINSK	17.99	1.4	4	4	-4							
ZO-SE	18.21	281.7	4	9A	-1							
CHANGCHUN	19.97	322.3	4	27A	-3	8	1	-6				
NANKING	20.29	284.4	4	32A	-2	8	10	-3				
BAGUIO CITY	23.41	242.3	5	3	-2	9	17	6				
PEKING	23.93	304.2	5	10K	0	9	23	3				
HONG KONG	25.99	261.6	5	13	-17	8	21	-93			5	30 PP
CANTON	26.45	263.8	5	36	2	10	8	6				

CHENGTU	32.97	282.4	6	30	-2	11	42	-3				
ULAN-BATOR	33.01	314.7	6	30	-2						7	36 PP
KUNMING	35.14	273.1	6	50A	0	12	19	0				
IRKUTSK	36.28	320.5	7	1	1	12	44	7				
PORT MORESBY	38.49	171.9	7	17A	-2	13	4	-6	7	28	8	35 PP
DARWIN	42.56	196.4	7	47	-5							
SHILLONG	44.49	278.0	8	6A	-2						18	2
CHITTAGONG	45.51	273.7	8	16A	0	14	52	-1	8	27	9	54 PP
CHATRA	48.20	281.2	8	36A	-1							
LEMBANG	48.69	228.4	8	41A	0	15	26	-12				
CHARTERS TS.	48.98	174.8	8	40	-3	15	44	1				
BOKARO	50.28	278.0	8	55	2							
SEMIPALATNSK	50.56	313.1	8	55	0							
VISHAKHAPTNM	54.64	271.9	9	28	2						12	56
COLLEGE	55.70	29.1	9	31	-2							
NEW DELHI	56.18	286.6	9	38A	1							
BRISBANE	57.01	168.7	9	41	-2	17	29	-3				
NAMANGAN	57.49	302.2	9	46	0							
LAHORE	57.70	290.8	9	45	-2							
TASHKENT	59.18	303.1	9	57A	-1	18	5	5				
WARSAK DAM	59.27	294.3	9	56	-2							
MADRAS	59.34	268.3	9	58A	-1						13	49
STALINABAD	60.22	300.1	10	4	-1	18	21	8				
SAMARKAND	61.28	301.7	10	1A	-11	18	34	7				
SVERDLOVSK	61.67	321.9	10	14A	-1	18	43	11				
POONA	62.57	276.9	10	19A	-2							
RIVERVIEW	63.08	171.5	10	27A	3	18	54	4				
BOMBAY	63.32	277.7	10	24	-2	19	5	12			20	5 PPS
ADELAIDE	63.71	183.1	10	29	1							
QUETTA	64.16	291.6	10	30A	-1	19	3	0	10	40	12	52 PP
CANBERRA	64.31	173.7	10	29	-3				10	35		
ALERT	68.09	3.4	10	55A	-1							
RESOLUTE	70.23	13.7	11	8	-1	20	17	1				
APATITY	70.25	337.3	11	32K	23							
SAVANNAH	70.53	175.9	11	14	3						11	35 PCP
TARRALEAH	71.07	176.6	11	18K	4							
VICTORIA	71.66	44.3	11	17	-1							
SODANKYLA	72.59	338.5	11	23	0						11	39 PCP
CORVALLIS	73.32	48.0	11	31	3							
TROMSOE	73.49	342.2	11	28	-1							
KARAPIRO	73.59	153.0	11	31	2							
PENTICTON	73.61	42.4	11	28	-1							
MAKHACH-KALA	73.96	310.4	11	8A	-23	20	22	-37				
KAJAANI	74.07	335.4	11	32	0							
MOSCOW	74.09	325.3	11	45A	13							
TEHERAN	74.22	302.3	11	34	1	21	24	23				
KIRUNA	74.22	340.4	11	32	-1							
CHATEAU	74.68	153.6	11	36	0							
TUAI	74.98	152.3	11	36	-1							
BANFF	75.13	39.5	11	39	1							
COBB RIVER	75.29	156.5	12	10	31							
SHASTA	75.57	51.4	11	40	-1							
KAIMATA	76.13	158.1	11	36	-8							
MINERAL	76.26	51.4	11	46K	1							
TIFLIS	76.31	310.2	11	59A	14	21	55	31				
BERKELEY	76.90	54.0	11	51	3							
NURMIJARVI	77.31	333.2	11	50	-1							
HUNGRY HORSE	77.34	41.6	11	50	-1							
LICK	77.58	54.2	11	53K	1							
RENO	77.86	51.5	11	56A	2							
SOTCHI	78.75	313.6	11	59	1	21	55	4				
FRESNO	79.15	54.0	12	3A	2							
SKALSTUGAN	79.59	339.5	12	15	12							
UPPSALA	80.43	335.0	12	6	-2							
BOZEMAN	80.46	42.9	12	11	3							
EUREKA	80.49	50.1	12	7	-1							
SIMFEROPOL	81.50	316.9	12	13	0	22	24	5				
PASADENA	81.57	55.7	12	15	1	22	22	2	12	29	23	25 PS
SALT LAKE C.	82.55	47.4	12	21	2							
FLAMING GRGE	84.03	46.2	12	26	0							
GLEN CANYON	84.74	50.5	12	30	0							
LARAMIE	86.19	44.3	12	38	1							
NIEDZIKA	86.32	326.2	12	37	0						16	0
KSARA	86.34	306.8	12	36	-1	23	5	-3			15	57 PP
ISTANBUL KA.	86.74	315.8	12	39	0	23	5	-6			15	51 PP
ISTANBUL UN.	86.81	315.8	12	40	0						15	57
RACIBORZ	86.88	327.6	12	40	0							
COLLMBERG	88.35	330.8	12	47	0						16	17 PP
HURBANOVO	88.40	326.0	12	55	8							

PRUHONICE	88.63	329.2	12	48	-1					
HALLE	88.64	331.4	12	50	1					
BRATISLAVA	88.73	326.7	12	49	0					
JENA	89.22	331.2	12	49	-2	23	29	-6	16	22 PP
KASPERSKE H.	89.68	329.1	12	52	-1					
DURHAM	90.90	339.9	13	1	2	23	56	6		
LJUBLJANA	91.47	326.5	13	9	7					
HELWAN	91.75	305.6	13	4K	1					
STUTTGART	91.83	330.9	13	3	-1				16	40 PP
STRASBOURG	92.62	331.6	13	11	4					
MANHATTEN	92.88	41.6	13	8	0					
WICHITA MTS.	94.58	46.1	13	16	0	23	54	-28	17	5 PP
FLORENCE X.	94.72	326.6	13	3	-14					
ROSELEND	95.08	329.7	13	20	2					
GARCHY	95.56	333.3	13	21	0				13	59
FAYETTEVILLE	96.37	42.7	13	23	-1					
ROLLA	96.45	40.1	13	27	2					
MESSINA	96.53	320.4							17	20
PALISADES	102.77	27.1							32	44 SS
LWIRO	111.39	279.7							19	8
SOUTH POLE	118.84	180.0	18	43	0					
CHINCHINA	130.46	53.2	19	11	6				22	28 PP
BOGOTA	131.79	52.1	19	20	13				22	50 PKS
LA PAZ	149.58	72.4	19	47	8				20	1 PKP2

OCTOBER 31 1.H 43.M 54.S EPICENTRE 51.83 175.82 DEPTH= 22.KM

A=-0.61887 B= 0.04525 C= 0.78419 D= 0.0729 E= 0.9973
G=-0.7821 H= 0.0572 K=-0.6205 HT= -6.1

SE= 1.64

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PETROPAVLOVK	10.55	283.2	2	32	-1							
COLLEGE	22.71	41.0	5	1	0						5	43
YAKUTSK	26.56	310.5	5	37A	-1	10	8	-1				
VLADIVOSTOK	30.53	271.0	6	14K	0	11	13	0				
MATUSIRO	30.60	254.9	6	15A	1	11	16	2			7	6
ABUYAMA	33.31	255.3	6	39A	1							
CHANGCHUN	34.23	276.9	6	44	-2							
MOULD BAY	34.46	22.5	6	47	-1							
VICTORIA	38.07	70.2	7	18	-1							
PENTICTON	39.88	67.2	7	32	-2							
RESOLUTE	40.71	24.1	7	40	0							
PEKING	42.00	278.0	7	51A	0	14	9	0				
IRKUTSK	42.30	300.0	7	55A	1							
ALERT	42.75	9.5	7	0	-57							
SHASTA	42.91	79.7	7	59	0							
ULAN-BATOR	43.08	293.2	8	0	0							
HUNGRY HORSE	43.55	65.6	8	3	-1						9	51 PCP
MINERAL	43.61	79.6	8	5K	1							
ZO-SE	44.67	264.3	8	13	0	14	50	3				
BERKELEY	44.72	82.9	8	14A	1							
RENO	45.19	79.3	8	17	0							
LICK	45.44	83.0	8	19K	0							
NANKING	45.50	267.2	8	20A	1							
VINEYARD	45.98	83.5	8	23	0							
FRESNO	46.94	82.3	8	30A	-1							
EUREKA	47.56	76.9	8	35	-1						13	56 SCP
PASADENA	49.65	83.8	8	51	-1	15	54	-4				
SIAN	50.13	276.9				16	16	11				
FLAMING GRGE	50.57	71.2	8	57	-2							
LANCHOW	52.05	282.2	9	10A	0							
LARAMIE	52.55	68.5	9	12	-2							
CANTON	55.26	263.6				17	29	14				
TUCSON	55.45	80.3	9	36	1							
SEMIPALATNSK	55.67	309.6	9	36A	-4							
KEVO	56.60	347.5	9	21A	-22							
APATITY	57.64	343.9	9	48A	-3							
TROMSOE	57.68	350.6	9	49	-2							
SODANKYLA	58.88	346.6	9	58A	-1						10	47 PCP
MANHATTEN	59.08	64.8	10	0A	-1						10	48 PCP
KIRUNA	59.24	349.4	10	0A	-2							
SVERDLOVSK	59.34	324.7	10	2	-1							
DUBUQUE	60.01	58.4	10	5K	-2						10	14 PCP

KUNMING	60.34	273.6	10	9	0	18	22	1			
WICHITA MTS.	61.06	69.8	10	13	-1	18	43	13		11	38
KAJAANI	61.78	344.7	10	18A	-1					10	59 PCP
ROLLA	62.60	62.9	10	31	6				10	40	
FAYETTEVILLE	62.62	65.8	10	23K	-2						
ST. LOUIS 1	62.99	61.3								12	11 PP
FRUNSE	63.73	306.4	10	32K	0						
SKALSTUGAN	64.21	351.9	10	33A	-2						
LHASA	64.21	285.7	10	36	1						
C. GIRARDEAU	64.32	61.8	10	34K	-2						
OTTAWA	65.29	47.4	10	39	-3						
PULKOVO	65.32	341.6	10	41	-1						
NURMIJARVI	65.64	344.8	10	43A	-1					11	14 PCP
PORT MORESBY	65.80	211.3	10	40	-5	19	33	4		15	17
HELSINKI	65.91	344.5	10	45	-1					11	16 PCP
BREBEUF	66.16	46.0	10	45K	-3						
SHILLONG	66.69	282.0	10	50A	-1						
UPPSALA	67.29	348.3	10	53A	-2						
MOSCOW	67.35	335.9	10	55	0						
TASHKENT	67.50	308.6	10	56A	0						
MORGANTOWN	67.64	54.0	10	56	-1						
CHATRA	68.58	286.3	11	3A	0						
PALISADES	69.52	49.3	11	28	19					25	40 SS
STALINABAD	69.86	307.0	11	9	-2						
SAMARKAND	69.88	308.9	11	11A	0						
CHAPEL HILL	70.94	56.0	11	17	0						
HALIFAX	71.13	40.5	11	17	-2						
COLUMBIA	71.39	58.6	11	19	-1						
MUNSTER	76.09	352.5	11	48	0						
CHARTERS TS.	76.14	208.5	11	48	0						
HALLE	76.14	349.7	11	47	-1						
COLLMBERG	76.22	349.0	11	48K	0					14	43 PP
KRAKOW	76.45	344.3	11	49	-1					12	23
RACIBORZ	76.70	345.4	11	51	0						
JENA	76.75	349.8	11	49	-2						
NIEDZIKA	76.99	343.9	11	53	0					12	43
BENSBERG	77.13	352.7	11	53	0					12	44
PRUHONICE	77.32	347.7	11	54	0					13	13
QUETTA	77.38	302.9	11	55	0						
TIFLIS	77.58	324.7	11	57A	1	21	50	5			
SIMFEROPOL	78.09	333.3	12	5	6						
KASPERSKE H.	78.28	348.2	12	0A	0						
BRATISLAVA	78.73	345.7	12	2	0						
HURBANOVO	78.84	344.9	11	33	-30						
STUTTGART	79.12	351.0	12	4	0						
STRASBOURG	79.45	352.0	12	5	-1						
PARIS	79.57	355.5	12	7	0						
TEHERAN	80.18	317.1	12	12	2						
BESANCON	80.91	353.0	12	13	-1						
GARCHY	81.07	355.0	12	14	-1						
LJUBLJANA	81.18	346.9	12	15A	0					12	35
ROSELEND	82.52	351.6	12	22	0						
CLERMONT-FD.	82.57	354.9	12	23	0						
POONA	82.78	290.7	12	23A	-1						
ISTANBUL UN.	83.11	335.4	12	24	-1					15	32
ISOLA	83.87	351.9	12	30	1						
MONACO	84.29	351.6	12	32	1						
BAGNERES	85.40	356.8	12	36	-1						
ROME	85.53	347.6								23	16
KSARA	87.76	327.6	12	48	0						
RIVERVIEW	88.00	200.3	12	44A	-5					14	18
KARAPIRO	89.39	180.2	12	56	0						
CANBERRA	89.91	201.7	13	18	19						
SAN JUAN	91.80	57.0	13	8	1						
SCOTT BASE	129.54	182.5	19	7	0						
BYRD STATION	136.54	166.7	19	13	-7						
SOUTH POLE	141.65	180.0	19	26	-4						
MAWSON	144.79	217.7	19	33	-2					19	41 20 13
PIETERMZBURG	146.15	297.4	19	40K	-1						
ARGENTINE I.	147.31	137.5	19	42	3						
KIMBERLEY	148.43	305.7	19	12	-29						

NOVEMBER 2 5.H 22.M 43.S EPICENTRE -17.73-178.50 DEPTH= 562.KM

A=-0.95275 B=-0.02496 C=-0.30271 D=-0.0262 E= 0.9997
G= 0.3026 H= 0.0079 K=-0.9531 HT= 5.2

DEPTH OF FOCUS= 0.083R

SE= 2.69

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
AFIAMALU	7.50	60.5	1	53A	-1	3	29	5				
NOUMEA	14.85	249.7	3	7	0							
KOUMAC	16.51	257.4	3	23	0							
KARAPIRO	20.79	193.4	4	2	-1							
BRISBANE	28.15	244.9	5	6	-3							
RIVERVIEW	31.53	233.5	5	37	-1							
CANBERRA	33.74	232.3	5	55K	-1							
PORT MORESBY	34.36	279.4	6	1K	0							
SAVANNAH	37.81	223.5	6	35A	5							
MOORLANDS	38.16	222.5	6	38A	5							
TARRALEAH	38.57	223.1	6	41A	5							
ADELAIDE	41.65	237.1	6	59K	-2							
CAPE HALLETT	54.97	184.2	8	36	-4							
MUNDARING	60.12	242.9	9	13A	-2							
BYRD STATION	67.43	170.7	9	59	-2							
MATUSIRO	67.71	323.4	10	1A	-2							
SOUTH POLE	72.38	180.0	10	30	0							
BERKELEY	76.46	42.6	10	59	6							
LICK	76.56	43.3	10	55K	1							
PASADENA	77.17	47.7	10	52	-5							
SHASTA	78.03	40.2	11	2	0							
MINERAL	78.31	40.8	11	4K	1							
EUREKA	81.46	44.0	11	20	1							
TUCSON	81.60	52.4	11	22	2							
TUCSON TELE.	81.72	52.4	11	23	2							
GLEN CANYON	83.22	47.9	11	32	4							
MAWSON	83.99	199.8	11	31	-1							
PENTICTON	84.64	34.2	11	35	0							
COLLEGE	85.62	12.6	11	38	-2							
FLAMING GRGE	86.56	45.2	10	33	-71				11	35		
WICHITA MTS.	91.95	54.2	12	10	1							
COLLMBERG	145.28	347.3	18	35A	1							
PRUHONICE	146.16	344.8	18	38	3							
KASPERSKE H.	147.19	345.3	18	40	4							
LJUBLJANA	149.76	341.8	18	47A	7							
GARCHY	150.50	357.8	18	49	7							

NOVEMBER 4 3.H 38.M 35.S EPICENTRE 49.67 155.99 DEPTH= 58.KM

A=-0.59353 B= 0.26435 C= 0.76016 D= 0.4069 E= 0.9135
G=-0.6944 H= 0.3093 K=-0.6497 HT= -5.3

DEPTH OF FOCUS= 0.004R

SE= 2.44

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PETROPAVLOVK	3.75	25.4	0	58A	1	1	41	0				
Y.-SAKHLINSK	9.23	258.4	2	15	2							
MATUSIRO	18.40	231.2	4	11K	-2	7	41	8				
YAKUTSK	19.08	320.3	4	19A	-2	7	51	3				
ABUYAMA	21.05	233.0	4	41A	0							
COLLEGE	32.67	41.1	6	28	-1				6	48		
ALERT	46.65	6.5	8	23A	-2							
RESOLUTE	47.45	19.9	8	30	-1							
THULE	51.04	12.3	8	55	-4							
PENTICTON	51.95	55.8	9	4	-1							
SHILLONG	54.38	268.5	9	22K	-2							
HUNGRY HORSE	55.49	54.0	9	32	0				10	46	PCP	
MINERAL	56.23	65.7	9	37A	0							
SODANKYLA	57.22	339.2	9	50	6							
BUTTE	57.73	55.5	9	53	5							
LICK	58.14	68.5	10	7K	17							
KIRUNA	58.18	341.8	9	48	-3							
BOZEMAN	58.77	55.0	9	53	-2							
FLAMING GRGE	62.84	58.1	10	23	1							
BOULDER CITY	63.12	65.4	10	24	0							
NURMIJARVI	63.37	335.4	10	38	12							
LARAMIE	64.65	55.6	10	34	0							

UPPSALA	65.73	338.4	10 37	-4					
QUETTA	67.07	289.9	10 49	-1					
TUCSON	68.09	65.8	10 56	0					
TUCSON TELE.	68.09	65.6	10 56	0					
CHARTERS TS.	69.98	189.7	11 7	-1					
TIFLIS	70.84	312.4	11 13	0					
MANHATTEN	70.90	51.7	11 11	-2			11 23		
DUBUQUE	71.24	45.8	11 15	0			11 21		
WICHITA MTS.	73.22	56.0	11 27A	0				11 46 PCP	
ROLLA	74.24	49.6	11 37	4			11 50	25 23 SS	
ST. LOUIS 1	74.48	48.1	11 35	1			11 47		
FAYETTEVILLE	74.49	52.3	11 33A	-1					
COLLMBERG	74.58	336.9	11 35	0				13 1	
SHAWINIGAN	75.26	32.5	11 38	-1					
JENA	75.27	337.6	11 49	10					
PRUHONICE	75.37	335.4	11 39	0					
BLOOMINGTON	75.81	45.3	11 41A	-1			11 54	27 2	
BREBEUF	75.86	33.5	11 41K	-1					
KASPERSKE H.	76.41	335.7	11 46	1					
PALISADES	79.62	36.1						14 57 PP	
FOLINIERE	79.87	344.4	12 5	1					
ROSELEND	81.31	338.1	12 12K	0					
CANBERRA	84.84	185.7	12 31	1					
ADELAIDE	85.65	194.2	12 34	0			12 49		
MESSINA	85.79	329.8						38 51	
HELWAN	86.81	314.3	12 40	0					
SCOTT BASE	127.42	177.1	18 58	-1					
MAWSON	135.70	213.2	19 28	14					
SOUTH POLE	139.48	180.0	19 14	-7					

NOVEMBER 4 18.H 16.M 56.S EPICENTRE 52.10-167.75 DEPTH= 0.KM

A=-0.60285 B=-0.13085 C= 0.78705 D=-0.2121 E= 0.9772
G=-0.7691 H=-0.1670 K=-0.6169 HT= -6.2

SE= 2.06

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	16.40	31.0	3 50	-3				
PETROPAVLOVK	20.35	285.9	4 39A	-2				7 13
CORVALLIS	30.09	86.6	6 14	1				
PENTICTON	30.17	75.9	6 14	0				
HUNGRY HORSE	33.92	74.5	6 48	1				7 44 PP
YAKUTSK	34.08	311.7						7 46
RENO	35.06	91.7	6 58	1				
LICK	35.30	96.2	6 59	0				
RESOLUTE	36.19	25.5	7 7	1				24 11
FRESNO	36.79	95.3	7 12A	1				
BOZEMAN	37.00	76.9	7 14	1				
EUREKA	37.46	88.7	7 17	0				7 45
PASADENA	39.51	97.1	6 26	-68	13 7	-30		7 33 PCP
BOULDER CITY	40.36	92.1	7 41	0				
FLAMING GRGE	40.64	82.1	7 43	0				
ALERT	40.65	11.2	7 44	0				
MATUSIRO	40.68	269.4	7 47	3	13 48	-7		17 12
CHANGCHUN	44.11	286.9	8 9	-3				
TUCSON	45.31	92.9	8 21	0				
WICHITA MTS.	51.17	81.2	9 6	-1				11 57
PEKING	51.82	288.5	9 11	-1	16 34	0		
ZO-SE	54.81	276.9	9 34	0				
OTTAWA	57.10	57.0	9 49	-2				
SHAWINIGAN	57.82	54.3	9 54	-2				
BREBEUF	58.11	55.7	9 55A	-3				
TROMSOE	58.49	357.3	10 1	1				
SIAN	59.98	288.2	10 33	22				
KIRUNA	60.24	356.4	10 11K	-1				
SODANKYLA	60.36	353.7	10 14K	1				
PALISADES	61.11	59.6						19 16 SS
LANCHOW	61.64	293.0	10 20	-2				
SVERDLOVSK	64.39	332.9	10 39	-1				
SKALSTUGAN	64.66	360.0	10 43	1				
NURMI JARVI	67.30	353.4	10 58A	-1				
UPPSALA	68.32	357.1	11 6	1				
MOSCOW	70.50	345.1	11 17	-2				
GOTEBORG	70.56	0.2	11 19	0				

LHASA	73.57	297.1	11	38	1	21	11	4		
ANDIJAN	73.84	316.7	11	58	20					
NAMANGAN	73.94	317.3	11	40	1					
SHILLONG	76.26	293.9	11	51K	-1					
HALLE	76.78	0.2	11	57	2				12	23
SAMARKAND	76.97	319.7	11	55	-1					
COLLMBERG	76.98	359.5	11	57	1				13	10
STALINABAD	77.18	317.9	11	59	2					
JENA	77.35	0.4	11	47	-11				12	11
CHATRA	77.88	298.1	11	59	-2					
LWOW	77.97	352.2	12	3	1					
KRAKOW	78.02	354.9	12	3	1				12	40
RACIBORZ	78.07	356.1	12	4	2				12	34
PRUHONICE	78.28	358.5	12	4	1					
FOLINIERE	78.93	8.5	12	11	4					
PARIS	79.13	6.6	12	9	1					
KASPERSKE H.	79.14	359.1	12	8	0					
STUTTGART	79.48	2.0	12	9	-1				12	44
STRASBOURG	79.63	3.0	12	12	1					
MAKHACH-KALA	80.52	334.6	12	12	-4					
GARCHY	80.69	6.3	12	18	2					
SIMFEROPOL	81.51	344.5	12	21K	0					
NEW DELHI	81.67	306.4	12	21K	-1					
TIFLIS	82.38	336.0	12	27	2					
SAN JUAN	82.61	69.7	12	26	0					
ROSELEND	82.71	3.3	12	27	0					
TEHERAN	86.07	329.0	12	45	1	23	20	2		
KSARA	91.98	340.5	13	13	1					
SCOTT BASE	130.64	186.9	19	10	-3					
BYRD STATION	134.69	169.5	19	16	-5					
SOUTH POLE	141.91	180.0	19	34	0					
MAWSON	151.27	218.1	19	53K	4				20	46
KIMBERLEY	154.87	333.3							20	19

NOVEMBER 5 10.H 36.M 47.S EPICENTRE 45.99 148.08 DEPTH= 175.KM

A=-0.59177 B= 0.36865 C= 0.71687 D= 0.5288 E= 0.8488
G=-0.6085 H= 0.3790 K=-0.6972 HT= -3.9

DEPTH OF FOCUS= 0.022R

SE= 4.39

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KURILSK	0.77	191.0	0	17	-10	0	32	-15				
NEMURO	3.20	214.7	0	41	-11	1	15	-17				
ABASHIRI	3.34	235.2	0	47	-7	1	28	-7				
Y.-SAKHLINSK	3.84	287.5	1	0	0	1	48	2				
KUSIRO	4.00	222.5	0	53A	-9	1	34	-16				
WAKKANAI	4.52	265.0	1	8	-1	2	3	1				
OBIHIRO	4.65	230.4	1	4	-7							
HIROO	5.05	224.4	1	7	-9	1	57	-17				
UGLEGORSK	5.11	309.4	1	20	3	2	24	9				
SAPPORO	5.63	241.1	1	18	-5	2	19	-9				
TOMAKOMAI	5.75	236.5	1	23	-2							
MURORAN	6.29	236.8	1	24	-8	2	30	-13				
SUTTSU	6.46	243.2	1	30	-4	2	40	-7				
MORI	6.66	237.0	1	30	-7							
HAKODATE	6.74	234.3	1	29K	-9	2	38	-16				
HATINOHE	7.25	223.5	1	35	-10	2	45	-21				
AOMORI	7.41	228.4	1	42	-5	2	50	-20				
MIYAKO	7.76	217.5				2	56	-23			2	30
MORIOKA	8.08	221.3	1	45	-11	3	5	-21				
OKHA	8.27	338.1	2	3	5	3	43	13				
MIZUSAWA	8.56	219.2	1	54	-8	3	16	-21				
AKITA	8.58	225.9				3	20	-18				
ISINOMAKI	9.06	215.9	1	57	-12	3	28	-21				
SAKATA	9.34	223.6	3	40	88							
SENDAI	9.37	217.2	2	10	-3	3	35	-21				
YAMAGATA	9.63	219.3	2	5	-11	3	42	-20				
PETROPAVLOVK	9.83	40.5	2	17	-2	4	8	1				
HUKUSIMA	9.99	217.2	2	9	-12	3	51	-20				
ONAHAMA	10.51	213.3				4	0	-24				
SHIRAKAWA	10.63	216.3				4	4	-22				
MITO	11.18	213.5	2	25	-11	4	19	-19				

UTUNOMIYA	11.27	216.1	2	31	-6	4	21	-19			
KAKIOKA	11.42	214.1	2	35	-4	4	36	-8			
TUKUBASAN	11.46	214.4	2	27	-13	4	23	-22			
MAEBASI	11.73	218.4				4	38	-14			
KUMAGAYA	11.81	216.7	2	35	-9	4	37	-16			
VLADIVOSTOK	11.89	261.8	2	41	-4				4	40	
NAGANO	11.90	222.0	2	51	6						
MATUSIRO	12.00	221.6	2	37	-10	4	38	-19	3	57	
TOKYO C.M.O.	12.07	214.3				4	38	-22			
KOHU	12.57	218.2				4	44	-28			
AJIRO	12.88	215.1				4	58	-20	4	27	
IIDA	13.02	220.1							4	47	
GIHU	13.60	222.9	2	56	-11						
MAGADAN	13.68	5.9	3	5	-3				3	38	
NAGOYA	13.70	221.8	3	7	-1						
KYOTO	14.41	224.8	3	13	-4						
ABUYAMA	14.61	224.9	3	12	-8						
CHANGCHUN	16.27	270.6	3	37K	-3	6	57	22			
YAKUTSK	19.23	333.2	4	14	1	7	48	11	4	46	PP
PEKING	23.98	267.1	4	59	-1	9	9	8	5	31	5 46 *SP
ZO-SE	25.60	243.9	5	13K	-2	9	32	4	5	44	6 3 *SP
NANKING	26.50	248.6	5	20	-3						
ULAN-BATOR	27.94	289.1	5	35	-1						
LANCHOW	34.44	269.2	6	33K	0						
HONG KONG	36.26	240.9	6	46	-2						
CHENGTU	37.31	261.5	6	56	-1						
MANILA	38.59	224.8	7	6	-2	12	49	-1			
COLLEGE	38.90	37.7	7	12	2				7	45	12 53
KUNMING	41.68	255.9	7	32	-1						
SHILLONG	48.86	265.4	7	48K	-42						
KIPAPA	49.98	100.6	8	37	-1						
FRUNSE	50.83	294.5	8	45	0						10 13
CHATRA	51.34	270.1	8	49K	0						
RESOLUTE	52.64	17.3	8	57	-1						
HAWAII V.OB.	53.22	100.2	9	1	-2						
TASHKENT	55.00	295.6	9	14	-2				9	48	
NEW DELHI	57.18	278.6	9	30K	-1						
LAHORE	57.33	283.2	9	3	-29						
PENTICTON	58.41	50.1	9	39A	-1						
SODANKYLA	58.65	337.3	9	40K	-1						10 29 PCP
TROMSOE	58.84	341.5	9	41	-2						
CORVALLIS	59.11	56.4	9	46A	1						
KIRUNA	59.89	339.7	9	49	-1						
HUNGRY HORSE	61.95	48.5	10	4	0				10	38	
SHASTA	61.97	59.5	10	4A	0						10 37
MINERAL	62.66	59.4	10	9A	1						10 44
MOSCOW	63.04	323.5	10	11	0				10	43	
CALISTOGA	63.12	61.4	10	11A	0						
QUETTA	63.15	286.5	10	10	-2						
PT. REYES	63.29	62.0	10	12K	-1						
ASHKABAD	63.79	298.2	10	15	-1						
BERKELEY	63.80	61.9	10	16A	0						
BUTTE	64.20	49.8	10	19	1						
RENO	64.24	59.1	10	19	0						10 54
NURMIJARVI	64.34	332.7	10	18A	-1						10 52 PCP
HELSINKI	64.50	332.4	10	19	-1						10 53 PCP
STA. CRUZ C.	64.51	62.5	10	22K	2						
LICK	64.52	62.0	10	21A	0						10 42
VINEYARD	65.05	62.3	10	24K	0						
BOZEMAN	65.23	49.3	10	25	0						
SKALSTUGAN	65.32	339.9	10	38	12						
LLANADA	65.41	62.2	10	26K	0						
CHARTERS TS.	65.78	181.9	10	24	-5						
FRESNO	66.01	61.4	10	30A	0						11 5
POONA	66.03	272.2	10	29K	-1						
EUREKA	66.55	57.0	10	34	1				11	10	
UPPSALA	67.01	335.3	10	35	-1				11	3	
SALT LAKE C.	68.05	53.7	10	43	0						
PASADENA	68.73	62.6	10	46A	-1				11	22	
TIFLIS	69.18	308.8	10	51	1	19	47	7			11 14 PCP
FLAMING GRGE	69.32	52.2	10	52	1						
TEHERAN	69.46	300.4	10	53	2						
GORIS	69.86	306.2	10	55	1						
GOTEBORG	70.43	336.7	10	57	0						
LARAMIE	71.12	49.8	11	2	1						11 36
COPENHAGEN	72.03	335.4	11	3	-4						
KRAKOW	74.31	328.2	11	20	0						11 35 PCP
TUCSON	74.51	59.6	11	23	2						
RACIBORZ	74.91	329.2	11	24	0						11 35 PCP

COLLMBERG	75.64	332.8	11 28	0	12 2	11 40	PCP
KASPERSKE H.	77.32	331.3	11 38	1	12 18		
MANHATTEN	77.33	46.0	11 37	0		12 11	PCP
DUBUQUE	77.57	40.3	11 31	-7		12 0	PCP
BENSBERG	77.70	335.9	11 40	1			
STUTTGART	79.02	333.6	11 47	1			
STRASBOURG	79.65	334.5	11 51	1			
WICHITA MTS.	79.69	50.2	11 50	0	12 26		
KSARA	79.76	308.4	11 52	2			
ROLLA	80.64	44.0	11 53A	-2		12 30	PCP
ST. LOUIS 1	80.85	42.4	11 57	1		12 31	PCP
FAYETTEVILLE	80.93	46.6	11 57K	1	12 32		
PARIS	80.93	337.8	11 59	3			
CANBERRA	80.94	179.2	11 55	-2			
ADELAIDE	81.03	187.8	11 52	-5			
OTTAWA	81.13	29.6	11 58	0			
BESANCON	81.37	335.0	11 59	0			
JERUSALEM	81.66	307.5	12 2K	2			
FOLINIERE	81.72	339.6	12 3	2			
BLOOMINGTON	82.12	39.7	12 3	0			
GARCHY	82.18	336.8	12 4	1			
C. GIRARDEAU	82.24	42.8	12 6K	3		12 39	PCP
ROSELEND	82.45	333.1	12 7	3			
MUNDARING	82.79	206.9	12 4	-2			
LITTLE ROCK	82.89	46.2	12 7	0			
MORGANTOWN	84.53	35.2	12 19	4			
HELWAN	85.26	308.9	12 20	2			
BROKEN HILL	120.76	281.4	18 33	1			
SCOTT BASE	124.10	175.3	18 37	-1			
BULAWAYO	124.59	276.5	18 39K	0			
MAWSON	129.77	209.8	18 50	1	19 29	21 56	SKP
KIMBERLEY	132.78	270.9				22 10	
BYRD STATION	135.31	165.6	18 48	-11			
SOUTH POLE	135.80	180.0	18 48	-12		22 16	PP

NOVEMBER 6 5.H 28.M 26.S EPICENTRE -13.38 166.14 DEPTH= 63.KM

A=-0.94485 B= 0.23312 C=-0.23001 D= 0.2395 E= 0.9709
G= 0.2233 H=-0.0551 K=-0.9732 HT= 6.0

DEPTH OF FOCUS= 0.005R

SE= 2.83

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PORT VILA	4.80	154.4	0 59K	-12	2 14	7		
HONIARA	7.23	302.3	1 43	-2	3 9	2		
KOUMAC	7.35	193.7	1 41K	-6	3 13	3		
NOUMEA	8.87	178.1	2 4	-4	3 54	7		
SUVA	12.74	113.4	3 4	4	5 24	3		
BRISBANE	18.71	219.8	4 15	0	7 36	-2		
PORT MORESBY	19.03	280.0	4 21K	2	7 58	12		6 3
CHARTERS TS.	20.16	248.0	4 32	1	8 21	12		
APIA	21.47	93.7	4 57	12				
ONERAHI	23.49	163.0	5 17	12				5 44
RIVERVIEW	24.50	211.3	5 15K	1				5 53 PP
AUCKLAND	24.64	163.2			9 41	11		
CANBERRA	26.76	212.4	5 36K	1	9 49	-16		10 12
TUAI	27.13	160.9	5 34	-5				
WELLINGTON	28.79	166.4						6 44
GEBBIES PASS	30.72	170.7	6 16	5				
MELBOURNE	30.79	214.0	6 11	-1	11 13	4		
ADELAIDE	32.79	224.3	6 29	0	11 32	-8		
MOORLANDS	33.28	206.0	6 34	1			7 12	
TARRALEAH	33.48	206.9	6 36	1				
GUAM	34.07	320.7	7 2	22	12 7	7		
MUNDARING	49.18	239.3	8 42	-1	15 49	6		
PERTH	49.50	239.4						15 57
MANILA	52.60	300.4	9 13	4	16 9	-21		
MATUSIRO	56.21	333.0	9 33K	-3	17 22	3		
LEMBANG	57.87	270.3	9 53	6				17 43
DJAKARTA	58.77	270.8			18 4	12		11 24
CAPE HALLETT	58.95	178.5	9 51K	-4	17 59	4	10 21	10 41 PCP
ZO-SE	61.80	316.5	10 14A	0	18 36	5		
HONG KONG	62.07	304.3	10 18	2	18 42	8		

CANTON	63.12	304.7	10	26	3	19	0	12				
Y.-SAKHLINSK	63.69	342.3	10	25	-2	19	0	5				
NANKING	64.01	316.0	10	29A	0	19	5	6				
WILKES	64.39	201.7	10	28A	-3	19	5	2			23	48 SS
SCOTT BASE	64.47	179.9	10	29	-3	19	0	-4	10	50	10	58 PCP
CHANGCHUN	68.03	329.3	10	53A	-1							
MEDAN	69.02	279.1	11	10	9	20	26	27				
PEKING	70.53	321.4	11	9A	-1	20	25	8				
MIRNY	71.11	203.9	11	10	-3	20	26	2				
SIAN	72.09	313.0	11	19A	0	20	40	5				
KUNMING	72.67	301.9	11	24A	1	20	51	10				
MAGADAN	73.74	351.9									20	42
CHENGTU	74.02	307.6	11	31	1	21	4	7				
BYRD STATION	74.20	169.9	11	28	-4							
LANCHOW	76.60	312.5	11	46A	1	21	29	4				
SOUTH POLE	76.70	180.0	11	42	-4							
YAKUTSK	80.41	343.5	12	4A	-2	22	8	2				
ULAN-BATOR	80.53	324.1	12	6	-1	22	12	5				
SHILLONG	81.98	298.6	12	14A	0						22	33
MAWSON	82.71	202.1	12	15	-3	22	30	1	13	8	13	25 *SP
PARAISO	83.46	50.4	12	23A	1							
LHASA	83.99	302.2	12	26A	2	22	52	10				
BERKELEY	84.12	49.0	12	22	-3	22	48	5			23	54 PS
IRKUTSK	84.21	327.0	12	24	-2							
LICK	84.38	49.7	12	27A	1							
SHASTA	85.08	46.3	12	27A	-3							
COLLEGE	85.38	18.0	12	26	-5						13	25
MINERAL	85.51	46.9	12	31A	-1							
PASADENA	85.93	53.7	12	33	-1						24	16 PS
CHATRA	86.38	298.5	12	36A	0							
VISHAKHAPTNM	87.36	288.8	12	44	3	23	25	10			16	24
MADRAS	89.12	283.5	12	36	-13						23	16
EUREKA	89.29	49.2	12	48	-2							
PENTICTON	90.06	39.0	12	51	-3							
ARGENTINE I.	93.01	161.0	13	7	-1							
HUNGRY HORSE	93.25	41.1	13	7	-2							
BOMBAY	97.32	287.6	13	26	-1	24	26	28			17	8 PP
SEMIPALATNSK	97.59	319.9	13	26	-2							
WICHITA MTS.	101.77	56.9	15	54	127	24	22	2			17	59 PP
MANHATTEN	103.92	52.6									18	26 PP
ROLLA	107.47	54.2	18	36	777						27	58 PS
DUBUQUE	108.60	49.4	19	3	777						28	12 PS
FLORISSANT	108.72	53.3									28	14 PS
ST. LOUIS 1	108.82	53.5									30	56
BLOOMINGTON	111.74	53.0									28	6 PS
LA PAZ	118.70	117.4									19	4 PP
KIRUNA	121.20	345.5	18	45	-1							
PALISADES	121.20	50.1									20	8 PP
TIFLIS	122.10	311.0	18	47	0							
NURMIJARVI	125.21	337.8	18	52	-1							
BULAWAYO	126.57	232.2	18	55	-1							
UPPSALA	128.13	340.4									22	24 PKS
SIMFEROPOL	128.65	317.5									21	9 PP
SAN JUAN	129.62	77.1	19	0	-2							
BROKEN HILL	129.79	238.1	19	4	2							
KSARA	130.62	303.2	19	4	0						21	23 PP
JERUSALEM	131.56	300.7	19	6	0							
ISTANBUL KA.	133.57	314.7									21	41 PP
LWIRO	134.92	253.0	19	9	-3							
HELWAN	135.21	299.0	19	15	3						21	52
COLLMBERG	136.39	335.7	19	16	2						23	4 PKS
PRUHONICE	136.74	333.4	19	15	0							
JENA	137.24	336.4	19	20	4						22	36
DURHAM	137.60	349.5	19	23	6							
KASPERSKE H.	137.80	333.2	19	17	0							
STUTTGART	139.87	336.2	19	21	0							
GARCH	143.36	340.6	19	38	11						19	46 PKP2
BANGUI	146.73	257.4	19	29	-4						20	13
TOLEDO	152.23	343.7	19	46	5						23	32 PP

NOVEMBER 9 1.H 9.M 13.S EPICENTRE -22.08 170.00 DEPTH= 0.KM

A=-0.91343 B= 0.16111 C=-0.37376 D= 0.1737 E= 0.9848
G= 0.3681 H=-0.0649 K=-0.9275 HT= 4.2

SE= 2.63

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
NOUMEA	3.29	265.6	0	51	-3	1	31	-3				
PORT VILA	4.61	339.7	1	10	-2	2	4	-3				
KOUMAC	5.54	284.8	1	23	-3	2	45	14				
SUVA	8.83	65.2	2	14	2							
KARAPIRO	16.50	164.4	3	53	-1							
BRISBANE	16.51	247.9	3	51	-3	7	1	3				
TONGARIRO	17.71	165.7	4	9	0							
TUAI	17.76	161.4	4	11	1							
APIA	19.18	67.6	4	23	-4							
RIVERVIEW	20.31	230.8	4	41A	1						4	59 PP
GEBBIES PASS	21.67	174.8	4	52	-2							
CANBERRA	22.59	229.7	5	5A	2				5	15		
RABAUL	24.79	313.3	5	24	-1							
SAVANNAH	27.39	219.1	5	54	5						6	17
MOORLANDS	27.85	217.9	5	52	-1							
TARRALEAH	28.18	218.9	6	0	4							
ADELAIDE	30.20	238.0	6	15	1							
MUNDARING	48.50	246.3	8	47	1							
CAPE HALLETT	50.25	179.9	8	58	-2	16	17	5	9	9		
SCOTT BASE	55.84	180.8	9	39	-2							
MATUSIRO	65.58	332.2	10	43	-5							
MAWSON	76.08	202.2	11	54	3							
ARGENTINE I.	83.63	159.9	12	28	-3							
LICK	87.31	47.9	12	52A	2							
PASADENA	88.22	52.0	13	23	29							
MINERAL	88.86	45.3	13	27	30							
SHILLONG	89.32	297.9	12	58A	-1							
BOULDER CITY	91.50	51.7	13	6	-3							
EUREKA	92.25	48.1	13	11	-2						16	50 PP
COLLEGE	92.55	16.7	13	11	-3							
PENTICTON	94.52	38.2	17	54	271							
WICHITA MTS.	103.34	57.8	14	52	49						30	3 PKKP
BREBEUF	123.75	49.3	19	7	7							
SAN JUAN	127.46	83.3	20	4	57							
NURMIJARVI	134.61	336.7	19	19	-1							
KSARA	138.12	296.4	19	42	15							
NIEDZIKA	143.70	326.2	19	33	-4						20	51
RACIBORZ	144.34	328.5	19	39	1							
COLLMBERG	145.78	334.1	19	38	-2						19	41 PKP2
HALLE	146.05	335.3	19	39	-2						19	57
PRUHONICE	146.11	331.2	19	41	0						20	19
BRATISLAVA	146.14	326.8	19	44	3							
VIENNA-H.	146.45	327.5	19	45	4							
JENA	146.64	335.0	19	41	-1						22	29 PP
ATHENS	147.00	306.3	19	43	1						19	51 PKP2
BANGUI	147.16	241.7	19	47	4							
KASPERSKE H.	147.16	331.0	19	42	-1							
MUNSTER	147.20	339.8	19	46	3							
BENSBERG	148.21	339.2	19	48	4							
LJUBLJANA	148.86	326.0	19	47	2						20	10
STUTTGART	149.26	334.7	18	51	-55							
TRIESTE	149.53	326.1	19	53	7							
STRASBOURG	150.00	336.1	19	53	6							
PARIS	151.53	342.5	20	4	14						20	23 PKP2
FOLINIERE	152.31	346.4	19	56	5							
GARCHY	152.74	340.4	20	8	17						20	25 PKP2
ISOLA	153.84	331.4	20	10	17							

NOVEMBER 9 4.H 19.M 47.S EPICENTRE -22.99 -68.26 DEPTH= 121.KM

A= 0.34130 B=-0.85599 C=-0.38832 D=-0.9289 E=-0.3704
G=-0.1438 H= 0.3607 K=-0.9215 HT= 3.9

DEPTH OF FOCUS= 0.014R

SE= 2.19

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ANTOFAGASTA	2.11	249.9	0	34	-1							
LA PAZ	6.46	1.1	1	36	2							
BOGOTA	28.02	347.6	5	41	0	10	17	2			11	6
CHINCHINA	28.70	344.6	5	49K	2	10	28	2				
PORT STANLEY	29.77	166.9	5	55	-2							

CARACAS	33.31	2.4	6	27	-1	11	35	-3				
TRINIDAD	34.10	12.1	6	36	2							
GRENADA	35.40	11.1	6	46	0							
ST. VINCENT	36.58	11.5	6	55	0							
FORT FRANCE	38.13	11.2	7	7	-1							
DOMINICA	38.64	10.6	7	9	-4							
SAN JUAN	41.17	3.1	7	41	8						9	13 PP
TACUBAYA	51.84	321.9	9	13	16						9	46
LITTLE ROCK	61.84	337.6	10	5	-3				10	50		
MBOUR	62.44	58.5	10	12	0							
MORGANTOWN	63.24	349.9	10	17	0							
FAYETTEVILLE	63.67	336.7	10	19K	-1	18	42	-1			11	3 PCP
PALISADES	63.88	355.2				18	45	-1			19	35 SCS
PENNSYLVANIA	64.09	351.9	10	19	-4	18	49	1				
BLOOMINGTON	64.16	344.3	10	19K	-4	18	47	-2	10	50		
WICHITA MTS.	64.21	332.5	10	22K	-2	18	43	-7			12	42 PP
ROLLA	64.51	339.4	10	42K	16						11	26 PCP
LAWRENCE	66.61	337.3	10	37	-2							
SOUTH POLE	67.15	180.0	10	42	0							
MANHATTEN	67.30	336.4	10	42K	-1				11	9	11	26 PCP
HALIFAX	67.41	3.6	10	44K	0							
BREBEUF	68.33	355.9	10	49	-1	19	42	2				
TUCSON	68.35	321.9	10	51	1							
TUCSON TELE.	68.36	322.1	10	51	1							
DUBUQUE	68.38	342.3	10	49K	-1				11	15	11	32 PCP
OTTAWA	68.40	354.4	10	49K	-1							
SHAWINIGAN	69.33	356.7	10	56K	0							
LARAMIE	72.74	331.4	11	21	5						12	1
BOULDER CITY	73.34	322.1	11	19	-1							
PASADENA	74.03	318.7	11	24K	0	20	48	3	11	56	21	31 PS
FLAMING GRGE	74.19	328.8	11	25	0							
SCOTT BASE	74.48	190.4	11	27A	1				11	45		
EUREKA	76.47	323.9	11	39	1				12	24	11	51 PCP
FRESNO	76.77	319.8	11	40	1							
CAPE HALLETT	77.15	195.5	11	42A	1						11	51 PCP
LLANADA	77.36	319.0	11	43A	0						12	19
VINEYARD	77.71	318.9	11	46K	1							
LICK	78.25	319.2	11	49K	2						12	33
BOZEMAN	78.62	330.9	11	50	1							
RENO	78.64	321.9	11	51	1						12	37
BERKELEY	78.97	319.3	11	52K	1						12	27
BUTTE	79.57	330.3	11	56	1							
CALISTOGA	79.66	319.7	11	56K	1						12	30
MINERAL	80.21	321.5	12	0K	2							
SHASTA	80.89	321.4	12	1K	-1						12	35
HUNGRY HORSE	81.98	331.1	12	8	1							
MAWSON	82.74	163.1	12	11	0							
CORVALLIS	83.93	323.9	12	18K	1						13	21
BANFF	84.73	332.3	12	20K	-1							
PENTICTON	85.24	329.1	12	24K	0							
TOLEDO	86.53	44.0	12	32	2	23	3	9	13	4		
VICTORIA	86.56	326.9	12	30K	0							
BULAWAYO	88.32	111.1	12	41	2							
BANGUI	88.82	84.8	12	40	-1						13	14
BROKEN HILL	90.48	105.8	12	53	4							
BAGNERES	90.90	43.0	12	43	-8							
KARAPIRO	94.82	225.4	13	9	0				13	43		
LWIRO	95.63	94.8	13	18	6							
ISOLA	95.83	44.4	13	18	5							
CHIAVARI	97.36	45.0									17	37
MESSINA	99.26	52.5									23	54
PRUHONICE	102.83	41.1									18	1 PP
NIEDZIKA	106.21	42.8	18	31	777						18	54
COLLEGE	106.25	334.1	13	59	777							
KSARA	113.74	61.9									19	17 PP
QUETTA	139.51	70.0	19	15	2							
POONA	144.36	90.0	19	26K	5							
LAHORE	145.80	67.3	19	26	2							
GUAM	147.32	258.9	19	29	2							
NEW DELHI	148.48	72.5	19	31A	3							
MATUSIRO	153.45	306.6	19	38	2						19	59 PKP2
SHILLONG	161.70	77.9	19	48A	2							

NOVEMBER 9 23.H 6.M 55.S EPICENTRE -15.79-174.87 DEPTH= 278.KM

A=-0.95888 B=-0.08602 C=-0.27047 D=-0.0894 E= 0.9960

G= 0.2694 H= 0.0242 K=-0.9627 HT= 5.6

DEPTH OF FOCUS= 0.039R

SE= 1.07

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
AFIAMALU	3.53	58.4	1	0A	0	1	45	-2				
SUVA	6.82	249.0				3	3	6				
NOUMEA	18.79	247.0	4	3	2							
KOUMAC	20.36	253.4	4	16	0							
KARAPIRO	23.62	199.2	4	47	-1							
CANBERRA	37.67	232.1	6	49A	-1							
CAPE HALLETT	57.18	185.4	9	21A	1							
SCOTT BASE	62.75	184.3	9	58	0							
MUNDARING	64.10	241.8	10	6K	0							
MATUSIRO	68.33	320.7	10	32	-1							
PARAISO	71.72	42.4	10	57K	4							
PT. REYES	72.45	40.7	11	0K	2							
VINEYARD	72.61	42.6	10	59A	0							
BERKELEY	72.71	41.2	11	0A	1							
LICK	72.79	41.9	11	0K	0							
PASADENA	73.31	46.4	11	3	0							
FRESNO	73.66	43.3	11	5	0							
SOUTH POLE	74.31	180.0	11	8	-1							
SHASTA	74.33	38.8	11	8K	-1							
MINERAL	74.60	39.4	11	10A	0							
RENO	75.24	41.0	11	14	0							
LEMBANG	76.19	266.7	11	20A	1							
BOULDER CITY	76.60	46.3	11	21	0							
EUREKA	77.67	42.7	11	26	-1							
TUCSON	77.68	51.2	11	28	1							
TUCSON TELE.	77.80	51.2	11	28	0							
PENTICTON	81.11	33.0	11	45	-1							
FLAMING GRGE	82.75	44.0	11	54	0							
COLLEGE	83.02	11.3	11	54	-1				13	1		
HUNGRY HORSE	83.60	35.9	11	57	-1							
BOZEMAN	83.98	39.3	12	1	1							
ARGENTINE I.	84.10	156.7	12	1	0							
MAWSON	86.97	198.9	12	14	-1							
WICHITA MTS.	88.01	53.2	12	19	-1				13	28	30	1 PKKP
FAYETTEVILLE	91.86	53.1	12	37A	-1							
NURMIJARVI	133.15	346.9	18	43	0							
COLLMBERG	144.02	351.6	19	0	-3				20	15	22	17 SKP
RACIBORZ	144.20	345.6	19	2	-1							
JENA	144.57	353.0	19	2	-2						20	30
BENSBERG	144.88	357.8	19	4K	0							
PRUHONICE	145.05	349.4	19	5A	1				20	20		
KASPERSKE H.	146.04	350.0	19	6	0							
FOLINIERE	146.79	6.8	19	10	3							
STUTTGART	146.94	355.0	19	10	3						20	26
KSARA	146.99	308.6	19	11	4							
PARIS	147.00	3.2	19	11	4							
STRASBOURG	147.23	356.8	19	10	2							
JERUSALEM	148.34	305.6	19	15	6				20	28		
GARCHY	148.56	2.7	19	18	8						19	23 PKP2
ROSELEND	150.32	356.4	19	19	7							
LWIRO	150.52	234.6	19	21	8							

NOVEMBER 10 2.H 7.M 50.S EPICENTRE -14.15 -71.78 DEPTH= 208.KM

A= 0.30325 B=-0.92143 C=-0.24290 D=-0.9499 E=-0.3126
G=-0.0759 H= 0.2307 K=-0.9701 HT= 5.9

DEPTH OF FOCUS= 0.028R

SE= 2.58

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
LA PAZ	4.23	124.0	0	56	-10	1	49	-8				
ANTOFAGASTA	9.59	172.5	1	56	-19	3	36	-24				
BOGOTA	18.78	352.9	4	8	2	7	36	12			7	51 *SS
CHINCHINA	19.37	348.4	4	12	0	7	46	11			8	16
CARACAS	24.96	11.4	5	6	0	9	26	14				
TRINIDAD	26.70	23.2	5	23	1							

GRENADA	27.87	21.4	5 31	-2						
ST. VINCENT	29.07	21.5	5 42	-1						
DOMINICA	31.01	19.7	5 57	-3						
ST. KITTS	32.54	16.2	6 12	-2						
SAN JUAN	32.80	10.0	6 13	-3				6 34	9 23	PCP
COLUMBIA	48.68	349.8	8 24	-1				8 48		
ARGENTINE I.	51.30	176.0	8 43	-2						
LITTLE ROCK	52.43	338.6	8 52	-1				9 9		
C. GIRARDEAU	53.85	342.5	9 8	4	16 24	3		9 27	17 8	PS
MORGANTOWN	54.04	352.2	9 5K	0						
FAYETTEVILLE	54.27	337.6	9 6A	-1						
BLOOMINGTON	54.81	346.0	9 9	-2	16 39	5		9 24	17 21	PS
WICHITA MTS.	54.87	333.0	9 9	-2	16 46	12			11 22	PP
PALISADES	54.91	358.0	9 37	26	16 45	10			11 53	PP
ROLLA	55.11	340.6	9 12	-1	16 44	6		9 34	17 26	PS
MANHATTEN	57.90	337.4	9 32	-1	17 24	10		9 54		
DUBUQUE	59.00	343.8	9 41	1					10 15	PCP
OTTAWA	59.37	356.8	9 42K	-1						
TUCSON TELE.	59.37	321.8	9 41	-2						
TUCSON	59.38	321.7	9 41	-2						
BREBEUF	59.39	358.5	9 42	-1				10 7		
SHAWINIGAN	60.42	359.2	9 50	0						
BOULDER CITY	64.35	322.1	10 36	20						
FLAMING GRGE	64.93	329.3	10 20	0						
PASADENA	65.22	318.6	10 22	1				10 47		
SALT LAKE C.	66.06	327.7	10 25	-2						
EUREKA	67.38	324.2	10 35	0				11 0		
LLANADA	68.52	319.2	10 41K	-1					11 6	
LICK	69.41	319.4	11 38K	51					12 13	
RENO	69.66	322.2	10 50	1						
BERKELEY	70.12	319.5	10 52A	0						
BUTTE	70.27	331.1	10 44	-9						
CALISTOGA	70.78	320.0	10 55K	-1					11 20	
MINERAL	71.23	321.9	10 57	-1						
SHASTA	71.92	321.8	11 1	-2						
HUNGRY HORSE	72.66	332.0	11 7	0				11 32		
PENTICTON	75.97	330.0	11 22	-4						
SCOTT BASE	82.52	190.5	12 1A	0						
TOLEDO	82.66	45.9	12 3A	1				12 30		
CAPE HALLETT	84.72	195.7	12 12A	0	22 34	14				
SIDA	87.86	21.0	12 22	-5					12 55	
FOLINIERE	88.65	38.8	12 34	3						
RESOLUTE	89.83	354.0	12 38	2						
GARCHY	90.30	41.1	12 40	1					13 4	
MAWSON	92.12	164.2	12 47K	0					13 12	*SP
ROSELEND	92.71	43.8	12 49	-1					13 14	
BULAWAYO	94.67	112.0	13 1	2						
STUTTGART	94.73	41.0	13 25	26						
BROKEN HILL	96.15	106.5	13 16	11						
MESSINA	96.55	52.4							22 33	
COLLEGE	96.87	335.3	13 9	0			13 33		13 45	*SP
COLLMBERG	97.68	39.1	13 15	3			13 37			
PRUHONICE	98.36	40.6	13 19	3					13 43	
JERUSALEM	111.65	61.2	19 3	53						
QUETTA	138.84	60.2	19 9	7						
MATUSIRO	145.15	315.2	19 15K	2			19 40			
ULAN-BATOR	146.31	1.6							19 46	
POONA	146.77	77.8	19 22A	6					20 9	
SHILLONG	160.91	51.0	20 5K	30						

NOVEMBER 10 18.H 0.M 51.S EPICENTRE -17.80-178.55 DEPTH= 558.KM

A=-0.95242 B=-0.02407 C=-0.30383 D=-0.0253 E= 0.9997
G= 0.3037 H= 0.0077 K=-0.9527 HT= 5.2

DEPTH OF FOCUS= 0.083R

SE= 2.60

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	2.89	262.6	1 19	3	2 21	5		
AFIAMALU	7.58	60.3	1 52K	-3	3 21	-5		
RAOUL ISLAND	11.41	177.2	2 32	-1	4 39	3		
NOUMEA	14.78	249.9	3 7K	0	5 39	2		
KOUMAC	16.45	257.6	3 24K	1	6 14	7		

ONERAHI	18.97	198.0	3	51	4	7	3	13				
AUCKLAND	19.88	195.8				7	14	9				
KARAPIRO	20.71	193.3	4	3	0						6	35
TUAI	21.26	189.3	4	7	-1							
TONGARIRO	21.94	192.4	4	12	-2							
HONIARA	22.47	288.9	4	18	-1							
WELLINGTON	24.09	192.4	4	31	-3							
GEBBIES PASS	26.87	194.0	4	56	-2							
BRISBANE	28.08	245.0	5	7	-2	9	9	-7				
RIVERVIEW	31.45	233.6	5	37K	-1	10	6	-2			15	4 SCS
RABAUL	31.69	291.8	5	37	-3						10	2
CANBERRA	33.66	232.3	5	57K	1	10	39	-3	7	32	8	23 PCP
SAVANNAH	37.73	223.5	6	30K	0							
MOORLANDS	38.08	222.5	6	33K	0							
TARRALEAH	38.48	223.1	6	37	1						8	35
ADELAIDE	41.57	237.1	7	1	0	12	25	-13				
KIPAPA	43.86	28.1	7	18	-1							
CAPE HALLETT	54.90	184.2	8	41A	1	15	47	7	10	30	19	39 *SS
MUNDARING	60.05	243.0	9	14K	-1						11	10 PP
SCOTT BASE	60.52	183.5	9	19A	1				11	12		
MATUSIRO	67.74	323.4	10	3K	-1	18	14	-4			21	59 SS
LEMBANG	72.58	268.3	10	33A	1	19	15	3				
ZO-SE	75.57	309.7	10	50	1	19	46	1				
SAN FRANCSCO	76.36	42.6	10	53A	0							
BERKELEY	76.54	42.6	10	55	1				12	55		
LICK	76.64	43.3	10	56A	1						12	55
UKIAH	76.67	41.1	10	56	1							
LLANADA	76.70	44.3	10	56K	1				12	49		
CALISTOGA	76.79	41.8	10	56A	0				12	55		
HONG KONG	76.93	298.7	10	49	-7				12	52	10	57 PCP
PASADENA	77.25	47.7	10	59A	1				12	57	11	16 PCP
FRESNO	77.54	44.7	10	50A	-10						13	0
NANKING	77.82	309.5	11	2	1	20	12	3				
CANTON	77.96	299.1	10	25	-37							
SHASTA	78.11	40.2	11	3A	0							
MINERAL	78.40	40.8	11	15K	11							
RENO	79.07	42.3	11	8	0						13	7
CHANGCHUN	79.95	322.4	11	16	4	20	35	4				
BOULDER CITY	80.54	47.5	11	16	1				13	14		
EUREKA	81.54	44.0	11	20	-1				13	24		
TUCSON TELE.	81.80	52.4	11	24	2				13	23		
PEKING	83.61	315.4	11	31	0	21	6	-1				
MAWSON	83.91	199.8	11	33K	1				13	37		
PENTICTON	84.72	34.3	11	36A	0							
SALT LAKE C.	84.92	44.5	11	39	2							
COLLEGE	85.70	12.6	11	39	-2	21	24	-3	13	59		
FLAMING GRGE	86.65	45.2	11	46	0				13	50		
HUNGRY HORSE	87.30	37.1	11	47	-2							
KUNMING	87.66	297.2	11	52K	2	21	50	5				
BOZEMAN	87.76	40.4	11	51	0							
BANFF	87.93	34.2	11	51A	-1							
CHENGTU	88.60	302.7	11	57	2	21	59	6				
LANCHOW	90.71	307.7	12	6K	1	22	20	8				
WICHITA MTS.	92.03	54.3	12	11	0				14	16	15	58 PP
MANHATTEN	95.04	50.6	12	25	1							
FAYETTEVILLE	95.88	54.1	12	29K	1							
SHILLONG	97.13	294.5	12	33K	-1							
DUBUQUE	100.28	48.7	12	49	1							
CHATRA	101.53	294.6									17	8
PALISADES	112.39	52.4	16	13	-80							
SODANKYLA	127.87	348.0	18	3	0						20	38 SKP
KIMBERLEY	128.52	206.4									19	58
BULAWAYO	133.83	216.5	18	15	1							
NURMIJARVI	134.21	344.2	18	10	-5						20	53 SKP
BROKEN HILL	138.32	221.4	18	15	-7							
COPENHAGEN	141.27	350.1	18	23	-6							
DURHAM	143.03	2.9	18	29	-2							
KRAKOW	144.57	339.4	18	34	0						18	57
CHORZOW	144.67	340.5	18	34	0							
WITTEVEEN	144.81	354.5	18	37A	3							
RACIBORZ	145.10	341.1	18	37	2						19	11
COLLMBERG	145.34	347.2	18	36A	1				20	53	22	5 PP
KSARA	145.34	304.1	18	38	3							
HALLE	145.36	348.4	18	35	0							
JENA	145.97	348.5	18	37	1				20	56		
PRUHONICE	146.21	344.7	18	37	1				20	55		
KEW	146.38	2.0	18	38	2							
JERUSALEM	146.48	301.0	18	41K	5				20	53		
LWIRO	146.48	236.2	18	42	6						20	56

BENSBERG	146.60	353.4	18 40A	3					
ISTANBUL UN.	146.90	320.2	18 42	5				20 53	
KASPERSKE H.	147.24	345.2	18 38	1	20 53				
VIENNA-H.	147.28	341.4	18 41K	3					
HEIDELBERG	147.93	351.0	18 44	5					
STUTTGART	148.46	350.1	18 41	2					
STRASBOURG	148.87	351.9	18 46	6					
PARIS	149.06	358.7	18 47	7					
FOLINIERE	149.07	2.5	18 46	6					
EBINGEN	149.08	350.2	18 46	6					
LJUBLJANA	149.81	341.7	18 49	8					
BASLE	149.93	351.7	18 51	9					
HELWAN	150.24	299.3	18 50	8					
GARCHY	150.57	357.8	18 57	14	21 11			19 7	PKP2
ROSELEND	151.91	350.7	18 53	8					
ATHENS	152.00	320.4	18 52A	7					
BANGUI	158.54	233.6	18 53	0				21 45	

NOVEMBER 11 12.H 27.M 11.S EPICENTRE 14.13 -90.57 DEPTH= 103.KM

A=-0.00973 B=-0.97007 C= 0.24261 D=-0.9999 E= 0.0100
G=-0.0024 H=-0.2426 K=-0.9701 HT= 5.9

DEPTH OF FOCUS= 0.011R

SE= 3.53

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
SAN SALVADOR	1.41	108.4	0 24	-2					
SANTIAGO MA.	2.14	107.1	0 37	2	1 9	8			
COMITAN	2.59	324.7	0 41	0	1 17	5			
OAXACA	6.62	296.5	1 13	-23					
MERIDA	6.84	7.5	1 58	19	3 31	35			
VERA CRUZ	7.33	314.2						2 55	
PUEBLA	8.78	304.7			3 38	-6			
TACUBAYA	9.78	303.6	2 33	14	4 13	5		3 44	
CHINCHINA	17.32	120.3	3 58	1	7 28	24			
BOGOTA	18.81	118.6	4 15	1	7 55	18		8 9	*SS
LITTLE ROCK	20.62	355.8	4 34K	1					
COLUMBIA	21.59	22.0	4 49	6				9 21	
WICHITA MTS.	21.74	341.9	4 43	-1					
FAYETTEVILLE	22.10	352.2	4 50K	2					
C. GIRARDEAU	23.11	2.1	5 1	4	9 45	48		9 31	PCP
CARACAS	23.38	96.2	4 58	-2	9 15	13			
ROLLA	23.70	357.4	5 5A	2	9 45	38			
BLOOMINGTON	25.22	7.4	5 21	3	9 52	19			
MANHATTEN	25.53	349.1	5 21	0				10 15	SS
TUCSON TELE.	25.82	318.0	5 23	0					
TUCSON	25.84	317.7	5 23	0					
MORGANTOWN	27.06	18.2						6 15	
DUBUQUE	28.28	359.8	5 42K	-4				11 12	SS
PALISADES	30.47	25.3	6 23	18	11 53	56		8 33	PCP
BOULDER CITY	30.76	319.3	6 7	-1					
FLAMING GRGE	31.34	332.0	6 13	0					
PASADENA	31.94	313.4	6 18	0					
SALT LAKE C.	32.39	329.0	6 23	1					
EUREKA	33.70	323.3	6 34	1					
FRESNO	34.47	316.2	6 39	-1					
BOZEMAN	35.88	335.3	6 54	2					
LICK	36.02	315.6	6 43A	-10					
RENO	36.05	320.1	6 55	2					
BERKELEY	36.71	315.9						20 6	
BUTTE	36.79	334.2	7 10	11					
PT. REYES	37.23	315.8	7 OK	-3					
CALISTOGA	37.33	316.8	7 4A	0					
MINERAL	37.64	319.8	7 6	-1					
SHASTA	38.34	319.7	7 19	7					
HUNGRY HORSE	39.25	335.2	7 20	0				9 27	PCP
PENTICTON	42.40	331.9	7 46	0					
RESOLUTE	60.59	358.7	10 1A	-1				23 27	
COLLEGE	63.67	336.4	10 21	-2				11 8	PCP
MOULD BAY	63.94	352.6	10 23	-1					
UPPSALA	86.76	28.7	12 25	-9					
QUETTA	130.91	26.0	19 4	4					
SHILLONG	140.47	356.5	19 18	1					

MUNDARING 149.76 229.5 19 37K 4

NOVEMBER 12 2.H 15.M 12.S EPICENTRE 0.44 29.32 DEPTH= 0.KM

A= 0.87190 B= 0.48963 C= 0.00766 D= 0.4896 E=-0.8719
G= 0.0067 H= 0.0038 K=-1.0000 HT= 7.2

SE= 2.23

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
BROKEN HILL	14.82	183.2	3	32	0						8	53	
LUANDA	18.49	239.7	4	19A	0	7	42	-1			4	35	PP
BULAWAYO	20.47	181.9	4	41	-1						9	17	
WINDHOEK	25.78	206.7	5	36	2								
PRETORIA	26.06	182.3	5	36	0								
TANANARIVE	26.28	138.0	5	37	-1						9	6	PCP
HELWAN	29.33	3.6	6	6	0						8	6	
KIMBERLEY	29.35	188.1	6	5A	-1								
JERUSALEM	31.66	9.6	6	25K	-2								
GRAHAMSTOWN	33.68	184.1	6	45	1								
KSARA	33.77	9.9	6	46K	1	12	21	12			8	5	PP
HERMANUS	35.95	194.3									17	33	SSS
ATHENS	37.70	352.8	7	21	2								
MESSINA	39.65	342.9	7	46K	11	13	42	3			9	12	PP
ISTANBUL UN.	40.41	359.6	7	42	1								
ISTANBUL KA.	40.44	359.7	7	41K	0	13	50	-1			9	16	PP
TEHERAN	40.68	28.0	7	45	2	13	52	-2					
SOFIA	42.41	353.5	7	59	1				9	38			
TITOGRAD	42.77	349.0	8	2	2	13	44	-41			18	47	SCS
BUCHAREST	43.88	356.7	8	10	0						9	54	PP
ROME	43.98	341.9	8	12K	2	14	55	12			9	53	PP
BELGRADE	44.88	351.1	8	19K	1						10	48	PCP
FLORENCE X.	46.06	341.8	8	22	-5	15	13	0					
QUETTA	46.40	46.9	8	30K	0								
BOMBAY	46.44	64.1	8	30	0	14	54	-24			10	19	PP
TRIESTE	47.07	345.1	8	35	0	15	36	9			10	30	PP
LJUBLJANA	47.25	346.0	8	36A	0						10	31	PP
POONA	47.25	65.0	8	37	1	15	32	2					
GRANADA	47.54	324.0									14	24	
MBOUR	47.81	289.0	8	43	2	15	36	-2					
PAVIA	47.98	340.9									15	53	
BRATISLAVA	48.71	349.1	8	48	0								
VIENNA-H.	48.92	348.5	8	50	1								
CHUR	49.35	342.2	8	55	2								
LWOW	49.40	355.5	8	53	0	16	6	6					
TOLEDO	49.64	326.3	8	56	1								
BAGNERES	49.83	332.1	8	57	1								
KRAKOW	50.07	352.1	8	58A	0						19	14	
RACIBORZ	50.36	350.7	9	0	0						9	24	
KASPERSKE H.	50.36	346.6	9	0	0								
CHORZOW	50.44	351.4	9	1	0						10	36	PCP
BASLE	50.57	341.0	9	1	-1								
CLERMONT-FD.	50.69	336.5	9	5	2								
BESANCON	50.87	339.6	9	30	26								
PRUHONICE	50.94	347.8	9	3	-2	16	38	17			20	19	SS
STUTTGART	51.15	343.1	9	7	1	16	27	3			11	9	PP
STRASBOURG	51.44	341.8	9	8	-1						9	46	
HEIDELBERG	51.88	343.0	9	12	0								
JENA	52.51	345.9	9	14	-3	16	42	-1			11	19	PP
COLLMBERG	52.52	347.2	9	16K	-1						11	20	PP
HALLE	52.95	346.5	9	19	-1								
PARIS	53.44	338.2	9	24	0						9	46	
NEW DELHI	53.60	54.2	9	25K	0								
BENSBERG	53.72	342.8	9	26K	0				9	36	10	58	PP
MUNSTER	54.49	343.7	9	31	0								
FOLINIERE	54.56	336.2	9	31	-1								
DE BILT	55.32	342.1	9	38	1	17	30	9					
WITTEVEEN	55.52	343.5	9	39K	0								
VISHAKHAPTNM	55.75	68.9	9	36	-5	17	26	-1			13	1	PPP
KARLSKRONA	56.64	350.9	9	47	0								
KEW	56.66	338.3									21	18	SS
COPENHAGEN	56.75	348.7	9	47K	-1								
HELSINKI	59.66	357.5	10	8	0								
DURHAM	59.77	339.9				18	15	-4			18	23	*SS
UPPSALA	59.94	353.2	10	8K	-2	18	27	6			10	56	PCP

NURMIJARVI	60.01	357.3	10	9K	-1					10	56	PCP
CHATRA	61.39	59.5	10	25K	5							
SKALSTUGAN	64.24	351.6	10	37K	-2							
LHASA	65.41	57.5	10	46K	0	19	30	0				
SODANKYLA	66.82	358.9	10	53K	-2							
KIRUNA	67.54	356.4	10	59K	-1							
TROMSOE	69.42	356.1	11	11	-1							
MAWSON	71.80	167.1	11	28K	2				11	40	11	51 PCP
KUNMING	74.82	64.2	11	44K	0							
CHENGTU	76.62	58.7	11	54	0	21	42	2				
LANCHOW	77.24	53.2	11	58K	1							
LEMBANG	78.44	97.0	12	3K	-1							
MIRNY	80.19	158.7	12	15	2							
SIAN	81.15	55.5	12	17	-1							
ULAN-BATOR	81.36	41.6	12	21	1							
CANTON	84.33	67.0	12	36K	1							
PEKING	87.30	50.1	12	50K	0	23	28	-1				
SOUTH POLE	90.44	180.0	13	7	3							
ZO-SE	91.37	59.0									24	14
HALIFAX	91.78	314.5	13	1	-10							
SAN JUAN	95.02	288.4	13	28	2							
LA PAZ	97.27	253.5	13	41	5	24	21	8				
BYRD STATION	99.02	185.2	13	47	3						22	47
PALISADES	99.68	311.6	14	16	29	24	52	27			18	14 PP
COLLEGE	114.81	358.7	19	32	50							
WICHITA MTS.	120.11	311.3	18	56	3						20	17 PP
HUNGRY HORSE	121.97	332.0	18	59	3							
PENTICTON	123.69	336.1	18	45	-15							
FLAMING GRGE	124.35	322.7	19	4	3							
EUREKA	129.15	325.4	19	12	2						21	22 PP
TUCSON TELE.	130.14	314.7	19	16	4							
TUCSON	130.27	314.6	19	16	4							
BOULDER CITY	130.76	321.2	19	16	3							
RENO	131.21	328.2	19	19K	5							
MINERAL	131.52	330.3	19	17A	2							
FRESNO	133.20	325.6	19	22	4							
WOODY	133.40	323.8	19	22	4							

NOVEMBER 14 4.H 42.M 26.S EPICENTRE 7.33 -82.40 DEPTH= 0.KM

A= 0.13126 B=-0.98320 C= 0.12682 D=-0.9912 E=-0.1323
G= 0.0168 H=-0.1257 K=-0.9919 HT= 6.8

SE= 3.13

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
CHINCHINA	7.13	108.8	1	46	-2	3	13	2			2	1	P*
SANTIAGO MA.	8.55	316.2	2	8	0	4	42	56					
SAN SALVADOR	9.19	313.9	2	14	-3	4	57	55					
BLACK RIVER	11.48	22.2	2	39	-9								
HOPE	11.94	26.9	2	54	0	5	10	0					
COMITAN	13.01	313.8									2	52	PPP
MERIDA	15.23	333.4									3	46	PP
CARACAS	15.60	77.2	3	38	-5	6	54	17					
OAXACA	17.02	305.8									4	18	PP
VERA CRUZ	17.81	312.8									4	26	PP
PUEBLA	19.26	308.7	4	34	6								
SAN JUAN	19.27	53.7	4	26	-2	8	7	6			5	0	
TACUBAYA	20.25	308.0	4	39K	0	8	32	10					
HUANCAYO	20.50	159.9	4	40	-2								
GRENADA	20.90	75.4	4	44	-2								
TRINIDAD	21.00	79.4	4	43	-4								
ST. VINCENT	21.57	72.7	4	52	-1								
ST. KITTS	21.61	60.8	4	50	-3								
ANTIGUA	22.30	62.2	4	58	-2								
BARBADOS	23.15	73.8	5	12	3								
AREQUIPA	25.99	155.5	5	35	-1								
COLUMBIA	26.57	2.5	5	41	0	10	14	-1					
LA PAZ	27.57	149.3	5	52	2	10	42	11					
CHAPEL HILL	28.62	5.7	6	5	5						6	36	
LITTLE ROCK	28.81	342.8	5	58K	-4	10	52	1					
C. GIRARDEAU	30.55	348.8	6	14A	-3	11	16	-3			13	16	SS
FAYETTEVILLE	30.59	341.0	6	14A	-3	11	20	1					
CHIHUAHUA	30.80	316.4									9	12	
WICHITA MTS.	31.07	333.6	6	19A	-3						9	25	PCP
ROLLA	31.62	345.6	6	32A	5	11	32	-4			13	24	SS

BLOOMINGTON	31.93	354.0	6	27	-2	11	32	-8			13	22 SS
ST. LOUIS 1	31.96	348.4	6	27A	-3	11	39	-2				
FLORISSANT	32.14	348.2				11	40	-4				
MORGANTOWN	32.23	3.5	6	31	-1							
ANTOFAGASTA	32.99	159.6	6	38	0							
LAWRENCE	33.56	341.7	6	41	-2							
PENNSYLVANIA	33.57	6.2	6	54	10	12	6	0				
CLEVELAND	34.01	1.2				12	14	1				
MANHATTEN	34.20	340.2	6	47	-2	11	35	-41	7	15	12	48 SS
PALISADES	34.38	11.4	7	4	13	12	19	1			8	15 PP
DUBUQUE	35.79	349.5	7	1A	-2				7	40	13	46
TUCSON TELE.	36.23	317.2	7	7	1				7	29		
TUCSON	36.25	317.0	7	7	1							
BREBEUF	38.77	9.9	7	28	0	13	28	2				
LARAMIE	39.62	332.3	7	34	-1							
SHAWINIGAN	39.94	10.4	7	36	-1							
HALIFAX	40.59	20.7	7	42	-1							
FLAMING GRGE	41.20	328.5	7	48	0							
SALT LAKE C.	42.40	326.4	7	58	0							
PASADENA	42.41	314.0	7	59	1	14	32	12			17	58 SS
EUREKA	43.95	321.9	8	11	1						9	46 PP
FRESNO	44.90	316.3	8	15	-3							
BOZEMAN	45.51	331.9	8	22	-1							
LLANADA	45.61	315.5	8	11	-13							
VINEYARD	45.99	315.4	8	27	1							
RENO	46.40	319.5	8	30A	0							
LICK	46.46	315.9	8	32A	2							
BUTTE	46.49	331.1	8	29	-1							
BERKELEY	47.15	316.2	8	36K	0	15	35	7				
SAN FRANCSCO	47.23	316.0	8	35	-1							
PT. REYES	47.67	316.1	8	40K	0							
CALISTOGA	47.75	317.0	8	40A	0							
MINERAL	47.99	319.4	8	42A	0							
UKIAH	48.43	317.2	8	49	3							
SHASTA	48.69	319.4	8	46	-2							
HUNGRY HORSE	48.86	332.3	8	48	-1							
CORVALLIS	51.36	323.2	9	8A	0							
BANFF	51.58	333.9	9	6	-4							
VICTORIA	53.68	327.2	10	24	59							
ALBERNI	54.87	327.3	9	34	0							
MBOUR	64.47	77.6				19	14	-5			20	46 SCS
RESOLUTE	67.68	356.4	10	57A	-4							
MOULD BAY	71.76	351.3	11	23A	-3							
COIMBRA	73.06	50.3	11	35A	1							
COLLEGE	73.09	336.1	11	31	-3						11	56 PCP
ALERT	75.61	2.7	11	45	-3							
TOLEDO	76.40	50.8	11	55	2	21	44	6			26	25 SS
JERSEY	78.15	41.4									22	4
ABERDEEN	78.61	33.2				22	4	2			26	29 SS
DURHAM	78.75	35.7				22	5	2				
FOLINIERE	79.20	41.8	12	10	2							
BAGNERES	79.60	47.6	12	12	2							
PARIS	81.16	41.8	12	20	1							
GARCHY	81.59	43.3	12	22	1						13	4
CLERMONT-FD.	81.67	44.8	12	17	-4							
BENSBERG	84.09	39.5	12	36	2						13	1
MUNSTER	84.29	38.4	12	34	-1							
STRASBOURG	84.67	41.8	12	41	4	23	1	-3			24	4 PS
ROSELEND	84.85	44.9	12	36	-2							
SKALSTUGAN	85.57	26.6	12	40	-1							
STUTTGART	85.65	41.5	12	40	-2	23	13	0			29	3 SS
PAVIA	85.96	45.1				23	36	20			29	1 SS
COPENHAGEN	86.73	34.4				23	28	4			23	13 SKS
JENA	86.87	39.2	12	47	-1	23	22	-3			29	24 SS
HALLE	87.02	38.6	12	59	11	23	16	-11				
FLORENCE X.	87.61	46.3	13	37	46	23	46	14				
COLLMBERG	87.70	38.7	12	50	-2						13	48
PADOVA	87.82	44.7									24	22
KIRUNA	88.07	21.7	13	3	10							
KASPERSKE H.	88.41	40.8	12	55	0							
UPPSALA	88.72	29.8	12	55	-1	23	46	3			23	20 SKS
ROME	88.77	48.1				23	53	10			29	43 SS
PRUHONICE	88.89	39.9	13	2	5	23	47	3				
TRIESTE	89.09	44.2				23	49	3			13	42
BYRD STATION	89.25	186.0	12	58	-1							
LJUBLJANA	89.55	43.7	13	1	1						13	42
BRATISLAVA	90.88	41.3	13	7K	0							
HURBANOVO	91.66	41.5	13	15	5							

MESSINA	91.72	51.3							25	16	
SOUTH POLE	97.29	180.0	13	35	-1						
ISTANBUL KA.	101.04	45.8				24	41	9	18	6	PP
KSARA	108.72	50.7							18	52	
TUKUBASAN	121.12	320.3							30	6	SP
MATUSIRO	122.09	321.8							37	24	SS
RIVERVIEW	124.12	234.0							20	47	PP
BRISBANE	124.17	241.9							26	17	
CHARTERS TS.	131.24	249.8	19	23	9						
QUETTA	132.49	36.8	19	18	1						
POONA	145.22	42.1	19	40A	1						
HONG KONG	146.37	331.5	19	55	14				20	41	
SHILLONG	146.82	9.5	19	41A	-1						
DARWIN	146.90	258.6	19	50	8						
MANILA	148.06	313.2	19	57	13				22	47	
MUNDARING	149.98	212.8	19	52	5						

NOVEMBER 14 10.H 2.M 29.S EPICENTRE 35.51 139.34 DEPTH= 153.KM

A=-0.61893 B= 0.53155 C= 0.57825 D= 0.6515 E= 0.7586
G=-0.4387 H= 0.3767 K=-0.8159 HT= -0.1

DEPTH OF FOCUS= 0.019R

SE= 1.96

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
YOKOHAMA	0.26	107.6	0	21A	-1	0	37	-1				
TOKYO C.M.O.	0.37	62.8	0	22A	0	0	38	-1				
HONGO	0.40	60.1	0	22	0	0	38	-1				
HUNATU	0.47	268.9	0	21	-2	0	37	-3				
AJIRO	0.50	203.5	0	21A	-2	0	27	-13				
MISIMA	0.50	219.7	0	22A	-1	0	37	-3				
TITIBU	0.52	335.5	0	23	0	0	39	-1				
KUMAGAYA	0.64	2.7	0	23K	0	0	40	-1				
KOHU	0.66	284.3	0	23A	0	0	38	-4				
MERA	0.71	145.8	0	22A	-2	0	39	-3				
OSIMA	0.74	177.6	0	22A	-2	0	39	-3				
MAEBASI	0.92	346.1	0	25K	0	0	43	-1				
TUKUBASAN	0.94	40.7	0	25	0	0	43	-1				
SHIZUOKA	0.94	235.4	0	25A	0	0	43	-1				
KAKIOKA	0.99	43.2	0	24K	-1	0	42	-2				
OIWAKE	1.04	322.0	0	26	1	0	45	0				
UTUNOMIYA	1.12	22.2	0	27K	1	0	45	-2				
IIDA	1.23	270.9	0	28A	1	0	48	-1				
TYOSI	1.25	79.9	0	28A	0	0	49	0				
MITO	1.26	46.2	0	28K	0	0	49	0				
OMAESAKI	1.29	225.7	0	28	0	0	49	-1				
MATUMOTO	1.34	303.9	0	28K	-1	0	50	-1				
MATUSIRO	1.38	318.5	0	29K	0	0	49	-2				
NAGANO	1.48	321.7	0	30K	0	0	51	-2				
SHIRAKAWA	1.76	23.5	0	33K	0	0	59	1				
TAKADA	1.82	331.2	0	35K	1	1	2	3				
ONAHAMA	1.91	40.8	0	35K	1	1	1	0				
NAGOYA	1.97	260.8	0	35K	0	1	0	-2				
TOYAMA	2.10	305.0	0	38K	1	1	7	2				
GIHU	2.10	267.7	0	37	0	1	4	-1				
KANAZAWA	2.41	295.8	0	42	1	1	13	1				
HUKUSIMA	2.41	21.7	0	41	0	1	12	0				
NIIGATA	2.42	354.5	0	41K	0	1	15	3				
KAMEYAMA	2.44	255.2	0	41	0	1	11	-2				
TU	2.45	251.6	0	41	0	1	13	0				
HIKONE	2.54	265.5	0	45	3	1	14	-1				
HUKUI	2.59	282.9	0	43K	0	1	13	-3				
AIKAWA	2.65	341.0	0	43K	-1							
TSURUGA	2.67	273.9	0	44	0	1	14	-4				
WAZIMA	2.71	314.2	0	45K	1							
YAMAGATA	2.85	16.1	0	47K	1	1	17	-5				
OWASE	2.96	241.9	0	50	3	1	21	-3				
KYOTO	3.00	261.6	0	49	1	1	20	-5				
NARA	3.00	255.0	0	48	0	1	24	-1				
SENDAI	3.02	23.9	0	48K	0	1	22	-3				
ABUYAMA	3.16	259.4	0	49A	-1							
MAIZURU	3.23	270.4	0	47	-4	1	25	-5				
OSAKA	3.24	255.8	0	52	1	1	28	-2				
ISINOMAKI	3.32	27.9	0	52K	0	1	26	-6				

SAKATA	3.41	6.4	0	54K	1						
KOBE	3.51	257.6	0	44	-11	1	20	-17			
SIOMISAKI	3.60	236.2	0	55	-1	1	36	-3			
WAKAYAMA	3.66	250.8	0	57	0	1	36	-4			
TOYOOKA	3.69	271.6				1	33	-8			
SUMOTO	3.82	253.5	0	58	-1	1	43	-1			
MIZUSAWA	3.88	21.0	0	59	0	1	41	-4			
TOKUSIMA	4.17	251.2	0	45	-18	1	41	-11			
TOTTORI	4.21	271.5	1	2	-2	1	41	-12			
AKITA	4.25	7.9	1	5	1	1	55	1			
MORIOKA	4.43	18.6	1	7	0	1	58	0			
MIYAKO	4.63	26.0	1	8	-1	1	58	-5			
MUROTO	4.83	243.6	1	10	-2	2	4	-4			
YONAGO	4.89	270.8	1	56	43	2	49	40			
SAIGO	4.93	279.8	1	24	11	2	20	10			
MATSUE	5.12	271.1	0	55	-21						
KOTI	5.18	249.5	1	16	-1	2	12	-4			
HATINOHE	5.30	18.4	1	18	0						
AOMORI	5.42	11.6	1	24	4	2	24	2			
MATUYAMA	5.66	254.8	1	25	2	2	32	5			
HAKODATE	6.39	9.6	1	32	-1						
MORI	6.65	7.9	1	37	1						
MURORAN	6.92	10.1	1	38	-2						
URAKAWA	7.15	21.0				3	0	-3			2 38
TOMAKOMAI	7.32	13.1									2 1
HUKUOKA	7.64	258.0				3	16	1			3 57
KUMAMOTO	7.65	251.9									2 10
SAPPORO	7.71	11.0	1	49	-1						
OBIHIRO	7.98	20.8	1	52	-2						
KUSIRO	8.43	26.2	1	56	-4						3 24
NEMURO	9.18	29.8									3 42
Y.-SAKHLINSK	11.77	11.4	2	40	-4						
SHILLONG	41.73	269.8	7	36A	1						
PORT MORESBY	45.27	169.1	8	2	-2						
FRUNSE	49.61	299.1	8	37	0						
COLLEGE	51.27	31.5	8	51	1						
SVERDLOVSK	55.19	319.0	9	17	-2						
CHARTERS TS.	55.68	172.1	9	21	-1						
MOULD BAY	58.46	16.0	9	41A	-1						
QUETTA	59.81	287.3	9	50A	-1						
ALERT	61.75	3.2	10	3A	-1						
RESOLUTE	64.49	13.8	10	21A	-1						
SODANKYLA	65.71	336.9	10	28A	-2						
KIRUNA	67.34	338.9	10	39A	-1						
MOSCOW	67.47	323.2	10	41	0						
NURMIJARVI	70.49	331.5	10	59A	-1				11	34	
SKALSTUGAN	72.71	338.0	11	12A	-1						
SHASTA	73.36	51.7	11	18	2						
UPPSALA	73.58	333.4	11	16A	-1						
HUNGRY HORSE	74.03	41.7	11	22	2				12	0	
MINERAL	74.05	51.7	11	21A	1						
BERKELEY	74.98	54.2	11	27A	1						
RENO	75.65	51.6	11	31A	2						
LICK	75.68	54.3	11	31A	1						
BUTTE	76.22	43.0	11	33	0						
GOTEBORG	77.17	334.0	11	33	-5						
EUREKA	78.11	49.9	11	45	2				12	35	14 51 PP
PASADENA	79.82	55.4	11	54	2						
RACIBORZ	80.19	326.0	11	55	1						
FLAMING GRGE	81.19	45.6	12	2	2						
COLLMBERG	81.57	329.3	12	1A	-1				12	38	12 7 PCP
PRUHONICE	81.89	327.6	12	4	1						12 39
BRATISLAVA	82.06	325.1	12	4	0						
JENA	82.44	329.7	12	5	-1						
KASPERSKE H.	82.95	327.5	12	9	0						
LARAMIE	83.12	43.4	12	10	0						
BENSBERG	84.17	331.9	12	15	0				12	52	
HEIDELBERG	84.79	330.1	11	48	-30						
LJUBLJANA	84.81	325.0	12	18A	0						
STUTTGART	85.06	329.5	12	19	0						
FLORENCE X.	88.05	325.2	12	9	-25						
ROSELEND	88.33	328.3	12	37	2						
MANHATTEN	89.50	40.1	12	41	0						
WICHITA MTS.	91.66	44.3	12	51	0						
ROLLA	92.88	38.1	12	56	0						
FAYETTEVILLE	93.08	40.7	12	58K	1						
SOUTH POLE	125.33	180.0	18	42	0						
BYRD STATION	126.65	167.7	18	43	-2						19 24

LA PAZ 149.05 59.4 19 38 12

NOVEMBER 14 17.H 14.M 7.S EPICENTRE -5.78 104.04 DEPTH= 64.KM

A=-0.24135 B= 0.96526 C=-0.10011 D= 0.9701 E= 0.2426
G= 0.0243 H=-0.0971 K=-0.9950 HT= 7.0

DEPTH OF FOCUS= 0.005R

SE= 2.04

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LEMBANG	3.71	106.5									0	58	PG
MEDAN	10.73	330.0	2	31	-2						4	37	
NHATRANG	18.61	16.0	4	16	2						4	22	*SP
MANILA	26.43	39.6	5	37	5	10	1	2					
MUNDARING	28.43	157.9	5	50	0	11	19	48					
CHITTAGONG	30.42	337.2	6	5	-3								
KUNMING	30.74	357.7									10	23	
VISHAKHAPTNM	31.06	319.1	6	35	21						11	15	
SHILLONG	33.33	339.7	6	32A	-1								
CHENGTU	36.24	360.0				12	33	-1					
CHATRA	36.30	334.0	6	59A	0								
LHASA	37.37	341.2	7	10	2						12	50	
LANCHOW	41.61	359.7	7	46A	3						13	33	
NEW DELHI	42.85	324.3	7	54A	1								
ADELAIDE	43.19	136.9	7	57A	1						9	46	PCP
CHARTERS TS.	43.39	113.2	7	59	2	14	20	0					
LAHORE	46.71	324.5	8	25	1								
PEKING	46.94	12.8	8	28A	2								
WARSAK DAM	50.09	324.4	8	53	3								
ABUYAMA	50.18	34.0	8	52A	1								
QUETTA	50.42	317.3	8	55	2								
CANBERRA	50.70	131.7	8	56A	1						10	13	PCP
BRISBANE	51.01	120.7	9	0	3	16	11	3					
TARRALEAH	52.26	140.7	9	7	0						10	19	PCP
SAVANNAH	52.43	139.8	9	9K	1								
MOORLANDS	52.80	140.5	9	9	-2								
MATUSIRO	52.87	34.6	9	10A	-1						10	20	PCP
CHANGCHUN	52.99	19.2	9	13A	1								
ULAN-BATOR	53.53	2.4	9	17A	1								
ANDIJAN	54.67	330.7	9	26	2	17	1	3					
STALINABAD	54.93	326.4	9	24	-2								
FRUNSE	55.27	333.9	9	30	1								
HONIARA	55.49	97.4	9	29	-1								
TANANARIVE	56.48	251.2	10	1	24								
TASHKENT	56.64	329.1	9	38	0	17	23	-1					
IRKUTSK	57.83	0.2	9	48	1								
Y.-SAKHLINSK	62.72	28.8	10	20	0								
MACQUARIE I.	65.49	148.4	10	39	1								
MAWSON	67.69	195.8	10	52	0						11	12	
YAKUTSK	70.45	12.5	11	10A	1								
TIFLIS	71.66	317.3	11	19A	3								
SVERDLOVSK	71.72	336.6	11	18A	1								
KARAPIRO	71.89	127.9	11	19	1								
CHATEAU	72.04	129.2	11	19	0								
TUAI	73.24	128.7	11	26	0								
BULAWAYO	74.37	250.8	11	33A	1								
PETROPAVLOVK	74.44	30.7	11	31	-2								
BROKEN HILL	74.63	256.7	11	36	2								
LWIRO	75.09	269.2									12	46	
KSARA	75.36	307.0	11	42	4								
CAPE HALLETT	77.40	163.3	11	57	8								
SCOTT BASE	78.79	168.9	11	58	1								
MOSCOW	81.80	328.4	12	15	2								
ISTANBUL UN.	82.60	312.5									19	47	
SOUTH POLE	84.25	180.0	12	26	0								
NURMIJARVI	89.79	330.9	12	54A	2						13	22	
SODANKYLA	90.48	337.8	12	56A	0								
BYRD STATION	91.56	173.1	13	2	1						13	24	
KIRUNA	92.90	337.8	13	8A	1								
UPPSALA	93.15	329.7	13	9A	1								
PRUHONICE	94.05	319.7	13	14	2								
KASPERSKE H.	94.63	318.8	13	16	1								
COLLMBERG	95.12	320.9	13	19	2								
SKALSTUGAN	95.92	333.3	13	22A	2								

ROSELEND	99.28	315.2					17 26	
COLLEGE	102.87	24.6					18 59	
RESOLUTE	110.29	5.3	18	26	2			
HUNGRY HORSE	126.66	30.8	18	59	3			
EUREKA	130.79	41.1	19	0	-4		21 8	PP
PASADENA	131.85	48.4	19	11	5			
FLAMING GRGE	133.99	35.5	18	55	-15			
DUBUQUE	141.17	17.4					21 30	PP
MANHATTEN	141.87	26.3	19	21	-3			
WICHITA MTS.	144.42	33.0	19	29A	0		24 5	
ST. LOUIS 1	144.83	19.6	19	30	1			
BLOOMINGTON	145.41	14.5	19	33	3			
FAYETTEVILLE	145.51	26.6	19	33A	2		20 0	
MORGANTOWN	146.11	5.5	19	35	3			
C. GIRARDEAU	146.26	19.7	19	34	2			
LITTLE ROCK	147.41	25.5	19	36	2			
CHAPEL HILL	149.87	5.0					19 45	
COLUMBIA	151.53	8.9	19	50	10			
LA PAZ	156.54	199.2	19	54	7			
SAN JUAN	164.22	323.3	19	28	-27			

NOVEMBER 15 7.H 17.M 6.S EPICENTRE 42.79 145.50 DEPTH= 0.KM

A=-0.60666 B= 0.41702 C= 0.67680 D= 0.5665 E= 0.8241
G=-0.5577 H= 0.3834 K=-0.7362 HT= -2.7

SE= 2.64

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
NEMURO	0.55	6.5	0	19K	4	0	27	2				
KUSIRO	0.83	283.9	0	20K	1	0	30	-2				
ABASHIRI	1.52	324.7	0	34K	6	0	50	1				
HIROO	1.69	253.3	0	34K	3	0	55	2				
OBIHIRO	1.69	275.3	0	33K	2	0	49	-5				
URAKAWA	2.11	253.3	0	40K	3	1	5	1				
ASAHIGAWA	2.49	294.6	0	46K	4	1	15	1				
TOMAKOMAI	2.89	268.2	0	52	4	1	24	0				
KURILSK	2.98	34.2	0	53	4	1	27	1				
RUMOE	3.06	293.7	0	53K	3	1	30	2				
SAPPORO	3.06	276.7	0	53K	3	1	26	-2				
MURORAN	3.37	263.6	0	58K	3	1	36	0				
HAKODATE	3.65	256.1	1	1A	2	1	39	-4				
MORI	3.71	261.0	1	2	2	1	42	-3				
HATINOHE	3.73	234.1	1	2A	2	1	42	-3				
WAKKANAI	3.81	315.1	1	5	4	1	58	11				
SUTTSU	3.87	272.0	1	4	2	1	53	4				
AOMORI	4.04	242.4	1	7A	3	1	52	-1				
MIYAKO	4.11	221.5	1	6A	1	1	51	-4				
MORIOKA	4.49	228.0	1	13A	2	2	0	-4				
Y.-SAKHLINSK	4.67	336.0	1	14	1	2	13	4				
MIZUSAWA	4.93	223.6	1	17	0	2	9	-7				
AKITA	5.09	234.8	1	23	4	2	20	0				
ISINOMAKI	5.39	217.5	1	24A	0	2	22	-5				
SENDAI	5.71	219.3	1	29A	1	2	29	-6				
SAKATA	5.79	229.8	1	30	1	2	40	3				
YAMAGATA	5.99	222.6	1	32A	0	2	37	-5				
HUKUSIMA	6.33	219.0	1	37	0	2	44	-7				
UGLEGORSK	6.73	340.4	1	45	3	3	5	4				
ONAHAMA	6.82	212.7	1	42A	-2	2	55	-8				
NIIGATA	6.92	227.5	1	47A	2	3	3	-2				
SHIRAKAWA	6.96	217.3	1	46	0	2	59	-8				
AIKAWA	7.29	231.7	1	52	2	3	13	-2				
MITO	7.48	212.9	1	52A	-1	3	8	-12				
UTUNOMIYA	7.59	216.7	1	55A	1	3	17	-5				
KAKIOKA	7.73	213.8	1	54A	-2	3	14	-12				
TUKUBASAN	7.77	214.2	1	55	-2	3	16	-11			2	18
TYOSI	7.92	208.6	1	52	-7	3	21	-10				
TAKADA	7.95	226.8	2	1A	1	3	26	-5				
MAEBASI	8.08	220.0	2	2A	1	3	28	-6				
KUMAGAYA	8.14	217.5	2	2A	0	3	30	-6				
NAGANO	8.30	225.0	2	6A	2	3	35	-5				
HONGO	8.34	214.0	2	5	0						3	31
TOKYO C.M.O.	8.38	214.0	2	4A	-2	3	35	-7				
OIWAKE	8.38	222.0	2	6	0						3	56
MATUSIRO	8.39	224.4	2	6A	0	3	33	-9				

TITIBU	8.42	218.3	2 6	0	3 38	-5	
WAZIMA	8.52	233.5	2 9	2	3 47	2	
YOKOHAMA	8.63	213.6	2 8A	-1	3 36	-12	
MATUMOTO	8.74	224.2	2 12	1	3 51	0	
TOYAMA	8.82	229.2	2 13A	1	3 48	-5	
KOHU	8.91	219.4	2 14A	1	3 50	-5	
HUNATU	8.95	217.9	2 13	-1	3 49	-6	2 40
MERA	9.01	211.2	2 13	-1	4 2	4	
AJIRO	9.19	214.9	2 15	-2	3 52	-10	
TAKAYAMA	9.19	226.6	2 18	1			2 51
MISIMA	9.19	215.8	2 16	-1	3 51	-11	
KANAZAWA	9.25	230.4	2 17	-1			
OSIMA	9.32	212.8	2 17	-2	3 53	-12	
IIDA	9.38	221.9	2 19K	0	4 4	-3	
HUKUI	9.83	229.9	2 26	0	4 17	-1	3 0 PP
OMAESAKI	9.95	217.2	2 27K	0			
VLADIVOSTOK	9.98	276.5	2 28	0	4 16	-6	
GIHU	10.01	225.5	2 29	1	4 16	-7	
NAGOYA	10.09	223.9	2 29A	0	4 31	7	
TSURUGA	10.21	228.8	2 31K	0	4 25	-2	
HIKONE	10.39	226.8	2 34A	1	4 26	-6	
KAMEYAMA	10.59	224.6	2 36	0	4 40	3	
HATIDYOZIMA	10.66	206.8	2 36	-1	4 24	-14	
TU	10.69	223.9	2 41	4			
MAIZURU	10.72	230.4	2 39A	1	4 33	-7	
SEVERO-KUR.	10.72	39.0	2 40	2			5 4
KYOTO	10.86	227.6	2 41A	1	4 56	13	
OKHA	10.91	351.9	2 42	2			4 54
TOYOOKA	11.00	232.3	2 42A	0	4 40	-7	3 20
ABUYAMA	11.06	227.6	2 42A	0			
NARA	11.06	226.2	2 42	0	4 55	7	
OSAKA	11.24	227.0	2 44A	-1	4 56	3	5 32
OWASE	11.34	223.0	2 39	-7	4 54	-1	
TOTTORI	11.39	234.1	2 48	1	4 50	-6	
KOBE	11.41	228.2	2 46	-1	4 55	-2	
SAIGO	11.47	239.0	2 50	2	5 0	2	
WAKAYAMA	11.76	226.8	2 51A	-1	5 36	31	
SUMOTO	11.81	227.9	2 51A	-2	5 29	22	6 11
YONAGO	11.95	236.1	2 53A	-2	4 58	-12	
HIMEJI	11.98	230.0	2 50	-5			
SIOMISAKI	12.05	222.6	2 54	-2	5 33	21	6 49
MATSUE	12.11	236.9	2 58	1			5 8
TOKUSIMA	12.20	228.1	3 2	4			
TAKAMATU	12.31	230.4	2 57	-2	5 29	11	
TSURUGISAN	12.67	229.0	3 1	-3			
TORISIMA	12.97	200.4	3 4	-4	5 20	-14	
MUROTO	13.03	226.8	3 8	-1			5 55
KOTI	13.16	229.5	3 9A	-2	5 43	4	
HIROSIMA	13.22	234.9	3 11A	-1	5 37	-4	
MATUYAMA	13.40	232.6	3 13	-1	5 58	13	
UWAZIMA	13.95	231.1	3 20	-1	6 20	22	
SIMIDU	14.05	228.8	3 21	-2	6 9	9	
OOITA	14.50	233.4	3 30A	2	6 25	14	
CHANGCHUN	14.74	280.9	3 30A	-1	6 10	-7	
HUKUOKA	15.01	237.2	3 35A	0	6 40	17	
ASOSAN	15.06	233.8	3 36	0	6 22	-2	8 48
SAGA	15.28	236.5	3 37A	-2			8 25
ITUHARA	15.30	241.3	3 38A	-1	6 39	9	
KUMAMOTO	15.33	234.4	3 38A	-1	6 45	14	
MIYAZAKI	15.56	230.4	3 43	1	6 55	19	
UNZENDAKE	15.67	235.2	3 45	1	6 47	8	
NAGASAKI	15.89	236.0	3 47A	0	6 45	1	
KAGOSIMA	16.32	231.6	3 54	2	7 36	42	
TOMIE	16.65	237.9	3 55A	-1			
KLYUCHI	16.76	30.8	3 58	0			7 15
MAGADAN	17.10	9.2	4 2	0	7 13	1	7 22 PS
YAKUSIMA	17.19	229.1	4 2A	-1	7 24	10	
YAKUTSK	21.42	339.4	4 47	-5	8 37	-8	5 13 PP
MAWASHI	22.02	227.1	5 6A	8	9 8	12	
PEKING	22.12	272.8	4 57A	-2	8 51	-7	
ZO-SE	22.58	246.9	5 3A	0	9 5	-2	
NANKING	23.67	251.9	5 15A	1	9 25	-1	
ISIGAKIZIMA	25.47	230.5	5 30	-1			
TAIPEI	26.49	235.7	5 41A	0	10 25	11	
ILAN	26.55	235.0	5 42	1	10 1	-14	
HWALIEN	27.23	234.0	5 49	2	10 32	6	
ULAN-BATOR	27.40	294.2	5 47	-2	10 17	-11	
TAICHUNG	27.66	235.7	6 7	16			
YUSHAN	28.00	234.3	5 56	2	10 37	-1	

HSINKONG	28.04	233.2	5	57	2	10	37	-2			
ALISHAN	28.06	234.6	5	56	1	10	54	15			
TAITUNG	28.43	233.1	6	2	4	10	43	-2			
TAINAN	28.80	234.8	6	9	7						
TAWU	28.89	232.9	5	56	-6	10	47	-5			
IRKUTSK	29.02	303.5	6	2A	-2	10	44	-11	7	9	PPP
GUAM	29.23	181.5	6	22	16						
HENGCHUN	29.24	232.7	6	5	-1						
SIAN	29.67	265.6	6	9A	-1						
LANCHOW	32.63	272.3	6	34	-2	11	45	-6			
CANTON	33.09	243.9	6	42A	2	11	54	-5			
HONG KONG	33.10	241.8	6	41A	1	11	56	-3			
MANILA	35.01	224.2	6	59	3	12	29	1			
CHENGTU	35.05	263.7	6	56	-1	12	22	-7			
KUNMING	39.13	257.2	7	31	0	13	20	-11			
COLLEGE	42.57	35.4	7	59	0	14	20	-3	35	12	PKPPKP
NHATRANG	43.74	236.8	8	10	1	14	40	0			
TOCKLAI	43.97	265.6	8	15	4				9	44	
LHASA	45.12	271.6	8	21A	1	14	58	-2			
SHILLONG	46.78	266.3	8	31	-2	15	15	-8			
RABAUL	47.16	170.9	8	38	2						
KHEYS	47.70	347.2	8	37A	-3	15	22	-14	15	44	PS
CHITTAGONG	48.73	262.9	8	38	-10	15	56	5			
CHATRA	49.51	271.0	8	53A	-1	15	53	-9	10	48	PP
SITKA	50.04	44.5	9	0	2						
FRUNSE	50.52	295.8	9	1	-1	16	11	-5	10	58	PP
CALCUTTA	51.15	265.6	9	8	1	16	21	-3			
KIPAPA	51.36	95.9	9	14	6						
PORT MORESBY	51.95	177.9	9	14A	1	16	36	0	11	15	PP
BOKARO	52.26	268.8	9	13K	-2				15	30	
SVERDLOVSK	53.02	316.7	9	19A	-2				11	29	PP
HONIARA	53.62	162.2	9	28	3				12	43	
ALERT	54.18	4.4	9	28A	-1	16	57	-9			
DEHRA DUN	54.26	280.3	9	30	0	17	1	-6	11	29	PP
TASHKENT	54.74	296.4	9	32	-1	17	7	-6	11	34	PP
PORT BLAIR	55.09	252.0	9	48	12				17	52	
NEW DELHI	55.84	279.1	9	40A	-1	17	20	-8	11	42	PP
RESOLUTE	56.24	16.1	9	42A	-2						
MEDAN	56.99	240.2	9	47	-3	17	40	-3			
VISHAKHAPTNM	57.86	264.7	9	57K	1	17	44	-11	18	4	PPS
ALBERNI	59.07	49.8	10	4	0						
SEHORE	59.07	273.9	10	3	-1	18	4	-7	12	19	PP
THULE	59.13	8.8	10	2	-3						
DJAKARTA	60.06	225.8	10	8	-3	18	14	-9			
VICTORIA	60.25	50.0	10	12	0						
SODANKYLA	60.89	337.2	10	13	-4	18	27	-7	20	19	SCS
TROMSOE	61.29	341.3	10	17	-2						
HYDERABAD	61.60	267.9	10	19	-3	18	32	-11	12	35	PP
PENTICTON	61.92	47.6	10	23	-1						
KIRUNA	62.25	339.4	10	24A	-2	18	44	-7			
QUETTA	62.28	286.5	10	25	-1	18	46	-6			
CORVALLIS	62.46	53.7	9	52	-35						
CHARTERS TS.	62.56	179.2	10	29	1	18	48	-7			
BANFF	63.02	44.3	10	31	0						
MADRAS	63.20	262.9	10	31A	-1	18	59	-4	12	50	PP
ASHKABAD	63.68	298.2	10	33	-2	19	3	-6	14	25	PPP
PORT VILA	63.78	155.7	10	37	1						
POONA	64.29	271.9	10	38A	-1	19	9	-8	12	57	PP
MOSCOW	64.51	323.4	10	39A	-2	19	11	-8	12	48	PP
BOMBAY	64.82	272.9	10	41	-2	19	13	-10	13	3	PP
PULKOVO	64.83	329.6	10	40	-3	19	14	-9	19	58	PS
SHASTA	65.23	56.8	10	45	0						
KOUMAC	65.37	160.6	10	47	1						
HUNGRY HORSE	65.49	46.1	10	48	1	19	7	-24	39	11	PKPPKP
UKIAH	65.64	58.6	10	54	6						
MINERAL	65.92	56.7	10	50A	0						
CALISTOGA	66.33	58.7	10	54A	2						
NURMIJARVI	66.33	332.4	10	50	-2	19	29	-13	11	20	PCP
HELSINKI	66.47	332.0	10	51	-2						
SAN FRANCSCO	66.93	59.4	10	58A	2						
BERKELEY	66.99	59.2	10	58A	1	19	49	-1	27	31	
KODAIKANAL	67.01	262.5	11	55	58				22	1	
BRANNER	67.31	59.6	11	1K	2						
RENO	67.51	56.5	11	1	1						
NOUMEA	67.58	159.0	12	53K	113	23	33	216	16	32	PP
NOUMEA	67.58	159.0	10	54	-6	20	2	5			
SKALSTUGAN	67.68	339.4	10	59A	-2				11	45	
LICK	67.70	59.4	11	4K	3						

BUTTE	67.71	47.5	11	1	0	19	56	-2			39	16 PKPPKP
SUVA	67.79	146.1				20	3	4				
PARAISO	67.85	60.6	11	7A	5							
VINEYARD	68.23	59.7	11	6A	2							
AFIAMALU	68.69	135.0	11	15	8	20	9	-1			24	6 SS
BOZEMAN	68.75	47.0	11	8	0	20	9	-2			39	11 PKPPKP
UPPSALA	69.14	334.8	11	8A	-2	20	6	-9			20	25 PS
FRESNO	69.21	58.9	11	11	0							
TEHERAN	69.47	299.9	11	12	0	20	15	-4				
TIFLIS	69.73	308.4	11	14A	0	20	19	-3			13	44 PP
EUREKA	69.88	54.6	11	16	1	20	25	1	11	28	39	6 PKPPKP
GORIS	70.24	305.7	11	16A	-1	20	23	-5			13	50 PP
SALT LAKE C.	71.47	51.4	11	25	1	20	43	0				
PASADENA	71.89	60.1	11	28A	1	20	48	0			11	48 PCP
BERGEN	72.14	340.5	11	57	29	21	16	26				
GOTEBORG	72.61	335.9	11	29A	-2	20	47	-9				
FLAMING GRGE	72.77	50.0	11	32	0	20	56	-2				
BOULDER CITY	72.81	56.8	11	33	1							
REYKJAVIK	72.96	354.3	11	34	1	20	59	-1				
SIDA	72.98	352.4	11	34	1							
SIMFEROPOL	73.38	316.4	11	35A	-1	20	58	-6			14	16 PP
WARSAW	73.90	328.1	11	37	-2	20	59	-11			14	22 PP
GLEN CANYON	74.13	54.3	11	41	1	21	5	-8			12	50
COPENHAGEN	74.15	334.5	11	39A	-1	21	8	-5	11	49	14	22 PP
LWOW	74.53	325.0	11	42	0	21	11	-6			14	16 PP
BACAU	75.71	321.3	11	44	-5	21	23	-7			21	45
KRAKOW	76.03	327.3	11	50	-1	21	27	-7				
FOCSANI	76.22	320.6	11	53	1	21	33	-3				
RIVERVIEW	76.42	175.2	11	54A	1	21	40	2	12	7	14	56 PP
RACIBORZ	76.69	328.2	11	54	-1						12	12 PCP
ABERDEEN	76.76	342.5	11	54	-1	21	36	-6			14	57 PP
CAMPULUNG	77.55	321.4	12	0	1	21	49	-1				
COLLMBERG	77.61	331.7	11	58A	-2	21	43	-8			14	55 PP
ADELAIDE	77.63	185.7	11	59	-1	21	48	-3			12	16 PCP
BUCHAREST	77.69	320.3	12	0A	0	21	46	-6	12	28	26	56 SS
TUCSON	77.76	57.4	12	2	2	21	55	2			30	25 PKKP
TUCSON TELE.	77.77	57.3	12	2	2							
CANBERRA	77.80	177.1	12	2A	1	21	52	-1	12	16	26	58 SS
HALLE	77.80	332.4	12	0	-1	21	45	-8				
PRAGUE	78.12	330.2	12	3	1	21	52	-5			28	14 SS
PRUHONICE	78.15	330.1	12	2A	-1	21	53	-4			28	14 SS
EDINBURGH	78.15	342.6	11	54	-9	21	47	-10				
WITTEVEEN	78.37	335.9	12	4A	0							
JENA	78.41	332.3	12	3	-1	21	52	-8	12	19	14	57 PP
HURBANOVO	78.46	326.9	12	7	3	21	59	-1				
BRATISLAVA	78.66	327.6	12	5A	0	21	58	-4			15	7 PP
ISTANBUL KA.	78.74	316.3	12	5A	-1	21	59	-4			15	2 PP
MUNSTER	78.82	335.0	12	5	-1	22	4	0				
DURHAM	78.84	341.3	12	6K	0	21	59	-5	12	19	22	19 SKS
CHEB	78.85	331.4	12	6	0	21	58	-6				
VIENNA-H.	78.88	328.1	12	6A	-1	22	0	-5			12	16 PCP
TIMISOARA	78.88	323.9	12	2	-5	22	0	-5			14	51 PP
MUNDARING	79.10	205.0	12	8	0	22	5	-2				
PERTH	79.20	205.4	12	11	3	22	9	1			27	10 SS
KASPERSKE H.	79.21	330.2	12	7	-1	22	3	-5				
DE BILT	79.44	336.4	12	3	-7				12	12		
BENSBERG	79.83	334.7	12	10A	-2	22	8	-7	12	24	15	17 PP
BELGRADE	79.95	323.7	12	11A	-1	22	10	-6			12	29 PCP
FELDBERG	80.06	333.6	12	24A	11	22	35	18				
KSARA	80.26	307.3	12	13A	-1	22	17	-2			15	16 PP
HEIDELBERG	80.68	333.0	12	15A	-1	22	18	-6				
MANHATTEN	80.90	44.1	12	16A	-1	22	19	-7			15	23 PP
ZAGREB	81.01	326.9	12	16	-2	22	20	-7				
STUTTGART	81.03	332.4	12	17A	-1	22	20	-7			15	22 PP
KARLSRUHE	81.12	333.0	12	18	-1	22	30	2				
DUBUQUE	81.22	38.4	12	20A	1	22	23	-6	12	32	15	28 PP
TUBINGEN	81.31	332.4	12	19A	-1	22	23	-7				
LJUBLJANA	81.40	327.9	12	19A	-1	22	22	-9			15	23 PP
KEW	81.54	339.2	12	21	0	22	28	-4	12	33	15	19 PP
EBINGEN	81.64	332.3	12	21A	0							
STRASBOURG	81.70	333.2	12	20	-2	22	24	-10			15	24 PP
RAVENSBURG	81.76	331.7	12	21A	-1	22	30	-5				
TRIESTE	82.04	328.1	12	23	0	22	23	-15			15	30 PP
TITOGRAD	82.37	322.9	12	24	-1	22	53	12			25	17
ONERAHI	82.50	156.7	12	34	8							
CHUR	82.59	331.2	12	25	-1						22	36
BASLE	82.68	332.7	12	26	-1						22	50
PADOVA	82.96	329.1	12	29	1	22	39	-8			15	54 PP

PARIS	83.16	336.4	12	29	0	22	43	-6			15	40 PP
WICHITA MTS.	83.18	48.3	12	30A	1	22	46	-3			15	39 PP
CHIHUAHUA	83.22	57.1	12	38	9	22	56	6				
NEUCHATEL	83.35	332.9	12	29	-1	22	45	-6				
AUCKLAND	83.66	156.7				22	58	4			28	44 SS
ATHENS	83.78	317.5	12	31A	-1	22	48	-7				
BOLOGNA	83.93	328.9	12	41	8						21	54
FOLINIERE	84.04	338.1	12	37	3							
JERSEY	84.10	339.3	12	33	-1	22	51	-7				
SAVANNAH	84.14	178.7	12	37	3						13	30
PAVIA	84.15	330.6	12	22A	-12	22	36	-23			30	24 SSS
ROLLA	84.25	42.1	12	34A	-1	22	45	-15			15	52 PP
FLORISSANT	84.29	40.5	12	36A	1	22	48	-12				
GARCHY	84.35	335.3	12	35	0	22	57	-3			23	40 PS
ROSELEND	84.43	331.7	12	36	0	23	16	14			12	42 PCP
ST. LOUIS 1	84.48	40.6	12	36A	0	22	53	-9			15	51 PP
FAYETTEVILLE	84.49	44.6	12	36	0	22	24	-38			16	9 PP
PRATO	84.55	328.7	12	37	1	22	56	-7				
FLORENCE X.	84.57	328.6	12	32	-4	23	11	8				
TARRALEAH	84.71	179.3	12	40	3							
SHAWINIGAN	84.79	25.4	12	37A	0							
CHIAVARI	84.84	330.1				24	2	56			18	46
TARANTO	84.84	323.0	12	36	-2	23	21	15				
MOORLANDS	84.86	178.7	12	40	2				12	54		
KARAPIRO	84.86	156.6	12	42	4							
BREBEUF	85.45	26.4	12	40	-1	22	55	-17				
ROME	85.68	326.8	12	40A	-2	23	7	-7	13	3	15	59 PP
CLERMONT-FD.	85.68	334.6	12	37	-5	23	10	-4				
BLOOMINGTON	85.78	37.9	12	42	0	23	1	-14			15	59 PP
ISOLA	85.78	331.4	12	40	-2	23	26	11				
HELWAN	85.78	307.4	12	42	0	23	4	-11				
C. GIRARDEAU	85.86	40.9	12	42	-1	23	11	-5			16	4 PP
CLEVELAND	86.01	33.4	12	45	1	23	6	-11				
CHATEAU	86.04	157.0	12	46	2							
TUAI	86.14	155.7	12	42	-2							
LITTLE ROCK	86.46	44.3	12	46	0							
MESSINA	87.46	322.8	12	48A	-3	23	22	-9	12	59	16	14 PP
WELLINGTON	87.75	158.4	12	58	6	23	18	-16			16	20 PP
PENNSYLVANIA	88.04	31.4	12	53K	0	23	33	-3			16	32 PP
MORGANTOWN	88.22	33.4	12	55	1	23	34	-4				
CUGLIERI	88.69	328.4	13	34	38	25	9	87				
BAGNERES	89.04	335.4	12	54	-4	23	36	-10			29	0 SS
PALISADES	89.32	28.7	13	1A	2	23	25	-23	13	14	16	29 PP
WASHINGTON	89.99	31.9	13	1	-2						16	17 PP
ROXBURGH	90.41	163.5				23	34	-24			29	58 SS
TORTOSA	90.97	334.2	13	9	2	23	55	-8				
COLUMBIA	92.53	37.1	13	15	1	23	42	-35			16	52 PP
TOLEDO	93.22	337.0	13	17A	0	24	10	-13			16	39 PP
SERRA PILAR	93.25	340.7	13	17K	-1	24	20	-3			17	3 PP
ALICANTE	93.53	333.8	13	21	2	24	24	-2			17	5 PP
COIMBRA	94.09	340.3	13	20K	-1	24	11	-19			17	7 PP
TACUBAYA	94.22	58.8	13	37	15	24	47	15			17	37 PP
ALMERIA	95.53	334.7	13	26A	-2	24	19	15			17	17 PP
GRANADA	95.58	335.7	13	37	9	24	18	14			17	25 PP
LISBON	95.67	340.3	13	28A	-1	24	23	18	13	38	17	16 PP
VERA CRUZ	96.28	56.8				25	6	58			15	30
MERIDA	98.80	50.9	17	27	224	24	15	-6			17	57 PP
COMITAN	100.98	55.7									25	30
BENI ABBES	101.60	331.8	13	54	-2	24	50	15			17	59 PP
TANANARIVE	108.33	261.0	14	24	777	25	1	-4			19	1 PP
LWIRO	110.91	287.1	14	27	-248							
SAN JUAN	112.53	32.6	18	33	-5							
BANGUI	112.90	300.0	18	24	-15						29	17
ST. KITTS	114.77	29.8	18	37	-6	19	6	-385				
GALERAZAMBA	114.97	45.0									25	22 PP
ANTIGUA	115.28	29.0	18	46	2							
CAPE HALLETT	116.10	171.8	18	48K	3	25	36	0			27	0 SKKS
FORT FRANCE	117.75	29.4									19	51
CARACAS	119.25	37.2	18	53K	2	25	41	-6				
BROKEN HILL	119.46	277.6	18	54K	2							
CHINCHINA	119.63	48.9	18	55K	3	25	46	-3			20	20 PP
BOGOTA	120.77	47.6	19	1	7	25	56	4			20	37 PP
MBOUR	120.88	340.1				26	18	25			20	24 PP
SCOTT BASE	121.07	174.9	18	57A	2	25	58	5			20	39 PP
TRINIDAD	121.41	31.4	18	57	2							
BULAWAYO	122.99	272.4	18	59K	1							
LCO. MARQUES	123.54	264.2	19	1A	1						19	56 PP
CHANGALANE	124.03	264.2	19	1	0							
MAWSON	126.08	208.1	19	4A	0				19	18	21	8 PP

LUANDA	126.35	294.8	19 6A	1			21 3	PP
PRETORIA	126.66	267.3	19 37	31				
KIMBERLEY	130.85	266.3	19 10	-4				
GRAHAMSTOWN	131.92	260.1	19 16	0				
HERMANUS	137.80	262.9					22 15	PP
LA PAZ	141.18	57.9	19 30	-3			22 7	PP
ANTOFAGASTA	144.79	68.8	19 41	2		19 54		
ARGENTINE I.	152.00	153.6	19 58	8				
PORT STANLEY	161.87	127.5	20 2	-1				

NOVEMBER 16 8.H 19.M 49.S EPICENTRE 18.50 -69.26 DEPTH= 78.KM

A= 0.33609 B=-0.88745 C= 0.31539 D=-0.9352 E=-0.3542
G= 0.1 17 H=-0.2950 K=-0.9490 HT= 5.0

DEPTH OF FOCUS= 0.007R

SE= 2.12

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SAN JUAN	2.98	91.8	0 47	0	1 18	-4		
ST. KITTS	6.32	99.5	1 33A	0	2 42	-2		
HOPE	6.90	268.5	1 52	11				
ANTIGUA	7.19	99.7	1 43	-2	2 59	-7		
BLACK RIVER	7.80	268.5	2 7	14				
CARACAS	8.27	163.9	2 1	1				4 30 SG
FORT FRANCE	8.63	114.6	2 3	-1	3 39	-2		
ST. VINCENT	9.33	123.4	2 11	-3				
BARBADOS	10.72	118.5	2 33	0				
TRINIDAD	10.89	134.7	2 35	0	4 28	-8		
BOGOTA	14.58	199.4	3 29	5	6 11	7		
CHINCHINA	14.81	205.6	3 29	2	6 21	12		
COLUMBIA	18.68	328.0	4 16	1	7 43	6		
CHAPEL HILL	19.39	335.4	4 24	2				
WASHINGTON	21.43	343.1	4 42	-2				
GEORGETOWN	21.43	343.1	4 41	-3				
PALISADES	22.79	351.6	4 57	0	9 12	16		
MORGANTOWN	23.00	338.5	5 1K	2	9 29	29		
BLOOMINGTON	25.47	327.6	5 26	3			6 42	
C. GIRARDEAU	25.83	320.7	5 45A	19				
LITTLE ROCK	26.15	312.9	5 29	0				
HALIFAX	26.47	9.1	5 35A	3			10 41	
ST. LOUIS 1	27.12	322.1	5 38A	0				
BREBEUF	27.17	353.3	5 38	0	10 18	9		
ROLLA	27.65	319.0	5 42	-1			6 30	PP
FAYETTEVILLE	28.12	313.6	5 47A	0				
SHAWINIGAN	28.12	354.9	5 46A	-1				
DUBUQUE	30.06	327.4	6 5K	1			9 39	PCP
WICHITA MTS.	30.65	307.7	6 9	0	11 5	0	6 40 6 56	PP
HUANCAYO	30.94	191.6	6 10	-2				
MANHATTEN	31.39	316.8	6 15	-1				
LA PAZ	34.80	178.1	6 43	-2				
LARAMIE	38.43	314.1	7 16	0			7 48	
TUCSON TELE.	39.66	298.6	7 27	1				
TUCSON	39.73	298.4	7 28	1				
FLAMING GRGE	40.93	311.8	7 36	-1				
GLEN CANYON	41.35	305.3	7 42	2				
BOZEMAN	43.87	317.6	8 0	-1				
BUTTE	44.98	317.4	8 9	0				
EUREKA	45.31	307.6	8 12	0			9 0	10 7 PP
ISABELLA	46.54	301.8	8 23	1				
HUNGRY HORSE	46.81	319.9	8 24	0			9 26	PCP
LLANADA	48.65	302.8	8 38	0				
BANFF	48.86	322.8	8 38	-2				
VINEYARD	49.02	302.9	8 42A	1				
LICK	49.30	303.6	8 40A	-3			9 18	
SHASTA	50.38	307.8	8 50	-2				
PENTICTON	50.61	319.3	8 50	-3				
VICTORIA	52.77	317.4	9 6	-4				
ALBERNI	53.86	318.0	9 15	-3				
RESOLUTE	57.89	352.2	9 43	-3			10 17	
BENI ABBES	61.46	65.3	10 8	-3		10 42	10 57	*SP
MOULD BAY	63.12	348.1	10 19	-3				
ALERT	64.10	1.0	10 24K	-4				
GARCHY	64.71	45.8	11 2	30				

COLLEGE	68.56	333.3	10 54	-3			12 48
SODANKYLA	75.34	23.4	11 57	20			
ARGENTINE I.	83.57	177.9	12 17	-4			
BANGUI	86.62	86.5	13 42	66			
BYRD STATION	101.81	187.9	13 43	-3			
MATUSIRO	119.42	334.8	18 38	-3	19 30		
MAWSON	122.37	160.3	18 42	-5			
SHILLONG	132.50	23.3	19 3A	-3			
CANBERRA	142.27	235.8	19 22	-2			22 46 SKP
CHARTERS TS.	146.48	261.4	19 30	-1			
ADELAIDE	150.25	230.9	19 40	3			

NOVEMBER 16 16.H 3.M 52.S EPICENTRE -19.95 172.89 DEPTH= 11.KM

A=-0.93349 B= 0.11642 C=-0.33918 D= 0.1238 E= 0.9923
G= 0.3366 H=-0.0420 K=-0.9407 HT= 4.7

SE= 2.90

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PORT VILA	4.86	296.3	0 41	-34	0 51	-81		
NOUMEA	6.45	247.6	1 37K	0	2 36	-16		
KOUMAC	8.11	264.2	2 1K	1	3 26	-7		
AFIAMALU	15.84	70.1	3 43	-1	7 33	53		
HONIARA	16.30	308.1	3 44	-6				
KARAPIRO	18.06	173.2	4 14	2				
TUAI	19.14	169.8	4 27	2				
CHATEAU	19.32	173.8	4 32	5				
BRISBANE	19.84	244.3	4 32	-1			4 57	
WELLINGTON	21.32	176.1	4 50	1				
RIVERVIEW	23.75	230.0	5 15K	2				
RABAUL	25.55	305.1	5 37	7				
ROXBURGH	25.63	185.8			10 8	11		
CANBERRA	26.03	229.0	5 33	-2	10 13	10		
PORT MORESBY	26.98	289.2	5 44	1	10 23	4	6 0	6 32 PP
MELBOURNE	30.08	227.7	6 8	-3				
SAVANNAH	30.74	219.4	6 17	0				6 31 *SP
MOORLANDS	31.18	218.3	6 21	0				
TARRALEAH	31.53	219.2	6 26	2				
DARWIN	41.01	274.0	7 45	1				
CAPE HALLETT	52.39	181.0	9 13	-1	16 9	-30		
SCOTT BASE	58.02	181.5	9 53	-2	17 51	-3		12 14 PP
LEMBANG	64.48	271.9	10 40K	1				11 28
MATUSIRO	65.04	329.6	10 44A	2	19 31	8		
BYRD STATION	66.64	169.9	10 50	-2				
MIRNY	67.86	205.2	10 58	-2	19 56	-1		
SOUTH POLE	70.17	180.0	11 12	-2				
ZO-SE	70.99	314.6						20 47
HONG KONG	71.07	303.2			20 45	10		
MAWSON	79.05	201.5	12 4	-2			12 14	
PEKING	79.69	319.3	12 12	3	22 17	7		
KUNMING	81.58	300.5	12 25	6	22 40	10		
CHENGTU	83.11	305.9			22 49	4		
ISABELLA	85.29	49.6	12 39	1				
LANCHOW	85.77	310.6	12 42	2	23 20	8		
EUREKA	88.82	47.1	12 57	2			13 9	15 37 PP
COLLEGE	89.76	15.7	13 0	0				
SHILLONG	90.74	296.8	13 4	0				
GLEN CANYON	90.84	50.9	13 7	2				
PENTICTON	91.19	37.2	12 58	-8				
WICHITA MTS.	99.92	56.7	13 52	6				
BOMBAY	105.36	284.8						26 46
QUETTA	113.17	295.1						19 56
PALISADES	120.14	53.5						30 20 PS
BULAWAYO	126.98	223.4	19 13	9				
KSARA	139.53	299.0	19 33	5				
HELWAN	143.91	293.6						19 51
COLLMBERG	144.95	337.9	19 36	-1				19 58
HALLE	145.14	339.1	19 40	3				20 18
PRUHONICE	145.43	335.2	19 41	3				20 2
JENA	145.75	338.9	19 42	4				20 15
SOFIA	145.80	318.4	19 49	10				
VIENNA-H.	146.00	331.6	19 45	6				
MUNSTER	146.03	343.7	19 47	8				
KASPERSKE H.	146.49	335.1	19 42	2				

BENSBERG	147.07	343.3	19	48	7				20	34	
ATHENS	147.81	310.5	19	46A	4				19	51	PKP2
STUTTGART	148.37	339.2	19	53	10						
LJUBLJANA	148.48	330.6	19	48	5				20	34	
STRASBOURG	149.02	340.7	19	56	12						
BANGUI	150.55	241.7	19	53	7				20	19	PKP2
GARCHY	151.50	345.4	20	14	26				20	22	PKP2
ROSELEND	151.77	337.8	20	7	19						

NOVEMBER 17 19.H 4.M 6.S EPICENTRE -19.49-175.89 DEPTH= 284.KM

A=-0.94099 B=-0.06755 C=-0.33163 D=-0.0716 E= 0.9974
G= 0.3308 H= 0.0237 K=-0.9434 HT= 4.8

DEPTH OF FOCUS= 0.040R

SE= 3.17

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SUVA	5.54	283.0	1	24	0	2	28	-2				
AFIAMALU	6.80	36.0	1	25	-14	2	34	-23				
PORT VILA	15.07	274.1	3	21	0						13	31
NOUMEA	16.73	257.3	3	39	0							
ONERAHI	18.35	205.9	3	55	-1							
TUAI	20.17	195.9	4	8	-6	7	43	4				
CHATEAU	20.99	198.8	4	29	7							
WELLINGTON	23.14	198.1	4	45	2							
HONIARA	25.40	289.8	5	2	-2							
BRISBANE	29.74	248.7	5	40	-2						12	35
RABAUL	34.65	291.9	6	22	-3							
CHARTERS TS.	35.57	262.5	6	32	0	11	50	3				
PORT MORESBY	37.09	280.4	6	46K	1							
SAVANNAH	38.32	226.5	6	58	3							
MOORLANDS	38.62	225.4									7	44
TARRALEAH	39.05	226.0	7	0	-1							
ADELAIDE	42.83	239.3	7	31A	-1							
DARWIN	51.55	269.5	8	39	0							
CAPE HALLETT	53.43	185.2	8	54	1							
SCOTT BASE	59.01	184.2	9	33A	1							
MUNDARING	61.55	243.6	9	49	0							
BYRD STATION	65.31	170.8	10	13	-1							
MATUSIRO	70.60	322.2	10	47K	1							
SOUTH POLE	70.63	180.0	10	47	1							
LEMBANG	75.04	268.0	11	14	2							
SHASTA	77.81	38.7	11	28	0						12	21
CHINA LAKE	77.89	45.0	11	18	-10						12	19
CORVALLIS	79.77	35.2	11	44A	6							
BOULDER CITY	79.85	46.1	11	40	2							
HONG KONG	79.94	297.9	11	42	3	20	32	-45				
TUCSON TELE.	80.87	51.1	11	44	0				12	36		
EUREKA	81.03	42.7	11	43	-2				12	27		
ARGENTINE I.	81.12	156.7	11	34	-11							
MAWSON	83.17	199.3	11	56K	0						12	4 PCP
PENTICTON	84.72	33.1	12	4	1							
FLAMING GRGE	86.07	44.1	12	10	0							
COLLEGE	86.81	11.6	12	13	-1				13	5		
HUNGRY HORSE	87.15	36.1	12	16	1							
WICHITA MTS.	90.99	53.5	12	34	1				13	28		
SHILLONG	100.11	293.5	13	16K	1							
QUETTA	122.60	293.9	18	24	2							
BULAWAYO	133.87	212.7	18	46	3							
NURMIJARVI	136.49	345.4	18	49	1							
BROKEN HILL	138.62	217.2	18	46	-6							
DURHAM	144.51	5.7	19	6K	3							
WITTEVEEN	146.67	357.2	19	11	5							
HALLE	147.46	350.9	19	12	4							
RACIBORZ	147.47	343.0	19	15	7							
COLLMBERG	147.49	349.6	19	13	5				20	10	19	24 PKP2
LWIRO	147.52	231.0	19	15	7						20	31
SKALNATE PL.	147.66	340.1	19	14	6				20	11		
JENA	148.07	351.0	19	11	3				20	10		
KSARA	148.37	303.3	19	16	7							
PRUHONICE	148.46	347.1	19	6K	-3						20	12
BENSBERG	148.50	356.3	19	16	7				20	12		
KASPERSKE H.	149.46	347.7	19	12	1							
JERUSALEM	149.51	299.9	19	19K	8							

BRATISLAVA	149.51	342.7	19 13	2			20 12			
VIENNA-H.	149.64	343.7	19 29	18						
STUTTGART	150.49	353.0	19 14	2			20 17			
FOLINIERE	150.56	6.2	19 21	9						
PARIS	150.72	2.2	19 21	9						
STRASBOURG	150.83	355.0	19 22	9						
LJUBLJANA	152.15	344.4	19 18	3					19 24	PKP2
GARCHY	152.27	1.5	19 25	10			20 31		19 45	PKP2
HELWAN	153.25	298.0	19 28	12						
ROSELEND	153.91	354.4	19 29	12						
MONACO	155.67	354.1	19 31	12						
BANGUI	159.36	225.2	19 25	1					20 5	PP

NOVEMBER 18 6.H 2.M 44.S EPICENTRE -1.22 127.80 DEPTH= 124.KM

A=-0.61284 B= 0.78993 C=-0.02123 D= 0.7901 E= 0.6130
G= 0.0130 H=-0.0168 K=-0.9998 HT= 7.2

DEPTH OF FOCUS= 0.014R

SE= 5.05

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DARWIN	11.48	165.0	2	41	0	4	50	3					
MANILA	17.14	337.4	3	54	1	6	54	-4					
PORT MORESBY	20.89	113.5	4	43A	9	8	46	32					
DJAKARTA	21.50	256.2	4	28K	-12	8	18	-7					
NHATRANG	22.79	306.4	4	42	-10								
RABAUL	24.51	97.4	5	18	9								
CHARTERS TS.	26.02	137.3	5	29	6	10	11	29					
HONG KONG	26.90	331.1	5	24	-7	9	56	-1					
CANTON	27.97	330.6	5	45K	4	10	10	-4					
MEDAN	29.50	279.4	6	7A	13								
MUNDARING	32.48	198.5	6	19	-1								
ZO-SE	32.76	349.5	6	22	-1	11	29	0					
HONIARA	33.00	105.4	6	31	6								
NANKING	34.19	346.3	6	32	-3	11	53	2					
ADELAIDE	35.08	164.3	6	46K	3								
BRISBANE	35.36	139.6	6	53	8	12	0	-9					
KUNMING	35.71	318.9	6	43	-5	12	13	-2					
ABUYAMA	36.64	10.7	6	54K	-2								
MATUSIRO	38.80	13.4	7	11K	-3	13	3	1			9	24	PCP
CANBERRA	39.24	152.1	7	22K	5						7	36	*SP
SIAN	39.49	335.1	7	19	-1	13	12	0					
MELBOURNE	39.70	158.5	7	26	5	13	37	22					
KOUMAC	40.47	120.9	7	34	6								
CHITTAGONG	42.20	305.9	7	26	-16								
PEKING	42.41	346.7	7	43	0	13	56	1					
NOUMEA	43.02	122.0	7	55	7								
PORT VILA	43.04	114.9	7	56	7								
LANCHOW	43.29	331.3	7	50	-1	14	7	-1					
SHILLONG	43.78	310.0	7	47	-8								
TARRALEAH	44.19	160.1	8	2	4				8	14			
LHASA	46.62	314.2	8	13	-4								
VISHAKHAPTNM	47.69	295.4	8	19	-6	15	9	-2			10	6	PP
MADRAS	49.30	288.2	8	30	-8	15	30	-3					
Y.-SAKHLINSK	49.80	13.3	8	40	-2								
ULAN-BATOR	52.23	342.3	8	57	-3								
POONA	56.53	293.1	9	23K	-8								
NEW DELHI	56.77	305.7	9	27A	-6								
DEHRA DUN	56.78	307.9	9	40	7						17	14	
IRKUTSK	56.86	343.0	9	28	-6								
BOMBAY	57.57	293.3	9	33	-6	17	20	-5					
PETROPAVLOVK	59.89	21.0	9	54	-1								
YAKUTSK	63.09	1.0	10	13A	-3								
ALMATA	63.48	320.7	10	23	4								
ANDIJAN	65.35	316.5	10	29	-2								
QUETTA	65.73	303.9	10	31	-2	19	6	-2					
STALINABAD	67.04	313.1	10	38	-4								
TASHKENT	67.71	316.0	10	43	-3	19	33	1					
SAMARKAND	68.74	313.7	10	49	-3								
MIRNY	69.64	194.1	10	58	0								
CAPE HALLETT	75.77	167.7				21	21	17			15	36	
SCOTT BASE	79.31	172.2	11	53	0								
MAWSON	79.51	200.7	11	54	0						12	11	*SP
TANANARIVE	80.38	251.1	11	56	-3								

GORIS	84.19	309.7	12 20	2				
TIFLIS	85.58	311.8	12 25	0				
COLLEGE	88.70	25.2	12 41	1				
KSARA	92.28	303.6	13 2	5			16 33	PP
BYRD STATION	92.66	170.7	13 2	3				
SODANKYLA	95.43	337.6	13 14	3				
BULAWAYO	98.21	249.6	13 28	4				
PRUHONICE	105.73	322.0					18 34	PP
EUREKA	110.82	48.0	18 49	31				
ROSELEND	111.63	319.1					19 3	
MANHATTEN	124.65	41.4	18 49	4				
WICHITA MTS.	125.45	47.1	18 53	7			20 34	PP
C. GIRARDEAU	130.28	39.3					22 22	PKS
BREBEUF	132.04	20.2					22 24	
PALISADES	135.79	23.7					22 38	PKS
LA PAZ	156.39	138.9	19 56	17				
SAN JUAN	158.15	37.9	20 20	38				
CARACAS	162.70	57.3	20 52	66			24 54	PP

NOVEMBER 18 11.H 16.M 50.S EPICENTRE -26.96-176.52 DEPTH= 0.KM

A=-0.89094 B=-0.05414 C=-0.45089 D=-0.0607 E= 0.9982
G= 0.4501 H= 0.0273 K=-0.8926 HT= 2.8

SE= 2.65

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
RAOUL ISLAND	2.60	208.1	0 43	-1				
SUVA	9.93	331.0	2 32	5				
ONERAHI	11.73	219.3	2 55	3				
KARAPIRO	12.82	209.5	3 2	-4				
TUAI	12.95	202.6	3 2	-6	5 14	-20		
AFIAMALU	13.72	19.8	3 10	-8	5 39	-13		
CHATEAU	13.90	206.5	3 24	3				
WELLINGTON	15.99	204.5	3 50	2	6 29	-17		
NOUMEA	16.16	283.0	3 57	7	7 22	32		
PORT VILA	16.75	300.1	4 2	4	7 32	28		
KOUMAC	18.68	285.8	4 27	5	8 17	29		
GEBBIES PASS	18.87	204.9			7 33	-19		
BRISBANE	27.28	262.0	5 48	0	10 36	9		
HONIARA	28.25	303.7	5 29	-28				
CANBERRA	30.55	245.6	6 19K	2				7 34 PPP
SAVANNAH	33.12	234.2	6 41	1				
MOORLANDS	33.31	232.9	6 42	0				
FORT NELSON	33.33	232.0	6 45	3				
TARRALEAH	33.79	233.4	6 42K	-4				9 39
MELBOURNE	34.06	241.7	6 48	0				
CHARTERS TS.	34.71	273.3	6 55	1	12 27	3		
PORT MORESBY	38.49	290.1	7 25K	-1				17 28
ADELAIDE	38.94	246.9	7 30K	1			7 44	
CAPE HALLETT	45.98	185.6	8 28K	1	15 15	3	8 42	
DARWIN	51.31	275.7	9 9	1				
SCOTT BASE	51.56	184.5	9 12	2	16 35	5		10 58 PP
MUNDARING	57.95	247.7	9 55A	-1				
BYRD STATION	58.08	170.1	9 55	-2				
SOUTH POLE	63.20	180.0	10 32	0				
ARGENTINE I.	74.53	156.2	11 40	-2				
MAWSON	75.98	199.9	11 50A	-1	21 32	-1	12 6	12 27 PCP
ABUYAMA	76.39	321.1	11 54A	1				
VINEYARD	81.89	41.7	12 23	0				
LLANADA	82.06	42.1	12 26A	2				
BERKELEY	82.13	40.4	12 23	-1				
LICK	82.13	41.2	12 26A	2				
PASADENA	82.16	45.5	12 24	0	23 46	67	12 39	
CALISTOGA	82.47	39.7	12 27K	1				
FRESNO	82.85	42.6	12 28	0				
ZO-SE	82.87	310.1	12 29	1	22 57	11		
HONG KONG	82.99	299.2	12 24	-4	22 58	11		15 42 PP
SHASTA	83.99	38.3	12 34	1				
CANTON	84.06	299.5	12 31A	-3				
MINERAL	84.19	39.0	12 35K	1				
RENO	84.67	40.5	12 37A	0				
NANKING	85.08	309.6	12 41A	2	23 17	9		22 59 SKS
BOULDER CITY	85.44	45.8	13 42	61				
TUCSON	85.88	50.7	12 44	1				

TUCSON TELE.	86.01	50.7	12 43	-1						
EUREKA	86.90	42.4	12 48	0			13 5		16 12	PP
GLEN CANYON	88.12	46.5	12 55	1			13 12			
CHANGCHUN	88.31	322.0	12 56A	1						
ALBERNI	88.76	30.9	12 57	0						
PENTICTON	91.26	33.3	12 10	-59						
PEKING	91.40	314.9	13 11	2						
FLAMING GRGE	91.80	44.3	13 13	2						
BUTTE	92.88	38.8	13 16	0						
SIAN	93.19	306.9	13 19	2						
KUNMING	93.45	296.3	13 22A	3						
HUNGRY HORSE	93.49	36.4	13 18	-1						
COLLEGE	94.21	11.9	13 22	0					38 22	PKKP
CHENGTU	95.06	301.7	13 28	2						
WICHITA MTS.	95.85	54.1	13 29	-1	24 6	0			17 31	PP
LANCHOW	97.71	306.4	13 40	2						
SHILLONG	102.48	292.4	14 2K	2						
RESOLUTE	113.58	16.7	18 45	5						
PALISADES	116.25	55.4							35 54	
QUETTA	124.80	289.4	19 4	2						
BULAWAYO	127.22	210.1	19 9	2						
SODANKYLA	137.17	347.1	19 39	14						
KIRUNA	137.83	350.5	19 29	2						
NURMIJARVI	143.48	342.5	19 35	-2						
HELSINKI	143.68	342.0	19 37	0						
UPPSALA	145.70	347.3	19 40A	0						
GOTEBORG	148.69	351.2	19 48	3						
COPENHAGEN	150.57	349.6	19 55K	7						
KSARA	151.30	291.7	19 50	1					23 56	PP
DURHAM	151.97	6.2	19 51K	1						
JERUSALEM	151.98	287.5	19 59	9						
BANGUI	153.29	215.4	19 53	1					20 36	PKP2
KRAKOW	153.71	335.7	20 2	9						
RACIBORZ	154.29	337.8	20 4	10					21 12	
COLLMBERG	154.64	346.0	19 55	1					23 55	PP
JENA	155.28	347.7	19 56	1					20 32	
HELWAN	155.35	283.3	20 6	11					20 24	PKKP
PRUHONICE	155.49	342.6	19 56	1					20 22	
BENSBERG	155.87	354.3	20 24	28						
BRATISLAVA	156.30	336.9	19 57K	1			20 27			
VIENNA-H.	156.48	338.1	19 58	1					20 28	PKP2
KASPERSKE H.	156.52	343.2	19 58	1						
STUTTGART	157.76	349.8	19 59	1					20 44	PKP2
FOLINIERE	158.01	7.0	20 34	35						
STRASBOURG	158.16	352.3	19 58	-1					20 45	
LJUBLJANA	159.02	338.1	20 0	0					20 50	
TRIESTE	159.62	338.9	20 17	17					20 51	PKP2
BESANCON	159.65	355.1	20 3	3						
GARCHY	159.71	0.8	20 2	1					20 41	PKP2
CLERMONT-FD.	161.22	0.8	19 40	-22					20 40	
FLORENCE X.	162.07	341.4	19 35	-28						
ISOLA	162.57	351.4	20 54	51						

NOVEMBER 18 22.H 9.M 54.S EPICENTRE 23.88 121.72 DEPTH= 59.KM

A=-0.48134 B= 0.77863 C= 0.40255 D= 0.8506 E= 0.5258
G=-0.2117 H= 0.3424 K=-0.9154 HT= 3.7

DEPTH OF FOCUS= 0.004R

SE= 2.23

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
HWALIEN	0.13	313.2	0	8	-3	0	14	-4				
YUSHAN	0.81	240.8	0	16	-1	0	28	-2				
HSINKONG	0.84	202.8	0	15K	-3	0	26	-5				
ILAN	0.89	1.5	0	18K	0	0	31	0				
ALISHAN	0.92	247.2	0	22	4	0	28	-4				
TAICHUNG	0.99	285.9	0	20	1	0	35	2				
HSINCHU	1.15	323.2	0	25	4	0	42	5				
TAIPEI	1.16	350.8	0	30K	9	0	45	8				
TAITUNG	1.24	205.2	0	23	0	0	40	1				
TAINAN	1.64	237.9	0	28	0	0	58	10				
TAWU	1.70	206.6	0	27	-2	0	54	4				
KAOHSIUNG	1.83	227.1	0	36	5	0	55	2				

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HENGCHUN	2.08	205.8	0	35	1	1	2	3			
HONG KONG	7.13	258.8	1	44	-1	2	58	-7			
ZO-SE	7.21	356.3	1	44	-2	3	0	-7			
BAGUIO CITY	7.50	188.4	1	48	-2	3	8	-6			
CANTON	7.74	265.8	1	51A	-2	3	6	-14			
NANKING	8.55	342.9	2	1K	-3	3	37	-3			
MANILA	9.18	183.9	3	14	61	5	0	64			
SIAN	15.22	315.6	3	34K	1	6	22	2			
NHATRANG	16.60	227.9	3	52	1				5	3	
PEKING	16.77	345.1	3	56	3	7	4	8			
CHENGTU	17.13	297.1	3	58	1	7	8	4			
KUNMING	17.32	278.0	4	0	0	7	18	9			
MATUSIRO	19.00	44.6	4	17	-3	8	1	15			
LANCHOW	19.65	312.2	4	32A	5	8	14	14			
CHANGCHUN	20.12	7.6	4	32	0						
VLADIVOSTOK	20.95	21.2	4	39	-2	8	37	11			
GUAM	24.11	111.4	5	12	1						
ULAN-BATOR	26.73	337.5	5	35	-1						
SHILLONG	27.15	279.8	5	39A	-1				10	30	
CHITTAGONG	27.52	272.9	5	35	-8						
LHASA	27.94	288.5	5	49A	2	10	29	4			
Y.-SAKHLINSK	28.56	30.8	5	54	1						
MEDAN	30.04	231.3	6	6	0						
CHATRA	31.31	282.8	6	16A	-1				9	9	
BOKARO	32.80	277.3	6	31A	1						
LEMBANG	33.48	206.0	6	57	21	11	57	4			
VISHAKHAPTNM	36.36	267.7	7	2K	1				8	30	
YAKUTSK	38.51	6.0	7	18A	-1						
DEHRA DUN	39.22	289.2	7	27	3				13	23	
NEW DELHI	40.04	286.5	7	32A	1				12	59	
PETROPAVLOVK	40.28	34.2	7	36	3						
RABAUL	40.73	129.2	7	38	1						
MADRAS	40.73	262.2	7	38	1				9	15	
PORT MORESBY	41.37	140.1	7	43K	1	13	56	4			
ALMATA	41.44	309.0	7	45A	2						
SEMIPALATNSK	41.56	320.3	7	36	-8						
LAHORE	42.38	291.2	7	50	-1						
FRUNSE	43.03	307.8	7	57A	1						
ANDIJAN	44.38	304.5	8	8K	1						
WARSAK DAM	44.67	294.8	8	11	2						
POONA	44.79	272.7	8	10A	0						
BOMBAY	45.63	273.5	8	17	0	14	59	5	15	18	
TASHKENT	46.76	304.9	8	27A	1						
STALINABAD	46.98	301.2	8	30	3						
SAMARKAND	48.41	302.6	8	39A	0	15	50	16			
QUETTA	48.81	290.0	8	42A	0	15	40	1			
CHARTERS TS.	49.82	149.3	8	49	0				9	20	
HONIARA	49.91	127.1	8	49	-1						
MUNDARING	55.78	185.7	9	31A	-3						
BRISBANE	59.13	147.7	9	58	1	18	4	6			
KOUMAC	60.57	133.3	10	7K	0						
ADELAIDE	60.71	164.0	10	7A	-1						
MAKHACH-KALA	62.87	307.5				18	50	4			
NOUMEA	63.23	133.1	10	24	-1						
CANBERRA	64.30	155.4	10	31	-1				10	58	PCP
GORIS	64.30	303.8	10	33A	1						
TIFLIS	65.04	306.5	10	36	-1						
MOSCOW	67.34	322.4	10	51A	0						
APATITY	67.53	335.5	10	51	-1						
COLLEGE	68.85	27.2	11	0	-1				11	18	
SAVANNAH	69.40	159.9	11	4	0				11	36	
TARRALEAH	69.70	160.7	11	6	0				11	19	
MOORLANDS	70.05	160.2	11	18	10						
SODANKYLA	70.14	335.8	11	7A	-2				11	27	
PULKOVO	70.38	327.5	11	7	3						
TROMSOE	72.18	339.0	11	19	-2	11	40				
KIRUNA	72.28	337.0	11	20A	-1	11	41				
HELSINKI	72.85	328.7	11	25A	0						
NURMIJARVI	72.90	329.1	11	24A	-1						
MOULD BAY	73.46	12.6	11	27	-1						
ALERT	73.81	0.6	11	28	-2						
KSARA	73.84	300.2	11	31	0						
KISHINEV	74.81	314.9	11	33K	-3						
JERUSALEM	75.02	298.4	11	38A	1						
AFIAMALU	75.03	112.8	11	38	1						
UPPSALA	76.41	329.8	11	44A	-1	12	3				
SKALSTUGAN	77.07	334.4	11	46	-3						
HELWAN	78.81	297.7	11	59A	0				12	38	

RESOLUTE	78.89	9.3	11 58A	-1						
KRAKOW	79.22	320.0	12 1	0					12 25	
SKALNATE PL.	79.38	319.1	12 2	0						
KARAPIRO	79.57	139.5	12 20	17						
CHORZOW	79.67	320.5	12 2	-1					13 17	
THULE	79.74	2.4	12 3	-1						
GOTEBORG	80.01	329.1	12 2	-3			12 20			
RACIBORZ	80.21	320.5	12 7	1					12 31	
CHATEAU	80.41	140.5	12 23	16						
COPENHAGEN	80.76	327.2	12 3	-6					12 28	
ATHENS	81.61	307.7	12 12	-1						
BRATISLAVA	81.70	319.1	12 13	-1					12 28	PCP
VIENNA-H.	82.10	319.4	12 16	0						
PRUHONICE	82.36	321.5	12 18A	1					15 30	PP
COLLMBERG	82.60	323.2	12 18A	-1					15 27	PP
HALLE	83.07	323.7	12 36	15					15 41	PP
KASPERSKE H.	83.32	321.1	12 22	0						
JENA	83.56	323.3	12 23	0	22 30	-9			28 6	SS
TANANARIVE	83.88	246.3	12 25A	0					12 49	
LJUBLJANA	84.24	318.0	12 27A	0			12 44		15 44	PP
TRIESTE	84.91	317.9	12 30	0			12 47			
MUNSTER	85.12	325.5	12 32	1						
WITTEVEEN	85.14	326.5	12 31	0						
BENSBERG	85.91	324.8	12 35A	0			12 56			
STUTTGART	85.95	322.2	12 36	1						
ALBERNI	86.24	37.0	12 38	1						
STRASBOURG	86.90	322.6	12 40	0					21 18	
MESSINA	87.31	310.8	12 42	0						
FLORENCE X.	87.39	317.2	13 0	18						
VICTORIA	87.43	37.1	12 44	2						
BASLE	87.58	321.8	12 42A	1						
PENTICTON	89.02	35.1	12 51A	1						
PARIS	89.63	324.8	12 54	1						
CORVALLIS	89.69	40.4	12 55K	2						
BANFF	89.94	32.0	12 56	2						
GARCHY	90.23	323.3	12 56	0						
CLERMONT-FD.	91.10	322.1	13 0	0						
SHASTA	92.43	43.2	13 7A	1						
HUNGRY HORSE	92.51	33.5	13 9	3						
MINERAL	93.12	43.2	13 11K	2						
CALISTOGA	93.47	45.0	13 12A	1						
BERKELEY	94.11	45.5	13 15	1						
RENO	94.71	43.0	13 18	2						
BUTTE	94.79	34.6	13 16	-1						
LICK	94.82	45.6	13 13A	-4						
VINEYARD	95.32	46.0	13 21K	2						
EUREKA	97.11	41.2	13 29	2			13 49		17 26	PP
CHINA LAKE	98.34	44.9	13 34	1						
FLAMING GRGE	99.95	36.8	13 41	1						
WICHITA MTS.	110.29	34.6	18 54	29					19 5	PP
SAN JUAN	137.31	11.0	19 39	22						
GRENADA	144.13	5.8	19 28	-1						
TRINIDAD	145.55	5.4	19 35	3						

NOVEMBER 19 23.H 22.M 13.S EPICENTRE 0.95 124.62 DEPTH= 321.KM

A=-0.56800 B= 0.82287 C= 0.01653 D= 0.8230 E= 0.5681
G=-0.0094 H= 0.0136 K=-0.9999 HT= 7.2

DEPTH OF FOCUS= 0.045R

SE= 2.57

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MANILA	14.07	345.8	3	5	-3	5	35	-2					
DARWIN	14.61	155.2	3	3	-11	5	37	-12					
BAGUIO CITY	15.87	345.7	3	23	-5	6	23	8					
LEMBANG	18.64	245.2									5	45	
DJAKARTA	19.12	248.0	4	23	22	7	7	-9					
HENGCHUN	21.26	350.1	4	26	4								
TAWU	21.57	350.6	4	20	-5								
TAITUNG	21.93	351.4	4	32	3	8	21	16					
TAINAN	22.33	349.3	4	37	5								
HWALIEN	23.06	353.0	4	41	2	8	36	12					
GUAM	23.48	57.1	4	45	2	8	48	17					
HONG KONG	23.53	335.1	4	43	-1	8	36	4	5	9	5	43	*SP

CANTON	24.58	334.3	4	52A	-1	8	59	10				
PORT MORESBY	24.69	115.1	4	53K	-1							
RABAUL	28.01	100.7	5	25A	1							
CHARTERS TS.	29.79	135.7	5	37	-3	10	18	6				
ZO-SE	30.16	354.1	5	43A	0	10	27	9				
NANKING	31.43	350.5	5	53A	-1	10	46	9	6	39	6 54	*SP
KUNMING	31.99	320.4	5	58A	-1	10	55	9	6	42	6 58	*SP
PORT BLAIR	33.40	289.9									8 9	
MUNDARING	33.70	192.9	6	7	-6	10	46	-26				
PERTH	33.77	193.5	6	9	-5	11	17	4			7 36	
ABUYAMA	35.26	15.7	6	28K	2							
CHENGTU	35.43	328.5	6	26	-2	11	44	5	7	12	7 26	*SP
SIAN	36.23	337.7	6	35	0	12	2	11				
HONIARA	36.67	107.1	6	36	-2							
MATUSIRO	37.58	18.1	6	46A	0	12	21	10			8 19	PP
ADELAIDE	38.10	161.1	6	47	-3	12	22	3			15 1	
BRISBANE	39.09	138.3	6	15	-43	11	56	-38				
PEKING	39.65	349.8	7	2	-1	12	44	2			8 3	*SP
LANCHOW	39.89	333.4	7	6A	1	12	58	12			8 3	*SP
SHILLONG	39.95	310.5	7	3	-2	12	54	7				
MIZUSAWA	40.89	19.7	7	15	2	13	12	12				
VLADIVOSTOK	42.48	7.9	7	28	2	13	36	13			9 6	PP
RIVERVIEW	42.65	146.7	7	25A	-2	13	36	10	8	2	9 7	PP
CANBERRA	42.68	150.1	7	26K	-1	13	34	8			9 13	PP
CHANGCHUN	42.69	0.7	7	28A	0	13	36	9				
LHASA	42.83	314.9	7	29	0	13	37	8				
MELBOURNE	42.93	156.1									9 15	
VISHAKHAPTNM	43.88	294.8	7	34K	-3	13	51	7			9 42	PPP
BOKARO	43.94	304.2	7	34A	-3						17 11	
CHATRA	44.21	308.8	7	37K	-3	13	54	6			8 23	
KOUMAC	44.32	121.1	7	40	0						12 57	
MADRAS	45.61	287.3	7	44	-7	14	13	5			9 30	PP
PORT VILA	46.85	115.5	8	0	0						9 57	
SAVANNAH	47.14	156.9	8	1	-1							
TARRALEAH	47.36	158.0	8	3	-1						9 31	PCP
MOORLANDS	47.75	157.4	8	5	-2						13 8	SCP
FORT NELSON	48.23	157.6	8	9	-2	14	53	8				
Y.-SAKHLINSK	48.52	16.5	8	14	1	15	0	11			17 46	
ULAN-BATOR	49.24	344.3	8	20	2	15	8	9				
POONA	52.75	292.6	8	41K	-4						17 10	
NEW DELHI	52.92	305.7	8	41A	-5	15	53	4	9	23	9 44	PCP
DEHRA DUN	52.94	308.1	8	44	-2	15	54	5			10 43	PP
BOMBAY	53.79	292.8	9	32	40	17	24	84			16 58	
IRKUTSK	53.89	344.7	8	52A	-1	16	4	2	9	37	12 8	PPP
LAHORE	56.36	307.9	9	8	-2	16	40	6				
PETROPAVLOVK	59.09	23.2	9	31	2				10	15	13 2	PPP
WARSAK DAM	59.45	309.5	9	30	-2							
KAIMATA	60.34	141.7	9	38	0							
COBB RIVER	60.41	139.7	9	37	-1							
KARAPIRO	60.77	135.3	9	41	1				10	23		
FRUNSE	61.05	319.9	9	42	0				10	27	19 8	SCS
CHATEAU	61.36	136.6	9	43	-1							
GEBBIES PASS	61.74	142.2	9	46	-1							
WELLINGTON	61.84	139.0	9	46	-1							
QUETTA	61.88	303.9	9	45	-3						29 47	
MAGADAN	61.89	14.8	9	51	3				10	37		
MACQUARIE I.	62.08	158.1	9	48	-1							
TUAI	62.29	135.5	9	50	0				10	37		
TASHKENT	63.95	316.4	10	0	-1	18	19	9	10	44	19 38	*SS
AFIAMALU	64.68	105.8	10	9K	3							
WILKES	67.90	186.1				19	3	5				
ASHKABAD	70.84	310.0	10	44	0				11	27	13 23	PP
SVERDLOVSK	75.23	329.3	11	10	1	20	28	7			25 17	SS
TEHERAN	75.86	306.6	11	13	0							
TANANARIVE	78.08	250.6	11	24	-1						13 0	
CAPE HALLETT	78.57	167.1	11	29	1							
GORIS	80.36	309.8	11	37A	0				12	23	14 55	
MAWSON	80.43	200.0	11	36K	-2	21	22	6	12	13	14 48	PP
TIFLIS	81.76	311.9	11	46A	2	21	41	12	12	31	14 52	PP
KHEYS	85.32	351.3	12	4A	2				12	48	15 24	PP
MOSCOW	87.51	325.6	12	15K	2	22	37	12	13	0	15 42	PP
COLLEGE	88.10	25.3	12	17	1				12	58	30 6	PKKP
KSARA	88.42	303.6	12	21	4	22	52	19	13	5	15 49	PP
APATITY	89.58	337.4	12	23	0							
SIMFEROPOL	89.69	314.8	12	24	1				13	9	22 51	SCS
SOUTH POLE	90.95	180.0	12	29	0							
SODANKYLA	92.21	337.4	12	35A	0				13	22		
HELWAN	92.38	299.8	12	36	0				13	21		

ISTANBUL KA.	93.57	311.1	13	27	46	22	57	-21	16	33 PP
HELSINKI	93.98	330.4	12	44A	1					
NURMIJARVI	94.08	330.8	12	43	0					
KIRUNA	94.46	338.3	12	45	0	22	59	-27	23	36 S
TROMSOE	94.54	340.2	12	45	0					
MOULD BAY	95.11	12.5	12	50K	2					
BYRD STATION	95.30	170.9	12	39	-10					
BUCHAREST	95.43	314.6	13	52	63	23	24	31	17	44 PP
LWOW	96.11	320.2	12	53	0	23	11	14	13 40 16	55
ALERT	96.57	0.9	12	56	1					
WARSAW	97.56	322.9				23	18	14		
UPPSALA	97.65	330.8	12	59A	-1	23	15	10		
ATHENS	98.00	308.4	13	0	-1					
TIMISOARA	98.65	316.4				23	27	17	17	11
KRAKOW	98.67	320.9				23	22	12	17	14 PP
SKALSTUGAN	98.93	335.2	13	5	0					
CHORZOW	99.21	321.3							17	18 PP
BELGRADE	99.35	315.6				24	27	74	17	59 PP
RESOLUTE	100.90	9.9	13	16K	2					
BRATISLAVA	100.90	319.4				23	35	14	18	17 PP
VIENNA-H.	101.36	319.7				23	39	16	17	20 PP
COPENHAGEN	101.54	327.6	13	13K	-4	23	40	16	17	37 PP
PRUHONICE	102.06	321.7	13	23	4				27	12 PPS
ALBERNI	102.57	38.9	13	24	2					
COLLMBERG	102.61	323.3	13	25	3			14 10	17	42 PP
KASPERSKE H.	102.90	321.0	13	27	4					
HALLE	103.18	323.7							17	44 PP
JENA	103.58	323.2	13	26	0				17	48 PP
TRIESTE	103.77	317.6				23	48	14	24	56
MESSINA	104.31	309.8				23	47	11	18	37
PADOVA	105.11	317.7				23	47	7	18	53
ROME	105.68	314.1				23	58	15	20	41 PKS
STUTTGART	105.70	321.6				23	57	14	18	3 PP
PENTICTON	105.78	37.8	13	39K	777					
BENSBERG	106.18	324.2	18	6	777				20	31
STRASBOURG	106.71	321.8	18	59	777				24	2
DE BILT	106.86	325.8				24	3	15	18	59 *PPP
ROSELEND	107.90	318.8	17	23	777				18	24
DURHAM	109.19	330.3				24	10	12		
HUNGRY HORSE	109.56	37.2	17	44	777				21	13
CLERMONT-FD.	110.72	320.3	18	30	36				19	33
EUREKA	111.69	46.5	18	2	6				18	45 PP
PASADENA	111.71	52.5	18	2	6	26	11	123	27	59 PS
ARGENTINE I.	115.52	175.9	18	6	2					
FLAMING GRGE	115.75	42.9	18	9	5				21	56
GLEN CANYON	115.82	47.7	18	9	5				28	37
LARAMIE	118.12	41.0	18	36	27					
TUCSON	118.15	52.3	18	14	5					
TUCSON TELE.	118.20	52.2	18	14	5				19	31
MANHATTEN	125.04	38.7	18	28K	6				21	25 PP
LAWRENCE	126.01	38.1	18	4	-20					
WICHITA MTS.	126.23	44.4	18	28	3	25	18	20	19 18 20	25 PP
DUBUQUE	126.32	32.0	18	29A	4				21	42 PP
FAYETTEVILLE	128.42	40.4	18	33K	4			19 18	20	39 PP
ROLLA	128.73	37.1	18	34A	5				21	37 PP
SHAWINIGAN	130.28	15.7	18	36A	4				21	41
LITTLE ROCK	130.41	40.6	18	36	4					
C. GIRARDEAU	130.52	36.1	19	26	53				21	42 PP
BLOOMINGTON	130.91	32.1	18	35K	1				21	42 PP
HALIFAX	134.04	8.2							21	54
PALISADES	134.96	19.9							21	59 PKS
MBOUR	139.04	293.3							22	12 PP
BLACK RIVER	150.94	48.5	19	19	11					
HOPE	151.77	47.1	19	23	13					
SAN JUAN	158.08	28.3	19	25	7				20	45
CHINCHINA	158.95	73.6	19	26K	7				20	6
ST. KITTS	160.43	21.4							20	7
BOGOTA	160.53	73.3	19	17	-4				23	33 PP
CARACAS	163.83	45.0	18	31	-53	26	39	43		
TRINIDAD	167.01	27.3	19	33	6				20	37

NOVEMBER 20 4.H 3.M 54.S EPICENTRE 50.89 92.57 DEPTH= 16.KM

A=-0.02835 B= 0.63272 C= 0.77386 D= 0.9990 E= 0.0448
G=-0.0346 H= 0.7731 K=-0.6334 HT= -5.7

SE= 1.67

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
IRKUTSK	7.45	74.8									2	10	PG
BAYANDAI	8.29	69.7	2	2	0						2	28	PG
KYAKHTA	8.84	88.0									2	35	PG
KABANSK	8.87	77.0									2	35	PG
ULAN-BATOR	9.81	102.1	2	25	2								
FRUNSE	14.66	243.6	3	27	-2						6	30	SS
TASHKENT	18.70	248.2	4	20	0						4	54	PPP
SVERDLOVSK	19.62	300.0	4	27	-3	8	10	5					
PEKING	19.71	114.3	4	30A	-1	8	16	9					
LHASA	21.26	183.7	4	47	-1								
CHENGTU	21.94	152.8	4	54	-1	8	56	5					
CHANGCHUN	23.14	95.0	5	7	1	9	24	11					
DEHRA DUN	23.24	213.3	5	22	15	9	24	9					
LAHORE	23.58	221.9	5	10	-1								
CHATRA	24.38	191.7	5	16K	-2								
NEW DELHI	25.12	213.3	5	25A	-1								
SHILLONG	25.29	181.5	5	28A	1								
KUNMING	26.90	159.3	5	38	-4	10	23	7					
NANKING	26.97	124.2									6	6	
ASHKABAD	27.38	255.1	5	44	-2								
KIZYL-ARVAT	27.90	259.4	5	51	0						12	36	SSS
QUETTA	28.16	232.5	5	51	-3								
ZO-SE	28.99	122.1									12	38	
KHEYS	31.90	349.9	6	26	-1						7	53	PPP
CANTON	32.11	142.1									16	3	
MOSCOW	32.44	300.3	6	31A	0						7	41	PP
APATITY	32.93	322.7	6	35	-1								
TEHERAN	33.09	258.8	6	37	0								
SODANKYLA	35.56	322.6	6	57	-1								
HELSINKI	37.73	310.9	7	15	-2								
NURMIJARVI	37.78	311.6	7	16	-1						8	47	PP
KIRUNA	37.84	323.9	7	17	-1								
UPPSALA	41.31	312.4	7	44A	-2								
SKALSTUGAN	42.28	319.0	7	54	0								
LWOW	42.29	296.4	7	54	0						9	30	PP
BUCHAREST	43.87	288.4									20	32	
KRAKOW	44.48	298.6									21	10	
COPENHAGEN	45.63	308.7	8	18	-3								
ALERT	46.25	355.6	8	24	-2								
BRATISLAVA	47.06	297.7	8	35	2								
VIENNA-H.	47.42	298.2	8	36	1								
PRUHONICE	47.48	301.0	8	36	0						10	27	PP
COLLMBERG	47.60	303.3	8	35A	-2						10	23	PP
HALLE	48.04	304.0	8	41	1						10	32	PP
KASPERSKE H.	48.47	300.5	8	43	-1								
JENA	48.55	303.5	8	43	-1	15	51	7			18	26	SS
LJUBLJANA	49.71	296.7	8	54	1								
MUNSTER	50.02	306.5	8	54	-2								
FELDBERG	50.60	304.2	9	12	12								
BENSBERG	50.83	305.6	9	0	-2						9	26	
HEIDELBERG	50.93	303.2	9	4	1								
STUTTGART	51.00	302.3	9	2	-1								
MOULD BAY	51.50	9.3	9	4	-3								
STRASBOURG	51.92	302.8	9	11	1								
THULE	52.37	354.4	9	13	0								
ROSELEND	53.89	299.9	9	27	2								
MESSINA	53.94	288.2									27	22	
PARIS	54.54	305.7	9	29	0								
RESOLUTE	54.62	2.4	9	27	-3								
MONACO	55.11	298.3	9	34	0								
GARCHY	55.21	304.0	9	32	-2								
COLLEGE	55.52	26.8	9	34	-3						10	28	
FOLINIERE	56.08	307.2	9	39	-2								
BANFF	75.55	17.8	11	43	-2								
PENTICTON	76.44	21.0	11	48	-3								
BANGUI	76.51	260.2	11	47	-4								
HUNGRY HORSE	78.54	17.7	12	1	-1								
BUTTE	81.05	17.4	12	14	-2								
BREBEUF	83.25	350.3	12	28	1								
MINERAL	84.34	25.5	12	32A	-1								
CHARTERS TS.	84.94	130.5	12	34	-1								
FLAMING GRGE	86.56	16.5	12	43	-1								
EUREKA	86.59	21.7	12	44	0						13	14	
LARAMIE	86.82	13.6	12	44	-1								
CHINA LAKE	89.66	24.1	12	58	0								

GLEN CANYON	89.97	19.1	12 59	-1							
BLOOMINGTON	90.29	359.3								26	20
C. GIRARDEAU	92.14	1.7								26	56
WICHITA MTS.	94.19	9.2	13 18	-1			13	33		14	10
SOUTH POLE	140.70	180.0	19 20	-9							
BYRD STATION	148.83	169.7	19 40	-3							

NOVEMBER 20 4.H 32.M 33.S EPICENTRE 37.08 141.71 DEPTH= 55.KM

A=-0.62767 B= 0.49555 C= 0.60039 D= 0.6197 E= 0.7849
G=-0.4712 H= 0.3720 K=-0.7997 HT= -0.6

DEPTH OF FOCUS= 0.003R

SE= 2.64

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ONAHAMA	0.66	258.6	0	12K	-3	0	21	-5				
HUKUSIMA	1.19	304.4	0	20A	-1	0	34	-3				
SHIRAKAWA	1.19	272.2	0	20K	-1	0	34	-3				
MITO	1.22	235.2	0	20K	-2	0	34	-4				
SENDAI	1.35	331.8	0	23A	0	0	39	-2				
ISINOMAKI	1.38	347.2	0	24A	0	0	40	-2				
KAKIOKA	1.50	235.7	0	23K	-2	0	39	-5				
TYOSI	1.53	207.2	0	25K	-1	0	42	-3				
TUKUBASAN	1.55	236.8	0	24K	-2	0	42	-4				
UTUNOMIYA	1.57	250.7	0	25K	-1	0	42	-4				
YAMAGATA	1.59	317.6	0	26A	-1	0	44	-3				
HONGO	2.08	229.4	0	33	0	0	56	-3				
KUMAGAYA	2.09	244.3	0	32K	-2	0	56	-3				
MIZUSAWA	2.09	347.6	0	34	0	0	58	-1				
TOKYO C.M.O.	2.11	229.0	0	33K	-1	0	56	-3				
MAEBASI	2.23	253.0	0	34K	-2	1	1	-1				
NIIGATA	2.27	292.4	0	42	6	1	4	1				
YOKOHAMA	2.34	225.9	0	37	0	1	3	-2				
SAKATA	2.34	321.3	1	40	63	2	8	63				
TITIBU	2.39	243.3	0	36	-2	1	1	-5				
MIYAKO	2.57	4.5	0	40	0	1	9	-2				
MERA	2.64	215.8	0	41	0	1	11	-2				
MORIOKA	2.65	351.0	0	42A	1	1	12	-1				
OIWAKE	2.65	254.4	0	41	0	1	20	7				
TAKADA	2.77	271.4	0	41	-2							
NAGANO	2.84	262.7	0	45	1	1	32	14				
HUNATU	2.85	237.2	0	44	0	1	15	-3				
MATUSIRO	2.86	260.1	0	43K	-1	1	18	0				
AIKAWA	2.90	289.8	0	44	-1	1	18	-1				
KOHU	2.91	241.9	0	46	1	1	18	-1				
AKITA	2.92	334.8	0	44	-1	1	19	-1				
AJIRO	2.93	226.9	0	44K	-1	1	15	-5				
MISIMA	2.97	229.6	0	46	0	1	24	3				
OSIMA	2.98	220.0	0	45	-1							
MATUMOTO	3.12	255.7	0	48	0	1	24	-1				
SHIZUOKA	3.41	232.8	0	51	-1	1	32	0				
HATINOHE	3.44	357.7	0	46	-7	1	30	-3				
IIDA	3.50	244.7	0	54	1	1	34	0				
TOYAMA	3.63	265.3	0	58	3							
TAKAYAMA	3.71	256.8	0	50	-6							
OMAESAKI	3.76	229.9	1	3	6							
AOMORI	3.80	349.3	1	4	6	1	53	11				
HATIDYOZIMA	4.27	202.2	1	3	-1	1	45	-9				
NAGOYA	4.28	244.9	1	5	1	1	55	1				
GIHU	4.33	248.6	1	3	-2							
TSURUGA	4.77	254.2	1	12	1							
HIKONE	4.77	249.3	1	17	6	2	19	13				
HAKODATE	4.78	351.5	1	13	2	2	9	3				
KAMEYAMA	4.80	243.9	1	15	3	2	9	2				
MORI	5.09	350.4	1	17	1	2	31	17				
URAKAWA	5.13	9.0	1	17	1	2	13	-2				
MURORAN	5.26	354.1				2	18	0				
KYOTO	5.26	248.7	1	16	-2	2	28	10				
HIROO	5.34	13.0	1	17	-2	2	14	-6				
NARA	5.34	245.1	1	22	3							
MAIZURU	5.35	254.4	1	19	0							
OWASE	5.40	237.8	1	24	4							
ABUYAMA	5.45	247.9	1	19K	-2							

TOMAKOMAI	5.54	359.0								1	48	
OSAKA	5.57	246.0	1	25	3							
TOYOOKA	5.77	256.5	1	26	1							
SUTTSU	5.82	349.2	1	33	7							
OBIHIRO	5.94	10.6	1	28	0	2	33	-2				
SAPPORO	5.99	357.5	1	25	-3	2	31	-5				
SUMOTO	6.17	245.7	1	30	-1					2	5	
KUSIRO	6.24	18.5	1	29	-3	2	34	-9				
TOTTORI	6.28	257.8				3	13	-30				
TAKAMATU	6.81	248.4				3	22	-33				
NEMURO	6.91	24.2								2	51	
KOTI	7.56	244.6	1	49	-1					3	48	
SHILLONG	43.65	269.5	8	1	0							
COLLEGE	48.92	32.3	8	43	0							
MOULD BAY	56.42	16.5	9	37A	-1							
CHARTERS TS.	57.03	174.9	9	52	9							
ALERT	60.07	3.6	10	2	-2							
RESOLUTE	62.50	14.5	10	18	-2							
SODANKYLA	65.01	337.3	10	34	-3							
KIRUNA	66.55	339.3	10	45	-1							
PENTICTON	67.97	44.3	10	48	-7							
NURMIJARVI	70.01	332.0	11	6A	-2							
HELSINKI	70.12	331.7	11	7	-1							
HUNGRY HORSE	71.59	43.0	11	18	1							
SKALSTUGAN	71.96	338.7	11	18A	-1							
UPPSALA	73.02	334.1	11	23	-3							
EUREKA	75.63	51.3	11	42	1							
CHINA LAKE	76.75	55.1	11	48	1							
COPENHAGEN	77.99	333.4	11	53K	-1							
FLAMING GRGE	78.72	47.0	11	59	1							
COLLMBERG	81.18	330.3	12	10A	-1						12	28
PRUHONICE	81.57	328.7	12	14	1							
JENA	82.03	330.8	12	14	-2							
KASPERSKE H.	82.63	328.6	12	17	-2							
STUTTGART	84.65	330.6	12	29	0							
WICHITA MTS.	89.20	45.7	12	51	0				13 9		24	44 PS

NOVEMBER 20 11.H 44.M 21.S EPICENTRE -21.81 169.88 DEPTH= 36.KM
A=-0.91482 B= 0.16323 C=-0.36941 D= 0.1757 E= 0.9845
G= 0.3637 H=-0.0649 K=-0.9293 HT= 4.2

DEPTH OF FOCUS= 0.000R

SE= 2.86

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
NOUMEA	3.22	260.7	0	45	-5	1	31	4					
PORT VILA	4.32	339.8	1	5	0	2	3	8					
KOUMAC	5.38	282.4	1	17	-3	2	25	3					
ONERAHI	14.45	165.2	3	41	17								
HONIARA	15.58	320.7	3	42	3								
BRISBANE	16.51	246.9	3	1	-50	6	20	-32					
KARAPIRO	16.79	164.3	3	57	3								
CHATEAU	18.00	165.6	4	13	4								
TUAI	18.04	161.4	4	12	2								
AFIAMALU	19.13	68.8	4	20	-3	7	57	6					
WELLINGTON	19.84	169.1	4	36	5	8	21	14					
RIVERVIEW	20.40	230.1	4	36	-1	8	14	-4			5	21	
KAIMATA	20.69	176.8	4	48	8								
GEBBIES PASS	21.95	174.6	4	49	-3								
CHARTERS TS.	22.13	270.1	4	58	4	9	0	9					
CANBERRA	22.69	229.1	5	3A	3	9	10	9			8	55	PCP
ROXBURGH	23.61	181.0	5	3	-6	8	39	-38					
PORT MORESBY	25.09	295.9	5	27	4	9	47	4					
MELBOURNE	26.75	227.8	5	40	1	10	16	6					
SAVANNAH	27.53	218.7	5	47	1								
MOORLANDS	27.99	217.5	5	52	2								
FORT NELSON	28.22	216.5				10	39	5			12	2	SS
TARRALEAH	28.32	218.4	5	56	3								
ADELAIDE	30.25	237.5	6	10	0	11	20	14	6	17	14	17	
DARWIN	38.39	277.6	7	22	2								
GUAM	42.86	322.6	7	59	2								
CAPE HALLETT	50.52	179.9	8	57A	0	16	9	2			10	57	PP
SCOTT BASE	56.11	180.8	9	37	-1	18	14	51			10	31	PCP
WILKES	58.06	204.2	10	11	19						17	47	

MANILA	60.04	302.8	10	18	12					
BAGUIO CITY	61.46	304.1	10	23	7	18	39	6		
LEMBANG	61.76	274.0	10	20	2	18	43	7		
DJAKARTA	62.73	274.3							18	39
MIRNY	64.98	205.5	10	37	-2	19	15	-2		
ABUYAMA	65.11	329.3	10	41A	1					
MATUSIRO	65.30	332.3	10	41A	0	19	26	6		
BYRD STATION	65.32	169.6	10	39	-2					
SOUTH POLE	68.32	180.0	11	0	0					
HONG KONG	69.79	305.4	11	10	1	20	7	-7		
ZO-SE	70.35	316.8	11	12A	0	20	24	3		
CANTON	70.87	305.6	11	19	3	20	34	7		
NANKING	72.52	316.1	11	26	1	20	47	1		
MEDAN	73.98	280.6	11	3	-31					
MAWSON	76.29	202.2	11	46	-1				11	57
CHANGCHUN	77.05	328.6	11	53	2	21	43	7		
PEKING	79.30	321.0	12	4A	0	22	6	6		
KUNMING	80.14	302.0	12	12	4	22	19	10		
SIAN	80.41	312.7	12	12	2	22	19	7		
CHENGTU	81.96	307.4	12	21	3	22	34	6		
ARGENTINE I.	83.92	159.9	12	27	-1					
LANCHOW	84.88	312.0	12	34	1	23	1	4		
CHITTAGONG	87.81	295.0	12	48	1	23	18	-7		
PASADENA	88.14	52.1	12	49	0	23	39	11	23	21 SKS
SHASTA	88.40	44.7	12	52	2					
SHILLONG	89.10	297.9	12	54K	1					
ULAN-BATOR	89.39	323.2	12	55	0					
RENO	89.55	46.7	12	4A	-51					
BOULDER CITY	91.41	51.7	12	29	-35					
LHASA	91.45	301.3	13	6	2					
EUREKA	92.15	48.2	13	8	1					
COLLEGE	92.32	16.7	13	6	-2				13	28
VISHAKHAPTNM	93.38	287.6	13	0	-13	23	50	-25	16	44 PP
BOKARO	93.48	294.1							23	48
PENTICTON	94.38	38.2	13	20	2					
MADRAS	94.47	282.1							23	56
HYDERABAD	97.59	285.7							24	14
DEHRA DUN	102.20	297.8							24	35
BOMBAY	103.13	285.3							18	26
WICHITA MTS.	103.29	57.8	14	1	3	24	41	8	18	17 PP
MANHATTEN	106.09	53.8							19	6 PP
ROLLA	109.33	56.1	18	36	777				28	8 PS
C. GIRARDEAU	111.05	57.1							28	41 PS
DUBUQUE	111.18	51.5							18	59 PP
QUETTA	111.40	295.0							19	23 PP
BLOOMINGTON	113.73	55.6							19	37 PP
PALISADES	123.51	54.5							20	33 PP
BREBEUF	123.65	49.1	18	59	5				26	54 PS
BULAWAYO	123.69	224.9	18	47	-7					
SHAWINIGAN	124.19	47.8	18	59	4					
SAN JUAN	127.53	83.1	19	6	4					
HALIFAX	130.80	49.3							22	32
NURMIJARVI	134.32	336.8	19	22	7					
LWIRO	135.08	242.7	19	19	3					
KSARA	137.91	296.7	19	25K	4				22	30 PP
JERUSALEM	138.58	293.7	19	26	3					
ISTANBUL KA.	141.85	309.3	19	29	1				22	41 PP
HELWAN	142.01	290.9	19	27	-2				22	51
COPENHAGEN	142.23	339.2	19	15	-14	26	43	10	22	41 PP
SKALNATE PL.	143.60	326.0	19	45	14					
COLLMBERG	145.50	334.2	19	35	0				23	6 PKS
HALLE	145.76	335.3	19	37	2				28	49 PKKP
PRUHONICE	145.82	331.3	19	37	2				23	14 PP
BRATISLAVA	145.86	326.9	19	39	4					
BELGRADE	145.99	319.7	19	40K	4				24	11
VIENNA-H.	146.17	327.6	19	37	1					
JENA	146.35	335.0	19	37	1				21	8
WITTEVEEN	146.46	341.5	19	41	5					
DURHAM	146.47	351.0	19	40A	4				19	59 PKP2
ATHENS	146.76	306.6	19	38K	1				19	48 PKP2
KASPERSKE H.	146.87	331.1	19	40	3				22	5
HUNSTER	146.91	339.8	19	40	3					
BANGUI	147.19	242.2	19	38	0					
DE BILT	147.53	342.4	19	44	6				33	9 PS
BENSBERG	147.92	339.3	19	45	6				20	33
LJUBLJANA	148.58	326.2	19	46	6				20	21
STUTTGART	148.97	334.8	19	47	7					
KEW	149.43	347.9	19	47	6					

STRASBOURG	149.71	336.1	19 46	4	23 32 PP
BASLE	150.64	335.2	20 4	21	
PARIS	151.24	342.5	19 53	9	20 38
BESANCON	151.48	336.7	19 53	9	20 16
FLORENCE X.	151.83	326.0	19 47	2	20 29
FOLINIERE	152.02	346.3	19 55	10	
ROSELEND	152.27	332.6	19 55	10	20 16
ROME	152.41	321.7	19 49	3	23 40 PP
GARCHY	152.45	340.4	19 55	9	20 11 PKP2
MESSINA	152.55	312.2	19 47	1	23 37
MONACO	153.74	330.4	19 57	10	
CLERMONT-FD.	153.77	338.7	19 54	7	
MBOUR	170.15	137.5	20 10	6	21 23

NOVEMBER 20 17.H 58.M 32.S EPICENTRE 31.34 -40.73 DEPTH= 148.KM

A= 0.64837 B=-0.55835 C= 0.51755 D=-0.6525 E=-0.7577
G= 0.3922 H=-0.3377 K=-0.8557 HT= 1.4

DEPTH OF FOCUS= 0.018R

SE= 3.80

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ANGRA DO HO.	13.25	52.9			6 8	41		
HALIFAX	22.28	313.0	4 44K	-1				
ANTIGUA	23.82	238.5	5 4	4				
ST. KITTS	24.35	240.2	5 0	-5				
FORT FRANCE	24.95	233.1	5 12	1				11 39
ST. VINCENT	26.15	230.8	5 25	3				
SAN JUAN	26.33	246.6	5 20	-4	10 18	34		
LISBON	26.80	65.3	5 36A	8	10 17	26	5 52	6 4 PP
COIMBRA	27.54	62.3	5 33	-2	10 13	10		6 29 PP
MBOUR	27.55	122.4	5 34	-1	10 8	5		
SERRA PILAR	27.57	60.3	5 32A	-3	10 13	9		6 23 PP
TRINIDAD	28.11	227.4	5 35	-5				
FORDHAM	28.27	298.9	5 51	10	10 1	-14		
PALISADES	28.32	299.2	5 45	3	10 35	19		6 22 PP
SHAWINIGAN	28.94	310.8	5 44	-3				
TOLEDO	30.85	63.7	6 2K	-2	11 17	21		7 31 PP
GRANADA	31.10	69.0	6 20K	14	11 20	20		6 56 PP
PENNSYLVANIA	31.27	298.0	6 11	3	11 26	24		6 59
ALMERIA	32.01	69.6	6 13K	-1	11 12	-2		7 27 PP
CHAPEL HILL	32.09	288.7	5 57	-18				
MORGANTOWN	32.78	295.6	6 19	-2				
BENI ABBES	33.05	81.9	6 45	22				
ALICANTE	33.57	66.8	6 29	1	11 52	14		7 43 PP
COLUMBIA	33.88	285.4	6 31	1				
JERSEY	33.99	47.1	6 39	8				
CLEVELAND	34.08	298.8	6 31K	-1	11 59	13		
TORTOSA	34.37	62.4	6 56	21	12 14	24		
REYKJAVIK	34.88	14.3	6 46	7				
FOLINIERE	34.90	48.3	6 38	-1				19 51
SIDA	35.47	17.2	6 43	-1				
KEW	35.78	43.9	6 49	3	12 26	14		
BLACK RIVER	36.09	257.3	6 54	5				
DURHAM	36.27	38.2	6 55	5	12 45	26		8 15 PP
CLERMONT-FD.	36.73	54.2	6 55	1	12 52	26		
PARIS	36.82	49.1	6 54	-1				8 33 PP
GARCHY	36.92	51.7	6 54	-2				7 16
ABERDEEN	37.05	34.4	7 2K	5	12 54	23		8 40 PP
BLOOMINGTON	37.85	294.9	7 2A	-2	13 16	33	7 14	15 48 SS
GALERAZAMBA	37.93	245.0	7 12	8				
BESANCON	38.87	52.2	7 12	0				7 35
DE BILT	39.23	44.5	7 24	9	13 28	24		
NEUCHATEL	39.50	52.7	7 17	0				
MONACO	39.62	57.9	7 12	-6				
ROSELEND	39.85	55.1	7 15	-5				7 32
BASLE	39.98	52.0	7 28	7				
BENSBERG	40.21	46.6	7 23K	0	13 53	34		9 16 PP
STRASBOURG	40.23	50.4	7 22	-1	13 31	12		9 28 PCP
WITTEVEEN	40.29	43.7	7 25	1				
C. GIRARDEAU	40.38	292.2	7 24A	-1	13 46	25		
CUGLIERI	40.53	63.4						25 38
MUNSTER	40.68	45.2	7 26	-1				

KARLSRUHE	40.70	49.8	7	27	0	13	40	14			
FELDBERG	40.89	48.0	7	23	-6						
PAVIA	40.92	55.7	7	37K	8	13	53	24		18	27 SSS
DUBUQUE	40.92	300.2	7	29	0				7 36	16	11 SS
HEIDELBERG	40.96	49.2	7	29	0						
EBINGEN	40.98	51.1	7	28	-2						
CHIAVARI	41.00	57.0	7	34	4	12	24	-66		8	54
BOGOTA	41.06	236.5	7	43	13	14	8	37			
TUBINGEN	41.08	50.6	7	28	-2						
STUTTGART	41.25	50.3	7	31	-1	13	57	23		16	57
RAVENSBURG	41.38	51.8	7	39	6						
BERGEN	41.91	32.3	7	39	2						
CHINCHINA	41.94	238.5	7	40	3	14	6	22			
ROLLA	42.18	293.4	7	37	-2	13	59	11	7 48	18	17 SS
FLORENCE X.	42.39	57.8	7	38	-3	14	13	22			
PADOVA	42.83	55.4	7	53	8	14	13	16		9	43 PP
JENA	42.97	47.3	7	44	-2	14	23	24		9	31 PPP
LITTLE ROCK	43.01	288.9	7	42A	-4	14	17	17			
HALLE	43.26	46.5	7	48	0	14	8	5			
ROME	43.38	60.5	7	49K	0	14	29	24	7 58	17	46 SS
COLLMBERG	43.90	46.9	7	52	-1	14	40	27		9	42 PP
KASPERSKE H.	44.10	50.1	7	54	-1					9	43 PP
TRIESTE	44.15	55.1	7	55	0	14	27	11	8 3	9	35 PP
COPENHAGEN	44.20	40.6	7	55	-1	14	41	24	8 3	10	4 PP
FAYETTEVILLE	44.26	291.2	7	53K	-3	14	35	17		14	42 *SS
LJUBLJANA	44.68	54.5	7	58A	-2	14	33	9	8 7	9	42 PP
PRAGUE	44.71	48.8	8	6	6	14	44	20			
MERIDA	44.78	268.9	7	58	-2					12	43
PRUHONICE	44.78	48.9	7	59A	-1	14	42	17			
MANHATTEN	45.65	295.9	8	4	-3				8 12		
ZAGREB	45.71	54.8	8	3	-5					14	2
VIENNA-H.	45.93	51.4	8	11	2					9	56 PP
SKALSTUGAN	46.12	29.7	8	10K	-1					8	36
MESSINA	46.14	65.4	8	9	-2	14	51	6	8 17	9	55 PP
BRATISLAVA	46.42	51.5	8	12K	-1	15	11	22		10	7 PP
THULE	46.99	351.4								11	16
RACIBORZ	47.13	48.8	8	18	-1					10	4 PP
HURBANOVO	47.16	51.9	8	5	-14	15	11	12			
UPPSALA	47.68	35.5	8	22K	-1						
WICHITA MTS.	48.05	290.3	8	23	-3	15	27	15	8 36	10	22 PP
KRAKOW	48.25	48.9	8	27	-1					10	27 PP
TITOGRAD	48.34	59.1	8	29	1	15	43	27		10	31 PP
SKALNATE PL.	48.48	50.0	8	18	-11	15	16	-2			
BELGRADE	48.92	55.8	8	33K	0	15	51	27		10	38 PP
TIMISOARA	49.37	54.5	8	50	14						
TROMSOE	50.50	23.1	8	42	-3						
KIRUNA	50.55	25.5	8	44	-1						
RESOLUTE	50.79	343.8	8	46	-1	16	15	25		10	48 PP
VERA CRUZ	51.07	270.1	8	44	-5					12	14
NURMIJARVI	51.24	35.2	8	48	-2						
HELSINKI	51.37	35.7	8	51	0						
ALERT	51.84	356.5	8	52K	-3						
LARAMIE	52.10	300.2	8	53	-4						
ATHENS	52.50	64.0	9	1	1						
SODANKYLA	52.79	26.6	9	1	-1						
BUCHAREST	52.98	55.6	9	5	4					12	56
TACUBAYA	53.61	271.9	9	19	11	16	51	23		12	17 PPP
PULKOVO	54.06	36.2	9	10	-1						
LA PAZ	54.36	212.9	9	10	-3						
KISHINEV	54.42	52.0	9	12	-2						
FLAMING GRGE	54.99	300.5	9	15	-3						
ISTANBUL KA.	55.80	59.1	9	30	6	17	22	25			
AREQUIPA	55.96	216.3	9	23	-2						
BUTTE	56.15	307.1	9	25	-1						
HUNGRY HORSE	56.66	310.1	9	25	-5						
SALT LAKE C.	56.84	300.9	9	38	7						
BANFF	57.09	313.6	9	29	-4						
MOULD BAY	57.11	343.8	9	32	-1						
GLEN CANYON	57.68	296.5	9	35	-2						
TUCSON TELE.	58.44	291.0	9	42	0						
TUCSON	58.56	291.0	9	42	-1	18	11	38			
PENTICTON	60.05	312.2	9	50	-3						
EUREKA	60.23	300.4	9	53	-2					11	38 PP
BOULDER CITY	60.47	296.3	9	55	-1						
HELWAN	60.97	70.9	10	0	0	18	28	24			
BANGUI	61.70	103.0	10	2	-3					11	8 PCP
VICTORIA	62.68	312.1	10	9	-2						
RENO	63.03	301.6	10	12K	-1						
KSARA	63.15	65.2	10	21	7	18	57	25		12	33 PP

ALBERNI	63.33	313.2	10	18	3						
JERUSALEM	63.38	67.5	10	15	-1					12	31 PP
PASADENA	63.67	295.4	10	22	4	19	4	26		22	40 SS
CORVALLIS	63.82	307.9	10	18	-1						
FRESNO	63.97	298.7	10	14	-6						
MINERAL	64.05	302.9	10	18K	-2						
SHASTA	64.49	303.5	10	21	-2						
LICK	65.14	299.8	10	27K	0						
VINEYARD	65.16	299.2	10	35A	8						
CONCORD	65.23	300.6	10	36K	8						
CALISTOGA	65.36	301.5	10	29A	1						
BERKELEY	65.41	300.6	10	38A	9						
COLLEGE	68.86	334.0	10	49	-1						
LWIRO	73.81	102.9	11	21	1						
TEHERAN	74.03	57.7	11	23	2	21	14	34			
WINDHOEK	77.08	126.6	11	35	-3						
BROKEN HILL	80.45	113.3	11	58	1						
BULAWAYO	83.89	117.8	12	16	2						
KIMBERLEY	86.34	126.8	12	14	-12						
HERMANUS	86.40	134.2				23	21	33		24	15 PPS
QUETTA	88.06	55.6	12	36	1	23	32	28			
LAHORE	92.29	50.7	12	56	2						
DEHRA DUN	95.53	49.6	13	24	15					23	59
NEW DELHI	96.10	51.4	13	2K	-10						
BOMBAY	99.04	61.5	17	32	247					26	32
CHATRA	103.73	46.5	17	57	251					24	33
SHILLONG	107.52	44.2	14	8	777						
MATUSIRO	112.47	0.9								27	8 SKKS
BYRD STATION	118.72	191.3	18	32	2					28	47 PKKP
SOUTH POLE	121.17	180.0	19	40	65						
MEDAN	128.06	55.6	19	3	15						
SCOTT BASE	131.81	187.5	18	53	-3						
LEMBANG	141.67	57.1	19	24	10					22	39
TUAI	148.28	245.9	19	38	13						
CHATEAU	149.52	245.0	19	34	7						
KARAPIRO	149.58	247.5	19	38	11						
RABAUL	150.40	333.2	19	38	10						
GEBBIES PASS	150.99	235.4	19	51	22						
CHARTERS TS.	167.15	329.0	19	54	6					32	5
MOORLANDS	167.24	207.5	21	1	73						

NOVEMBER 22 11.H 6.M 45.S EPICENTRE -21.50 169.77 DEPTH= 80.KM

A=-0.91645 B= 0.16532 C=-0.36440 D= 0.1775 E= 0.9841
G= 0.3586 H=-0.0647 K=-0.9312 HT= 4.3

DEPTH OF FOCUS= 0.007R

SE= 2.76

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT VILA	3.99	339.7	0	56	-4	1	43	-3					
KOUMAC	5.22	279.4	1	25	8	2	32	16					
BRISBANE	16.54	245.9	3	42	-6	6	42	-6					
KARAPIRO	17.11	164.3	3	55	0								
CHATEAU	18.32	165.6	4	11	1								
TUAI	18.37	161.4	4	10	0								
AFIAMALU	19.11	69.8	4	17	-2								
WELLINGTON	20.17	169.0	4	30	0	8	33	26					
RIVERVIEW	20.52	229.3	4	30	-4						8	29	
CHARTERS TS.	22.03	269.4	4	47	-2	8	45	4					
GEBBIES PASS	22.27	174.5	4	57	6								
CANBERRA	22.82	228.4	4	57A	1	9	3	8	8	45			
ROXBURGH	23.92	180.8				9	25	10					
PORT MORESBY	24.86	295.5	5	18	2	9	45	14					
MELBOURNE	26.89	227.3	5	34	-1	10	39	35					
MOORLANDS	28.18	217.0	5	50	3								
ADELAIDE	30.33	237.0	6	5	-1								
DARWIN	38.25	277.3	7	13	-1								
CAPE HALLETT	50.83	179.8	8	52A	-2	16	3	0			18	50	SCS
SCOTT BASE	56.42	180.8	9	34	-1								
MATUSIRO	64.98	332.3	10	33K	0								
BYRD STATION	65.64	169.6	10	34	-4								
MAWSON	76.54	202.2	11	43	0				11	56			
PEKING	79.00	321.0	11	58	2	21	58	11					

KUNMING	79.89	302.0	12	3	2	22	8	11			
CHENGTU	81.69	307.4				22	25	10			
LANCHOW	84.60	312.0	12	27	2						
SHILLONG	88.86	298.0	12	46A	0						
CHINA LAKE	89.22	50.9	12	50	2						
BOULDER CITY	91.30	51.7	12	58	0						
EUREKA	92.02	48.2	13	1	0						
COLLEGE	92.06	16.7	12	58	-3						
SAN JUAN	127.59	82.9	18	57	1						
NURMIJARVI	134.00	336.8	19	7	-1						
SKALNATE PL.	143.29	326.2	19	55	30						
SOFIA	144.92	314.9	19	24	-4						
COLLMBERG	145.17	334.3	19	29A	1				22	49	PKS
HALLE	145.43	335.4	19	30	1				20	38	
PRUHONICE	145.50	331.5	19	30	1				20	25	
BRATISLAVA	145.54	327.1	19	31	2						
VIENNA-H.	145.85	327.8	19	31	2						
JENA	146.03	335.1	19	30	0						
ATHENS	146.49	306.9							19	42	PKP2
KASPERSKE H.	146.56	331.2	19	34	4						
MUNSTER	146.58	339.9	19	14	-16						
BANGUI	147.24	242.8	19	33	1						
BENSBERG	147.59	339.3	19	36	4				20	15	
FELDBERG	147.78	337.3	19	42	10						
LJUBLJANA	148.27	326.3	19	35	2				23	38	
HEIDELBERG	148.35	336.2	19	38	5						
STUTTGART	148.65	334.9	19	39	5						
TUBINGEN	148.92	334.8	19	40	6						
TRIESTE	148.93	326.5	19	38	4				19	48	PKP2
EBINGEN	149.25	334.5	19	40	5						
RAVENSBURG	149.30	333.4	19	40	5						
STRASBOURG	149.39	336.2	19	41K	6						
PARIS	150.92	342.6	19	45	8						
BESANCON	151.16	336.8	19	45	7						
ROSELEND	151.95	332.7	19	47K	8						
GARCHY	152.12	340.4	19	47	8				20	7	PKP2

NOVEMBER 25 14.H 11.M 23.S EPICENTRE -6.34 154.94 DEPTH= 82.KM

A=-0.90037 B= 0.42107 C=-0.10967 D= 0.4236 E= 0.9058
G= 0.0993 H=-0.0465 K=-0.9940 HT= 6.9

DEPTH OF FOCUS= 0.008R

SE= 2.14

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
RABAUL	3.48	307.5	0	53	-1								
HONIARA	5.84	122.1	1	27	1	2	37	5					
PORT MORESBY	8.29	248.0	1	58K	-2	3	31	-2					
CHARTERS TS.	16.06	210.8	3	42	0	6	46	8					
KOUMAC	16.79	148.2	4	0	8								
PORT VILA	17.29	132.1	3	58	0								
NOUMEA	19.37	146.1	4	20A	-2								
BRISBANE	21.04	185.3	4	39	0								
GUAM	22.12	332.8	4	52	2								
DARWIN	24.52	254.1	5	14	1	9	29	4					
RIVERVIEW	27.58	186.8	5	41	-1	10	23	7			10	45	
CANBERRA	29.35	189.9	5	57A	-1				6	15	6	51	PP
MELBOURNE	32.63	194.7	6	26	0								
AFIAMALU	33.59	105.6	6	32	-3								
SAVANNAH	35.90	189.9	6	55	1				7	8			
TARRALEAH	36.59	190.6	7	1A	1				7	14			
KARAPIRO	36.60	152.2	7	0	0						9	20	PCP
MOORLANDS	36.60	189.6	7	1	1						9	24	PCP
FORT NELSON	37.05	189.3	7	5	1								
CHATEAU	37.63	153.4	7	9	0								
WELLINGTON	39.03	156.0	7	22	1								
MANILA	39.53	302.1	7	24	-1								
GEBBIES PASS	40.34	160.1	7	29	-2								
MUNDARING	44.20	229.7	8	2	-1								
MATUSIRO	45.44	341.0	8	10	-3								
MACQUARIE I.	48.13	176.9	8	34	0								
MEDAN	57.03	278.4	9	13K	-27								
CAPE HALLETT	66.57	175.0	10	44	0	19	41	14					

SHILLONG	68.93	300.4	10 56A	-3			
SCOTT BASE	71.74	177.4	11 15	-1			11 29 PCP
MIRNY	73.28	201.6	11 24	-1			
CHATRA	73.33	300.3	11 37	12			
VISHAKHAPTNM	74.62	290.2	11 40	8			21 32
NEW DELHI	82.33	299.9	12 13K	-2			22 51
COLLEGE	82.50	21.2	12 13	-2	12 31		
BYRD STATION	83.02	169.9	12 17	-1			
POONA	83.60	289.4	12 35A	14			
SOUTH POLE	83.70	180.0	12 21	0			
BOMBAY	84.62	289.6					22 47
MAWSON	84.97	202.6	12 27	-1	12 42		
LAHORE	85.33	302.3	12 44	14			
ALBERNI	88.43	40.2	12 43	-2			
SHASTA	88.56	49.0	12 45	0			
RENO	90.34	50.4	12 55	1			
PASADENA	90.95	55.9	12 57	1	13 13		
QUETTA	91.41	300.0	13 13	14			
PENTICTON	91.79	40.7	12 59	-1			
EUREKA	93.28	50.8	13 8	1	13 26		15 16
BOULDER CITY	93.87	54.4	13 12	2	13 28		
BANFF	94.59	39.2	13 12	-1			
HUNGRY HORSE	95.37	42.1	13 18	1	13 33		
FLAMING GRGE	98.40	49.7	13 21	-9			
WICHITA MTS.	107.12	55.7	18 17	777			18 51 PP
KIMBERLEY	120.69	231.3	18 43	0			
BULAWAYO	121.04	242.1	18 44	0			
BREBEUF	122.73	38.8	18 56K	9			
BROKEN HILL	123.03	248.3	18 48	1			
COLLMBERG	125.22	331.7	18 51	-1			20 8
BLACK RIVER	127.27	72.3	18 52	-4			
STUTTGART	128.70	331.4	18 57	-1			
GARCH	132.62	334.1	19 5	-1			23 10 PKP2
BANGUI	136.47	269.7	19 11	-2			22 1 PP
SAN JUAN	138.26	69.5	19 17	1	19 34		
CARACAS	138.40	81.4	19 17	1			
ST. KITTS	141.63	70.1	19 25	3			
ANTIGUA	142.50	70.1	19 20	-4			
ST. VINCENT	143.71	76.4	18 52	-34			
TRINIDAD	143.83	80.7	19 24	-2			

NOVEMBER 25 20.H 19.M 54.S EPICENTRE 36.29 141.38 DEPTH= 59.KM

A=-0.63122 B= 0.50428 C= 0.58929 D= 0.6242 E= 0.7813
G=-0.4604 H= 0.3678 K=-0.8079 HT= -0.3

DEPTH OF FOCUS= 0.004R

SE= 3.61

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
TYOSI	0.71	217.1	0	9K	-7	0	20	-7				
MITO	0.74	277.2	0	12K	-4	0	24	-4				
ONAHAMA	0.76	329.8	0	12K	-4	0	24	-4				
KAKIOKA	0.97	266.8	0	15K	-3	0	24	-8				
TUKUBASAN	1.04	266.4	0	15	-4	0	35	2				
UTUNOMIYA	1.24	282.4	0	21K	-1	0	40	2				
SHIRAKAWA	1.25	312.0	0	19K	-3	0	38	0				
HONGO	1.43	246.5	0	21	-3						0	58
TOKYO C.M.O.	1.46	245.7	0	23	-2	0	43	0				
KUMAGAYA	1.62	265.6	0	24	-3	0	47	0				
HUKUSIMA	1.63	333.7	0	25K	-2	0	49	2				
YOKOHAMA	1.65	239.0	0	28A	1	0	52	4				
MERA	1.86	223.1	0	27	-3	0	59	6				
MAEBASI	1.87	274.0	0	30K	0	0	59	6				
TITIBU	1.89	261.2	0	28	-2	0	55	2				
SENDAI	2.01	349.2	0	30A	-2	0	55	-1				
YAMAGATA	2.12	337.5	0	31A	-3	1	1	2				
ISINOMAKI	2.14	358.8	0	30A	-4	0	57	-3				
OSIMA	2.23	227.6	0	33	-2							
AJIRO	2.23	236.9	0	33K	-2	1	16	14				
HUNATU	2.26	250.3	0	38	2	1	6	3				
OIWAKE	2.29	271.8	0	36	0	1	12	9				
MISIMA	2.30	240.1	0	34A	-2	1	2	-2				
KOHU	2.37	255.7	0	36	-1	1	20	15				
NIIGATA	2.47	311.8	0	44	5	1	11	3				

MATUSIRO	2.57	276.5	0	38K	-2	1	10	0		
NAGANO	2.59	279.3	0	41A	1	1	25	14		
TAKADA	2.64	288.7	0	39	-2	1	14	2		
MATUMOTO	2.76	270.2	0	42	-1	1	20	5		
SHIZUOKA	2.76	242.4	0	41K	-2	1	27	12		
MIZUSAWA	2.84	356.1	0	43	-1	1	20	3		
SAKATA	2.88	335.2	1	3	19	1	23	5		
IIDA	2.98	256.1	0	46A	0	1	34	13		
AIKAWA	3.04	305.6	0	44	-3	1	34	12		
OMAESAKI	3.08	237.7	0	55	8					
MIYAKO	3.39	7.8	0	48	-3	1	24	-7		
TOYAMA	3.39	278.1	0	53A	1	1	40	9		
MORIOKA	3.41	357.3	0	50	-2	1	28	-3		
HATIDYOZIMA	3.44	202.8	0	48	-4	1	24	-8		
AKITA	3.57	343.9	1	7	13	1	49	14		
WAZIMA	3.75	288.2	0	55	-2					
NAGOYA	3.76	254.0	0	57	0	1	53	13		
KANAZAWA	3.82	275.0	1	10	12					
GIHU	3.85	258.0	0	58	0	1	48	6		
HUKUI	4.17	268.2	1	2	0	1	35	-16		
HATINOHE	4.23	1.6	1	7	4	1	55	3		
KAMEYAMA	4.25	251.7	1	11	7	2	8	15		
TU	4.27	249.6	1	7	3	2	25	32		
HIKONE	4.29	257.8	1	4	0	2	3	9		
TSURUGA	4.35	263.1	1	4	-1					
AOMORI	4.55	354.3	1	10	2	2	8	8		
KYOTO	4.77	256.2	1	9	-2	2	15	9		
OWASE	4.79	243.9	1	19	8	2	30	24		
NARA	4.80	252.1	1	16	5	2	17	11		
MAIZURU	4.93	262.2	1	13	0	2	19	9		
ABUYAMA	4.94	255.0	1	12A	-1					
OSAKA	5.05	252.8	1	34	19	2	23	11		
KOBE	5.31	254.2	1	35	17	2	50	31		
TOYOOKA	5.38	263.8	1	24	5	2	34	13		
SIOMISAKI	5.41	240.0	1	19	-1	2	31	9		
WAKAYAMA	5.48	249.8	1	35	14	2	58	35		
HAKODATE	5.53	355.2	1	21	0	2	30	5		
SUMOTO	5.64	251.7	1	24	1	2	57	30		
MORI	5.83	354.1	1	30	4	2	45	13		
TOTTORI	5.90	264.5	1	24	-2	2	39	5		
URAKAWA	5.95	10.1	1	32	5	2	32	-3		
TOKUSIMA	5.99	250.3	1	28	0					
MURORAN	6.03	357.2	1	31	3	2	47	10		
TAKAMATU	6.31	254.0	1	32	0	3	18	34		
TOMAKOMAI	6.33	1.3	1	53	20	3	1	17		
SAIGO	6.51	271.6	1	47	12	3	5	16		
TSURUGISAN	6.51	250.2	1	53	18					
SUTTSU	6.56	352.6	1	50	14	3	1	11		
YONAGO	6.58	264.9	1	44	8					
MUROTO	6.66	245.0	1	46	9	3	25	33		
OBIHIRO	6.77	11.4	1	36	-3	3	1	6		
SAPPORO	6.77	359.8	1	39	0	3	5	10		
MATSUE	6.80	265.3	1	51	12					
KOTI	7.00	249.3	1	44	2	3	13	12		
KUSIRO	7.07	18.3	1	34	-9	2	50	-13		
MATUYAMA	7.46	253.4	2	0	12	3	55	43		
ASAHIGAWA	7.52	5.5								
RUMOE	7.65	1.3	2	8	17	3	33	16		
NEMURO	7.74	23.4								
SIMIDU	7.77	245.6	1	43	-10	3	32	12		
UWAZIMA	7.88	249.8	1	51	-3	4	3	40		
OOITA	8.59	252.0	2	3	-1	4	9	29		
WAKKANAI	9.12	1.3								
HUKUOKA	9.43	256.5	2	19	4	4	56	55		
KUMAMOTO	9.46	251.6	2	20	4	5	3	61		
SAGA	9.61	254.8	2	21	3	4	54	49		
VLADIVOSTOK	9.99	315.9	2	22	-1					
NAGASAKI	10.13	252.8	2	30	5	4	48	30		
KAGOSIMA	10.15	245.5								
Y.-SAKHLINSK	10.77	4.9	2	26	-8					
CHANGCHUN	14.41	306.4	3	18	-4	6	7	6		
ZO-SE	17.58	258.7	3	59	-3	7	31	18		
NANKING	19.16	263.8	4	17	-4	8	13	24		
PEKING	20.15	288.3	4	27	-4					
PETROPAVLOVK	20.66	30.6	4	42	5					
SIAN	26.51	275.2	5	32A	-1					
YAKUTSK	26.77	347.8	5	32	-4					
HONG KONG	27.41	246.9				10	30	14		

	2	12
	3	39
	2	55
	3	4
	4	48
	5	41
	11	15
	6	23 PP

ULAN-BATOR	27.87	305.4	5	45	-1						
LANCHOW	30.19	280.9	6	5A	-1	11	10	10			
IRKUTSK	30.56	313.3	6	8A	-2						
KUNMING	34.83	262.3	6	45A	-2				15	35	
LHASA	42.37	276.0	7	50A	0						
SHILLONG	43.38	270.1	7	55A	-3						
PORT MORESBY	45.77	172.0	8	19	2						
CHATRA	46.63	274.3	8	24	0	15	20	12			
BOKARO	49.08	271.5	8	41	-2						
COLLEGE	49.74	31.9	8	46	-2						
FRUNSE	50.68	299.1	8	55	0						
LEMBANG	53.32	223.5	9	12A	-3						
NEW DELHI	53.85	281.3	9	17A	-2						
VISHAKHAPTNM	54.17	266.3	9	22	1				17	20	
LAHORE	54.84	285.9	9	25	-1						
TASHKENT	54.92	298.9	9	26	-1						
CHARTERS TS.	56.26	174.5	9	39	3						
ALERT	60.87	3.5	10	6A	-2						
QUETTA	61.15	287.8	10	9	-1						
POONA	61.37	272.7	10	10A	-2						
BOMBAY	62.01	273.6	10	15	-1				18	57	
RESOLUTE	63.33	14.3	10	22A	-3						
APATITY	63.35	335.9	10	22K	-3						
KIZYL-ARVAT	64.88	301.2	10	34	-1						
SODANKYLA	65.64	337.3	10	38A	-2						
THULE	66.00	7.4	10	39	-3						
TROMSOE	66.41	341.2	10	43	-2						
KIRUNA	67.20	339.3	10	48A	-2						
MOSCOW	67.83	323.6	10	52	-2						
PENTICTON	68.72	43.9	10	57	-2						
PULKOVO	68.81	329.6	11	1	1						
TEHERAN	69.95	300.0	11	7	0						
NURMIJARVI	70.59	332.1	11	9A	-1						
HELSINKI	70.69	331.7	11	10	-1						
GORIS	71.44	305.6	11	14	-2						
SHASTA	71.57	52.8	11	16	0						
CANBERRA	71.60	173.4	11	16A	0						
MINERAL	72.27	52.8	11	21A	1						
HUNGRY HORSE	72.35	42.6	11	20	-1				11	44	
SKALSTUGAN	72.60	338.7	11	21	-1						
UPPSALA	73.61	334.1	11	26	-2						
BOZEMAN	75.57	43.6	11	38	-2						
EUREKA	76.34	51.0	11	43	-1			11	54		
WOODY	76.65	55.5	11	45	-1						
SALT LAKE C.	78.10	48.0	11	53	-1						
COPENHAGEN	78.57	333.3	12	7	11						
BOULDER CITY	79.14	53.3	12	2	3						
FLAMING GRGE	79.46	46.7	12	1	0						
SKALNATE PL.	80.18	325.2	12	2	-3				12	15	PCP
RACIBORZ	80.45	326.9	12	6	-1				12	17	PCP
KSARA	81.56	305.8	12	13	1				15	24	PP
COLLMBERG	81.73	330.2	12	11A	-2				15	18	PP
PRUHONICE	82.10	328.6	12	16A	1				14	50	
BRATISLAVA	82.35	326.1	12	14A	-2				12	25	PCP
JENA	82.59	330.6	12	16	-2				15	45	PP
KASPERSKE H.	83.16	328.5	12	20	-1						
JERUSALEM	83.26	304.5	12	21A	0				15	36	PP
TUCSON	84.04	54.2	12	26	1						
TUCSON TELE.	84.06	54.1	12	27	2	12	36				
FELDBERG	84.37	331.8	12	36	9						
HEIDELBERG	84.92	331.2	12	29	0						
LJUBLJANA	85.10	326.0	12	29	-1				13	1	
STUTTGART	85.21	330.5	12	30	-1						
TUBINGEN	85.48	330.5	12	31	-1						
STRASBOURG	85.96	331.2	12	34	0				24	13	SP
KEW	86.38	337.1	12	35	-2						
PARIS	87.72	334.2	12	43	0				13	5	
MANHATTEN	87.83	41.2	12	42	-2			12	51		
FLORENCE X.	88.33	326.4	12	39	-7						
ROSELEND	88.52	329.4	12	49	2						
GARCHY	88.81	333.1	12	59	11						
ROME	89.24	324.5							33	16	
WICHITA MTS.	89.94	45.5	12	51	-3	23	41	2	13	4	39 46 SKKS
ROLLA	91.24	39.4	12	48	-12						
FAYETTEVILLE	91.40	41.9	12	58	-2				13	38	*SP
BLOOMINGTON	92.88	35.3	12	58	-9						
SOUTH POLE	126.11	180.0	18	58	3						
BYRD STATION	127.05	167.5	18	50	-7						

LA PAZ 147.23 60.8 19 37 3

NOVEMBER 27 5.H 57.M 15.S EPICENTRE 31.56 131.33 DEPTH= 70.KM

A=-0.56377 B= 0.64107 C= 0.52077 D= 0.7509 E= 0.6604
G=-0.3439 H= 0.3911 K=-0.8537 HT= 1.3

DEPTH OF FOCUS= 0.006R

SE= 3.09

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
MIYAZAKI	0.37	12.0	0	15K	2	0	22	-1				
KAGOSIMA	0.67	271.4	0	15K	-1	0	28	0				
NOBOEKA	1.07	16.6	0	20K	0	0	35	0				
YAKUSIMA	1.31	213.1	0	18A	-5	0	37	-4				
ASOSAN	1.36	350.8	0	16	-8	0	37	-5				
KUMAMOTO	1.37	337.2	0	25A	1	0	47	5				
UNZENDAKE	1.49	322.3	0	26A	0	0	46	1				
OOITA	1.69	8.3	0	31A	3	0	54	5				
NAGASAKI	1.70	314.0	0	28A	0	0	54	4				
SAGA	1.90	333.0	0	33A	2	1	2	8				
UWAZIMA	1.96	31.4	0	29	-3							
HUKUOKA	2.17	338.6	0	36A	1	1	9	8				
SIMONOSEKI	2.41	352.1	0	38K	0	1	13	6				
TOMIE	2.42	296.7	0	38A	0	1	13	6				
MATUYAMA	2.59	27.9	0	39A	-2	1	27	16				
KOTI	2.72	42.5	0	41	-2	1	13	-2				
MUROTO	2.94	54.2	0	43	-3	1	13	-7				
HIROSIMA	2.95	18.0	0	44A	-2	1	19	-2				
ITUHARA	3.15	327.4	0	49A	0	1	30	5				
TSURUGISAN	3.22	43.9	0	55	6	1	50	23				
TAKAMATU	3.58	39.0	0	54	-1	1	45	9				
OKAYAMA	3.80	34.2	0	57	-1	1	44	2				
HIMEJI	3.91	40.5	1	4	5	2	2	18				
SUMOTO	4.09	46.4	0	59A	-3	2	9	20			1	29
MATSUE	4.15	20.1	0	59	-3	2	8	18				
WAKAYAMA	4.19	49.4	1	28	25	2	18	27				
SIOMISAKI	4.20	62.1	0	55	-8	1	41	-11				
YONAGO	4.22	23.1	1	8	5	2	0	8				
KOBE	4.49	45.0	1	6	-1	2	0	1				
TOTTORI	4.61	30.4	1	9	0	2	3	1				
OSAKA	4.68	47.7	1	8	-2	2	1	-3			2	49
OWASE	4.81	57.3	1	7	-5	1	56	-11				
ABUYAMA	4.85	46.0	1	9A	-3							
NARA	4.90	49.3	1	13	0	3	1	52				
TOYOOKA	4.92	35.4	1	10	-3	2	3	-6			1	43
SAIGO	4.92	19.2	1	9	-4	2	10	0				
KYOTO	5.05	45.7	1	30A	15	2	37	24				
MAIZURU	5.17	39.9	1	17	0	2	44	28				
TU	5.37	52.9	1	24	5	2	33	12				
KAMEYAMA	5.42	51.3	1	22	2	2	18	-4				
HIKONE	5.54	46.7	1	16	-6	2	23	-2				
TSURUGA	5.68	42.8	1	17	-7							
NAGOYA	5.94	51.1	1	25A	-2	2	37	2				
GIHU	5.95	48.4	1	27	0	3	7	32				
HUKUI	6.06	41.0	1	25	-4	2	38	0				
MAWASHI	6.19	211.9	1	29	-2	2	51	10				
OMAESAKI	6.53	60.5	1	44	8							
KANAZAWA	6.64	40.2	1	39	2							
TAKAYAMA	6.73	45.5	1	37	-1	3	33	39				
SHIZUOKA	6.83	58.2	1	36	-4	3	47	50				
TOYAMA	7.07	41.9	1	48	5	3	27	24				
MATUMOTO	7.24	47.9	1	51	6	3	17	10				
KOHU	7.29	53.8	1	45	-1	4	14	66				
MISIMA	7.30	58.8	1	41	-5	3	36	28				
HUNATU	7.35	55.7	1	46	-1	3	3	-7				
AJIRO	7.38	59.7	1	43	-4							
WAZIMA	7.41	36.9	1	48	0	3	46	35				
OSIMA	7.47	62.5	1	29	-20							
MATUSIRO	7.57	47.1	1	47A	-3	3	23	8			4	10
NAGANO	7.65	46.3	1	56	5	3	37	20				
OIWAKE	7.66	49.6	1	53	2	3	39	22				
TITIBU	7.82	53.6	1	54	1							
MERA	7.87	62.5	1	55	1							
YOKOHAMA	7.95	58.7	1	53	-2	3	37	13				

TAKADA	7.96	44.1	1	54	-1				4	17	
MAEBASI	8.04	51.0	2	1	5	4	33	66			
KUMAGAYA	8.11	53.4	1	57K	0	3	35	7			
TOKYO C.M.O.	8.14	57.4	2	1	3	3	43	14			
HONGO	8.17	57.3	2	1	3				4	49	
AIKAWA	8.60	39.5	2	24	20						
TUKUBASAN	8.65	55.1	2	0	-5	3	28	-14	2	15	*SP
UTUNOMIYA	8.66	52.6	2	6	1				4	51	
ZO-SE	8.69	269.6	2	3A	-2	3	43	0			
KAKIOKA	8.71	55.3	2	2	-3	5	1	78			
TYOSI	8.96	59.8	2	9	0						
NIIGATA	8.98	42.9	2	29	20				4	58	
MITO	8.99	55.2	2	7K	-2	4	6	16			
SHIRAKAWA	9.21	50.5	2	13	1				5	4	
ONAHAMA	9.57	53.2	2	17	0	4	7	3			
HUKUSIMA	9.74	48.1	2	21	1	4	12	4			
YAMAGATA	9.97	45.5	2	22	-1				5	41	
SENDAI	10.32	46.9	2	28	1				5	2	
ISINOMAKI	10.68	47.3	2	31	-1	5	15	44			
NANKING	10.69	276.0	2	33A	1	4	41	10			
TAIPEI	10.81	235.5	2	38	4				7	1	
MIZUSAWA	11.00	43.9	2	48	11	4	25	-14			
MORIOKA	11.40	41.8	2	45	3	4	52	4			
HWALIEN	11.44	231.1	2	45	2	5	9	20			
MIYAKO	11.83	44.0	3	3	15						
TAICHUNG	11.96	234.5	2	59	10						
HATINOHE	12.17	39.8	2	54	2						
HAKODATE	12.72	33.8	3	3	3						
MORI	12.86	32.5							2	31	
TAINAN	13.04	231.9							5	56	
CHANGCHUN	13.14	340.5	3	8A	3	5	43	13			
SUTTSU	13.27	29.7	3	11	4						
SAPPORO	13.97	31.9	3	16	0	5	56	6			
URAKAWA	13.98	37.7	3	20	4						
OBIHIRO	14.75	36.4	3	25	-1						
PEKING	14.91	308.7	3	29A	1	6	22	10			
KUSIRO	15.41	38.6	3	30	-5						
WAKKANAI	16.02	27.3							6	46	
Y.-SAKHLINSK	17.75	26.3	4	1	-3				4	13	PP
HONG KONG	17.84	243.1	4	4	-1	7	41	22			
CANTON	18.06	246.6	4	7	-1	7	32	9			
SIAN	19.00	284.1	4	19A	0	8	15	31			
MANILA	19.25	211.5	4	21	0	7	57	7			
UGLEGORSK	19.29	21.8	4	20	-2				7	58	
GUAM	21.82	142.6	4	47	-1						
LANCHOW	23.25	288.6	5	3A	1	9	16	11			
CHENGTU	23.39	275.0	5	2	-1	9	15	8			
ULAN-BATOR	24.74	318.3	5	15	-1	9	43	12			
KUNMING	25.92	262.9	5	25	-2	9	54	4			
IRKUTSK	28.57	324.3	5	51A	0				6	48	PP
PETROPAVLOVK	29.17	34.7	5	57	0						
YAKUTSK	30.49	358.5	6	7	-2	11	5	1	7	10	PP
LHASA	34.60	277.5	6	44A	0						
SHILLONG	35.03	270.3	6	46K	-2				13	4	
CHITTAGONG	36.23	265.2	6	57	-1						
CHATRA	38.64	274.5	7	18K	0				16	6	
CALCUTTA	39.10	267.5							9	4	
BOKARO	40.81	270.8	7	35	-1				9	15	
MEDAN	41.43	234.5	7	44K	3	14	3	12			
PORT MORESBY	43.45	157.0	7	47	-11	14	26	6	10	13	
LEMBANG	44.39	214.8	8	4	-1	14	39	5			
DEHRA DUN	45.34	283.0	8	11	-2				15	56	
FRUNSE	45.78	300.9	8	16	0				10	10	PP
TASHKENT	49.91	299.6	8	49	0				10	44	PP
MADRAS	50.33	260.5							10	53	
POONA	53.13	270.3	9	13	0						
CHARTERS TS.	53.31	162.4	9	11	-3				14	20	
SVERDLOVSK	53.83	320.0	9	17	-1						
BOMBAY	53.85	271.2	9	17	-1	16	50	4	11	9	PP
QUETTA	54.54	286.5	9	23	0						
COLLEGE	58.07	29.8	9	48	0						
ASHKABAD	58.90	298.0	9	53	-1				12	17	PP
KOUMAC	60.69	144.2	10	5	-1						
BRISBANE	62.08	158.4	10	17	1	18	19	-15			
NOUMEA	63.24	143.4	10	33A	10						
MOULD BAY	64.03	14.6	10	28A	-1						
APATITY	64.17	335.0	10	27A	-2						
MUNDARING	64.78	194.2	10	32	-1						

TEHERAN	64.90	297.8	10	36	2								
MAKHACH-KALA	65.10	306.4	10	34	-1						14	39	PPP
ALERT	65.98	2.0	10	42	1								
MOSCOW	66.53	322.0	10	43A	-2						11	1	PCP
ADELAIDE	66.54	173.4	10	42	-3				10	54	13	5	PP
SODANKYLA	66.65	335.9	10	44	-1								
GORIS	67.20	303.3	10	48A	-1						13	26	PP
TIFLIS	67.42	306.0	10	51A	1	19	47	8			13	10	PP
RIVERVIEW	67.67	162.2	10	56A	4	19	50	8			27	16	SSS
TROMSOE	68.04	339.6	10	54	0								
PULKOVO	68.49	327.7	10	56	-1								
KIRUNA	68.52	337.6	10	57K	0								
CANBERRA	68.56	164.5	10	56	-1								
RESOLUTE	69.82	11.8	11	4A	-1								
NURMIJARVI	70.65	329.8	11	9	-1	20	21	4					
THULE	71.58	4.8	11	17	1								
SIMFEROPOL	73.11	312.6	11	26	1								
SKALSTUGAN	73.72	336.0	11	27K	-1								
UPPSALA	73.96	331.3	11	28K	-2						11	44	PCP
VICTORIA	76.13	41.4	11	47	5				12	1	14	43	PP
WARSAW	76.80	323.7				21	37	11					
KARLSKRONA	77.04	328.9	11	56	9								
KSARA	77.23	301.8	11	47	-1				12	1	14	43	PP
GOTEBORG	77.60	331.4	11	48	-2								
PENTICTON	77.79	39.3	11	52	1								
ISTANBUL KA.	78.24	311.0	11	53	-1						14	53	PP
CORVALLIS	78.31	44.7	11	56K	2								
BUCHAREST	78.31	315.1	11	53	-1						15	6	PP
CAMPULUNG	78.49	316.2	11	24A	-31						11	59	
KRAKOW	78.62	322.2	11	55	-1						12	4	PCP
COPENHAGEN	78.72	329.6	11	55	-1								
JERUSALEM	78.72	300.3	11	57	1						14	59	PP
BANFF	78.84	36.2	11	57	0								
CHORZOW	78.97	322.8	11	58	0						12	11	PCP
RACIBORZ	79.50	322.9	12	3	2						12	7	PCP
KARAPIRO	80.50	146.0	12	5	-1								
SHASTA	81.01	47.6	12	9	0								
COLLMBERG	81.31	326.0	12	10	0						15	19	PP
HUNGRY HORSE	81.34	37.8	12	12	2						12	25	PCP
PRUHONICE	81.41	324.3	12	12K	1						15	10	PP
PRAGUE	81.41	324.5									14	58	
BELGRADE	81.41	317.7	12	13	2						23	50	PPS
CHATEAU	81.51	146.8	12	10	-1								
VIENNA-H.	81.57	322.2	12	11	-1								
MINERAL	81.70	47.6	12	14K	2								
CALISTOGA	82.04	49.4	12	14A	0								
JENA	82.23	326	12	15	0	22	45	22			28	21	SS
KASPERSKE H.	82.44	324	12	17	1						15	1	
HELWAN	82.57	300.4	12	17	0						19	0	
BERKELEY	82.68	49.9	12	17A	0								
WITTEVEEN	83.15	329.8	12	18	-2								
RENO	83.29	47.5	12	24K	4								
MUNSTER	83.34	328.8	12	22	1								
LICK	83.38	50.1	12	22K	1								
ATHENS	83.40	310.7	12	21	0								
BUTTE	83.58	39.0	12	23	1								
VINEYARD TE.	83.88	50.5	12	26K	3								
LJUBLJANA	83.94	321.3	12	25	1						12	45	
FELDBERG	84.18	327.2	12	33	8								
BENSBERG	84.25	328.3	12	31	6								
BOZEMAN	84.62	38.6	12	29	2								
HEIDELBERG	84.62	326.4	12	27	0								
PRIEST	84.72	50.6	12	29K	1								
STUTTGART	84.79	325.7	12	28	0	23	8	19			29	3	SS
FRESNO	84.91	49.7	12	30	1								
DURHAM	84.97	334.8	12	25	-4	22	43	-8					
KARLSRUHE	85.04	326.3	11	56	-33								
TUBINGEN	85.06	325.7	12	31	2								
RAVENSBURG	85.30	324.9	12	30	0								
EBINGEN	85.35	325.4	12	30	-1								
STRASBOURG	85.64	326.3	12	33	1						28	57	SS
EUREKA	85.71	45.7	12	33	1						12	54	
BASLE	86.47	325.6	12	31	-5								
FLORENCE X.	87.18	321.1	12	35	-5								
BESANCON	87.44	326.2	12	40	-1						13	5	
PASADENA	87.53	51.0	12	43	2	23	19	4					
ROME	87.77	319.1									26	0	
ROSELEND	87.88	324.2	12	36	-7								

PARIS	87.89	329.0	12 53	10						
MESSINA	88.38	314.8	12 39	-6	23 15	-8			16 4	PP
BOULDER CITY	88.58	47.9	12 50	4						
FLAMING GRGE	88.65	41.4	12 48	1						
GARCHY	88.77	327.7	12 47	0					12 55	PCP
MONACO	89.22	323.0	12 48	-1						
GLEN CANYON	89.97	45.5	12 53	0						
TUCSON	93.51	48.6	13 11	2						
TUCSON TELE.	93.53	48.5	13 11	2						
MANHATTEN	96.71	35.5	13 25K	1			13 41		17 17	PP
DUBUQUE	96.80	29.9	13 25	1					17 26	PP
TOLEDO	97.76	326.9	13 33	4						
WICHITA MTS.	99.06	39.7	13 35	1					17 40	PP
ROLLA	99.99	33.4	13 41K	2						
ST. LOUIS 1	100.16	31.9							17 44	PP
FAYETTEVILLE	100.32	36.0	13 41K	1					18 3	PP
BLOOMINGTON	101.32	29.1	13 43	-2						
PALISADES	104.12	19.4	14 11	14	25 51	82			18 21	PP
CAPE HALLETT	107.02	168.4	14 13	777	24 56	14			18 39	PP
SAN JUAN	127.60	21.1	18 58	1					19 43	
CARACAS	134.67	25.7	19 13	2	26 17	4				
BOGOTA	136.64	38.5	19 39	25					22 53	PKS
LA PAZ	156.81	54.2	19 51	4					26 47	PP

NOVEMBER 27 17.H 10.M 41.S EPICENTRE -0.63 127.56 DEPTH= 43.KM

A=-0.60960 B= 0.79263 C=-0.01092 D= 0.7927 E= 0.6096
G= 0.0067 H=-0.0087 K=-0.9999 HT= 7.2

DEPTH OF FOCUS= 0.002R

SE= 2.20

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
MANILA	16.50	337.4	3 47	-3				9 7	
LEMBANG	20.82	252.3	4 43	3	8 43	18			
PORT MORESBY	21.35	114.7	4 43K	-2	8 43	8		5 2	PP
DJAKARTA	21.41	254.6	4 47	1	8 47	11			
GUAM	22.04	50.0	4 54	2					
NHATRANG	22.25	305.6	4 54	0	8 59	8			
HENGCHUN	23.45	343.9	5 9	3	9 22	9			
TAWU	23.75	344.5	5 6	-3	9 0	-18			
TAITUNG	24.06	345.4	5 13	1	9 26	2			
HSINKONG	24.34	346.1	5 16	1	9 35	7			
TAINAN	24.55	343.5	5 19	2					
RABAUL	24.84	98.6	5 19	-1	9 46	9		5 49	
HWALIEN	25.12	347.1	5 25	3	9 52	11			
TAICHUNG	25.52	345.3	5 11	-15					
ILAN	25.87	347.8	5 54	25	10 21	27			
TAIPEI	26.17	347.5	5 33	1	10 4	5			
HONG KONG	26.27	331.0	5 32A	-1	9 41	-19		6 11	PP
CHARTERS TS.	26.62	137.8	5 35	-1	10 7	1			
CANTON	27.34	330.5	5 42A	-1	10 15	-3			
MEDAN	29.17	278.4	5 58A	-1	10 46	-1			
YAKUSIMA	31.03	4.9	6 19	3					
ZO-SE	32.13	349.7	6 22A	-3	11 19	-15			
KAGOSIMA	32.15	4.8	6 27	1				7 32	
MIYAZAKI	32.58	6.1	6 29	0	11 36	-5			
MUNDARING	32.97	197.9	6 30	-3	11 41	-6			
PERTH	33.07	198.5	6 35	1	12 6	18		7 40	PP
NAGASAKI	33.25	3.6	6 34	-1	11 50	-1			
HONIARA	33.39	106.2	6 34	-2					
KUMAMOTO	33.40	4.8	6 34	-2					
NANKING	33.56	346.4	6 36A	-2	11 58	2			
SIMIDU	33.62	8.2	6 37	-1				7 57	
OOITA	33.90	6.1	6 40	-1				7 52	
MUROTO	34.27	9.9	6 45	1				17 55	
KOTI	34.46	8.8	6 46	1	12 7	-3			
MATUYAMA	34.64	7.7	6 47	0				14 50	
SIOMISAKI	34.77	12.1	6 48	0	12 9	-6			
KUNMING	35.10	318.6	6 51A	0	12 18	-2			
HIROSIMA	35.11	7.0	6 50	-1	12 20	0			
TAKAMATU	35.29	9.3	6 54	1					
OWASE	35.46	12.4	6 55	1					
SUMOTO	35.46	10.5	6 54	0				9 56	
ADELAIDE	35.72	164.2	6 56A	0	12 39	10	7 13	9 7	PCP

OSAKA	35.88	11.2	6	59	1					9	39
BRISBANE	35.97	139.8	6	59	1	12	39	6			
ABUYAMA	36.10	11.2	6	57K	-2						
KAMEYAMA	36.27	12.4	7	3	2					12	3
KYOTO	36.28	11.4	7	0	-1					14	50
OMAESAKI	36.44	14.9	7	7	5						
TOYOOKA	36.61	9.9	7	3	-1	12	40	-3			
HIKONE	36.63	12.0	7	4	0						
NAGOYA	36.68	13.0	7	2	-2	13	0	16			
PORT BLAIR	36.70	290.5	7	7	2					11	37
SHIZUOKA	36.84	14.9	7	6	0						
TSURUGA	36.96	11.6	7	7	0						
AJIRO	37.10	15.8	7	7	-1						
IIDA	37.22	13.9	7	9	0					7	38
HUNATU	37.44	15.1	7	11	0					8	38
KOHU	37.54	14.8	7	11	-1						
TOKYO C.M.O.	37.87	16.3	7	24	10	12	59	-3			
MATUMOTO	37.95	13.7	7	16	1						
OIWAKE	38.17	14.4	7	20	3					13	21
TOYAMA	38.20	12.6	7	19	2					12	24
MATUSIRO	38.28	13.9	7	13	-5	13	3	-6		8	51 PP
CHENGTU	38.34	326.3	7	17	-1	13	6	-3			
MAEBASI	38.36	15.0	7	38	20						
NAGANO	38.40	13.8	7	17	-2	13	5	-5			
TUKUBASAN	38.47	16.4	7	13A	-6	13	4	-7		9	4 PPP
KAKIOKA	38.51	16.5	7	15	-5						
WAZIMA	38.79	11.9								8	53
SIAN	38.86	335.0	7	22A	-1	13	13	-4			
SHIRAKAWA	39.35	16.0	7	29	2						
ONAHAMA	39.38	16.9	7	27	0						
AIKAWA	39.70	13.3	7	26	-4						
RIVERVIEW	39.75	148.6	7	31K	1	13	44	13		9	6 PP
CANBERRA	39.88	152.2	7	31	0	13	37	4		9	7 PP
HUKUSIMA	40.01	16.0	7	32K	0	13	36	1			
YAMAGATA	40.44	15.6	7	35	-1						
SENDAI	40.61	16.2	7	38	1	13	42	-2			
ISINOMAKI	40.88	16.6	7	40	1	13	48	0			
KOUMAC	40.98	121.3	7	41	1						
MIZUSAWA	41.48	16.0	7	46	2	13	58	2			
CHITTAGONG	41.65	305.5	7	45	-1						
AKITA	41.76	14.6				14	15	14			
PEKING	41.78	346.8	7	45A	-2	13	53	-8			
MIYAKO	42.20	16.6	7	50	0	14	4	-3			
LANCHOW	42.66	331.2	7	53A	-1	13	52	-22			
SHILLONG	43.21	309.7	7	56A	-2	14	20	-2			
NOUMEA	43.54	122.4	8	0	-1	14	9	-18			
VLADIVOSTOK	43.73	4.6	8	1	-2					14	26
MORI	44.13	13.9	8	13	7	14	38	3			
CHANGCHUN	44.31	357.7	8	6A	-1	14	28	-10			
CALCUTTA	44.57	303.6	8	11A	2	14	46	4			
SAVANNAH	44.57	159.0	8	10	1						
SUTTSU	44.71	13.3								14	44
TARRALEAH	44.83	160.1	8	12A	1					15	58 PCP
SAPPORO	45.23	14.2	8	15K	0	14	46	-5			
OBIHIRO	45.58	16.1	8	19	2						
FORT NELSON	45.69	159.7	8	21	3	15	6	8			
KUSIRO	45.98	17.2	8	18	-3	15	5	3			
LHASA	46.04	314.0	8	21A	0	15	5	2			
BOKARO	47.26	303.9	8	33	2	15	23	3		10	22 PP
CHATRA	47.50	308.2	8	32A	-1	15	24	1		10	17 PP
WAKKANAI	47.53	13.5	8	40	7					15	29
MADRAS	48.89	287.8	8	44A	1	15	44	1		10	35 PP
Y.-SAKHLINSK	49.28	13.7	8	45	-1					10	37 PP
KODAIKANAL	50.99	283.6								16	1
UGLEGORSK	51.08	12.2	9	0	0					16	16
HYDERABAD	51.57	292.9	9	4A	0	16	20	0		11	7 PP
ULAN-BATOR	51.59	342.4	9	2	-2	16	8	-12			
SUVA	52.88	112.3				16	47	9			
SEHORE	54.46	299.3	9	28	3	17	4	5			
ONERAHI	55.74	134.2	9	37	2						
POONA	56.08	292.8	9	35A	-2	17	20	-1		17	30 PS
IRKUTSK	56.22	343.0	9	36A	-2	17	17	-6		11	31 PP
DEHRA DUN	56.23	307.7	9	37	-1	17	26	3		11	43 PP
NEW DELHI	56.23	305.4	9	36A	-2	17	26	3		11	22 PP
BOMBAY	57.11	293.0	9	43	-1	17	34	-1		10	25 PCP
KARAPIRO	57.59	135.9	9	48	0					11	49 PP
ROXBURGH	57.82	146.4	9	47	-2	17	39	-5		21	45 SS
CHATEAU	58.20	137.2	9	52	0						

GEBBIES PASS	58.70	143.0	9	55	0						
WELLINGTON	58.72	139.7	9	53	-3					12	5 PP
MACQUARIE I.	59.55	159.4	10	1	0						
AFIAMALU	61.42	105.4	10	14	0	18	44	14		24	44 SSS
YAKUTSK	62.51	1.1	10	18	-3					12	30 PP
FRUNSE	64.16	319.3	10	30	-2					12	58 PP
QUETTA	65.20	303.8	10	37	-2	19	18	1			
WILKES	66.68	187.4	10	47K	-1	19	39	4	10 56	13	11 PP
TASHKENT	67.12	315.9	10	50	-1					13	46 PP
ASHKABAD	74.11	309.8	11	34	1					14	22 PP
CAPE HALLETT	76.39	167.7	11	47A	1	21	37	10		26	31 SS
SVERDLOVSK	78.10	328.9	11	54	-2					22	35 PS
TEHERAN	79.16	306.5	12	1	-1	22	1	4			
SCOTT BASE	79.93	172.2	12	7	1	22	12	7		15	7 PP
MAWSON	79.98	200.6	12	6	0	22	9	4			
TANANARIVE	80.35	251.0	12	10A	2					14	54 PP
GORIS	83.63	309.7	12	26A	1					15	29 PP
TIFLIS	85.01	311.8	12	32	0	22	52	-4		23	57 PS
COLLEGE	88.27	25.2	12	47	-1					16	9 PP
MOSCOW	90.48	325.5	12	54K	-4					16	33 PP
KSARA	91.75	303.6	13	5	1	24	9	10	13 50	16	39 PP
APATITY	92.16	337.5	13	10	4						
JERUSALEM	92.32	301.6	13	8	1					16	52 PP
SIMFEROPOL	92.89	314.8	13	11	2					16	55 PP
PULKOVO	94.20	329.8				23	45	-35		17	10 PP
SODANKYLA	94.79	337.6	13	19	1						
HELWAN	95.72	299.8	13	25	3	23	57	3			
MOULD BAY	96.00	12.8	13	23	-1						
ISTANBUL KA.	96.82	311.1	13	29	2	23	56	-3		17	23 PP
NURMIJARVI	96.89	330.9								14	10
KIRUNA	97.00	338.6	13	28	0	24	2	2			
FOCSANI	97.69	315.9				24	5	1		25	5
BULAWAYO	98.19	249.7	13	33	-1						
BUCHAREST	98.63	314.7				24	13	4		17	29 PP
BROKEN HILL	98.65	255.4	13	36	0					17	36 PP
LWIRO	98.73	267.6	13	39	3						
LWOW	99.20	320.4				24	14	2		17	47 PP
UPPSALA	100.46	331.1				24	13	-5		17	33 PP
WARSAW	100.59	323.1				24	21	3		17	47 PP
SOFIA	100.87	313.3								18	7
KIMBERLEY	100.90	240.7	13	46	0						
SKALNATE PL.	101.74	320.2								17	46 PP
KRAKOW	101.75	321.1				24	25	1		17	45 PP
TIMISOARA	101.82	316.6								18	20
RESOLUTE	101.93	10.6	13	50	0						
CHORZOW	102.28	321.5								17	55 PP
BELGRADE	102.54	315.8	15	57	124	24	32	4		18	10 PP
KARLSKRONA	102.61	327.9								18	7 PP
HURBANOVO	103.37	319.2								18	50
THULE	103.76	3.8	17	50	232						
GOTEBORG	103.95	330.1								18	8 PP
BRATISLAVA	104.01	319.7								18	29 PP
COPENHAGEN	104.44	328.0				24	41	4		18	24 PP
VIENNA-H.	104.46	319.9	17	10	188	24	39	2			
HERMANUS	104.71	234.2				24	48	10		25	42 SKKS
PRUHONICE	105.11	322.0	18	24	777					27	54 PS
PENTICTON	105.19	38.7	17	59	777						
SHASTA	105.53	47.8	14	10	777					18	28
COLLMBERG	105.63	323.6	18	23	777	24	56	14		18	46 PP
KASPERSKE H.	105.97	321.4	17	33	777					18	39 PP
MINERAL	106.19	48.1	14	28	777					18	31
LJUBLJANA	106.29	318.1	14	29	777					18	42 PP
JENA	106.60	323.6	17	51	777	24	46	0		18	28 PP
LICK	106.83	51.1	14	20	777						
TRIESTE	106.92	317.9				24	50	2		18	46 PP
MESSINA	107.58	310.0	18	44	777	24	45	-5		18	48 PP
RENO	107.72	48.5	18	29	777						
PADOVA	108.25	318.1								19	29 PP
FRESNO	108.39	51.4	18	28	777						
MUNSTER	108.50	325.6	18	5	777						
FELDBERG	108.72	323.7	19	5	777						
STUTTGART	108.76	322.0	18	7	777	24	58	2		18	50 PP
ROME	108.89	314.4	18	59	777	24	51	-5		28	49 PS
BANGUI	108.94	274.4	14	26	777					18	49 PP
TUBINGEN	108.98	321.8	18	56	777						
HUNGRY HORSE	108.99	38.4	18	4	777					32	15 PKKP
FLORENCE X.	109.18	316.6	18	7	777					18	58 PP
STRASBOURG	109.76	322.2				25	0	0		19	2 PP
PASADENA	110.30	53.7	18	33	6	25	13	11		19	6 PP

EUREKA	110.60	47.7	18	31	3					31	32 PKKP
ABERDEEN	110.91	333.3				25	7	3		28	27 PS
ROSELEND	111.02	319.2								19	10
ISOLA	111.89	318.1	18	32	2						
DURHAM	112.00	331.0								19	10 PP
BOULDER CITY	112.47	51.1	18	36	5						
PARIS	112.83	324.1								19	25 PP
KEW	113.12	327.5								28	56
GARCH"	113.18	322.4								19	26 PP
CLERMONT-FD.	113.81	320.9	19	22	48						
GLEN CANYON	114.66	49.2	18	52	16						
FLAMING GRGE	114.85	44.4	14	52	-224						
TUCSON TELE.	116.80	53.8	18	43	3						
ALICANTE	119.42	314.7								20	9
TOLEDO	121.20	317.7	18	37	-11					19	57 PP
ALMERIA	121.50	313.9	18	50	1					20	26 PP
BENI ABBES	124.01	306.5	17	55	-59					19	31
MANHATTEN	124.36	41.0	18	57	3						
WICHITA MTS.	125.23	46.7	18	54	-2					20	47 PP
DUBUQUE	126.02	34.5	19	6	8					20	54 PP
FAYETTEVILLE	127.64	42.9	19	1A	0					21	1 PP
ROLLA	128.13	39.7	19	5K	3					21	6 PP
ST. LOUIS 1	128.73	38.0								20	59 PP
C. GIRARDEAU	129.98	38.9	19	9	4					21	12 PP
TACUBAYA	130.55	64.8								22	38
BLOOMINGTON	130.59	35.0	19	7	1					21	33 PP
SHAWINIGAN	130.92	18.5	19	8	1						
BREBEUF	131.57	19.9	19	10	2					21	34 PKS
PALISADES	135.34	23.2	18	54	-21	25	30	-50		21	54 PP
COLUMBIA	137.35	35.9								21	6
ANTOFAGASTA	150.16	145.3	19	42	1						
CHINCHINA	156.45	79.0	19	54	4					23	58 PP
LA PAZ	156.99	138.4	19	55	5					24	2 PP
SAN JUAN	157.83	36.5	20	29	38						
BOGOTA	158.03	79.2	20	4	12					24	15 PP
CARACAS	162.57	55.3	19	59A	2	27	0	5			

NOVEMBER 28 8.H 58.M 47.S EPICENTRE 39.58 26.13 DEPTH= 89.KM

A= 0.69388 B= 0.34038 C= 0.63457 D= 0.4404 E=-0.8978
G= 0.5697 H= 0.2795 K=-0.7729 HT= -1.5

DEPTH OF FOCUS= 0.009R

SE= 5.55

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	2.47	230.3	0	35A	-4	1	8	-1			1	21	S*
ISTANBUL UN.	2.63	55.3									0	30	PG
ISTANBUL KA.	2.70	55.5									0	31	PG
SOFIA	3.77	326.8	0	43	-14						1	17	SG
BUCHAREST	4.84	359.7	0	49	-23	1	27	-40			2	11	SG
CAMPULUNG	5.75	352.2	1	30	6	2	43	13			2	59	SG
TITOGRAD	5.93	300.9				2	50	16			1	44	PG
FOCSANI	6.17	7.0				2	47	7					
BELGRADE	6.72	323.0	1	34K	-4	3	8	14					
TARANTO	6.87	280.3	1	13	-27						3	3	
BACAU	7.01	4.4									2	7	
TIMISOARA	7.15	331.2	1	13	-31						3	36	
KISHINEV	7.69	13.9	1	35	-16	3	6	-11					
SIMFEROPOL	7.99	45.2	1	44	-11	3	21	-4					
MESSINA	8.37	263.9	1	56	-4	3	34	0			2	15	PP
KSARA	9.71	123.3	2	22	4	4	17	11					
HURBANOVO	10.08	327.9	2	19	-4								
LWOW	10.35	352.4	2	22	-5	4	19	-3					
HELWAN	10.58	154.6	2	31	1	4	31	3					
ROME	10.62	287.0									5	17	
NIEDZIKA	10.68	339.1									2	20	PP
LJUBLJANA	10.70	311.0	2	23	-9	4	11	-19			3	5	PGPG
JERUSALEM	10.73	133.7	2	35	3	4	33	2					
BRATISLAVA	10.77	325.8									2	20	PG
TRIESTE	10.95	307.7									3	7	PG
VIENNA-H.	11.16	324.2	2	29	-9	4	46	5					
KRAKOW	11.35	339.3									2	32	PPP
CHORZOW	11.84	337.1									5	47	

FLORENCE X.	11.89	295.5	2	47	-1	4	57	-2			
RACIBORZ	11.91	334.5							3	5	
PRATO	12.02	295.8	2	47	-2				7	20	
PADOVA	12.03	303.6							3	46	
KASPERSKE H.	13.09	320.9	2	55	-9						
PRUHONICE	13.24	325.5	2	55	-10						
PRAGUE	13.36	325.6							7	13	
PAVIA	13.72	299.6							7	59	
TIFLIS	14.34	75.4	3	17	-3						
ROSELEND	14.85	299.4	3	30	4				3	56	
COLLMBERG	14.88	326.3	3	24	-3	6	31	21	3	36	PP
STUTTGART	15.16	312.8	3	21	-9				7	58	
JENA	15.26	322.8	3	25	-6	6	49	31	3	53	
GORIS	15.59	83.8	3	34	-2						
BASLE	15.60	306.7							7	34	
KARLSRUHE	15.77	312.5	3	26	-12						
STRASBOURG	15.94	310.4	3	38	-2				4	19	
MAKHACH-KALA	16.41	71.2	3	44	-2						
MOSCOW	17.88	21.6	3	53A	-11						
KARLSKRONA	18.00	340.7	4	14	8						
TEHERAN	20.34	92.9	4	32	1	8	31	22			
PULKOVO	20.39	6.1							4	25	PP
NURMIJARVI	20.98	358.0	4	27	-11						
UPPSALA	20.99	348.0	4	30A	-8	8	7	-14			
KEW	21.89	311.6	4	46	-1						
SODANKYLA	27.85	0.4	5	37	-6						
SVERDLOVSK	28.33	41.0	5	41	-6						
KIRUNA	28.48	355.5	5	47	-2				6	40	PP
BANGUI	35.69	192.9	6	56	5				7	30	
KHEYS	42.81	7.3	7	34	-16						
NEW DELHI	43.19	88.6	7	54A	0						
SHILLONG	56.00	83.3	9	29	-3						
RESOLUTE	59.62	344.7	9	51	-6						
MOULD BAY	62.38	351.2	10	10	-5						
COLLEGE	75.78	357.3	11	33	-5						
BANFF	83.61	336.9	12	15	-5						
HUNGRY HORSE	85.59	334.6	12	27	-2						
PENTICTON	86.46	338.3	12	31	-3						
FAYETTEVILLE	86.78	315.5	12	33A	-2						
BOZEMAN	86.85	331.5	12	35	-1						
BUTTE	87.10	332.6	12	34	-3						
LARAMIE	88.29	325.8	12	40	-3						
WICHITA MTS.	90.16	317.4	12	49	-2						
EUREKA	94.02	331.5	13	6	-3						

NOVEMBER 28 16.H 37.M 53.S EPICENTRE 35.62 141.04 DEPTH= 38.KM

A=-0.63351 B= 0.51234 C= 0.57981 D= 0.6288 E= 0.7775
G=-0.4508 H= 0.3646 K=-0.8148 HT= -0.1

DEPTH OF FOCUS= 0.001R

SE= 3.92

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
TYOSI	0.18	303.4	0	7A	-1	0	13	-1				
MITO	0.89	329.0	0	14K	-3	0	24	-5				
KAKIOKA	0.92	311.5	0	13K	-4	0	25	-5				
TUKUBASAN	0.97	308.5	0	13	-5							
HONGO	1.04	275.4	0	16	-2							
TOKYO C.M.O.	1.05	273.7	0	15K	-4	0	29	-4				
YOKOHAMA	1.15	260.9	0	18K	-2	0	32	-3				
UTUNOMIYA	1.32	314.8	0	18K	-5	0	37	-2				
ONAHAMA	1.33	355.3	0	21	-2	0	38	-2				
OSIMA	1.60	238.5	0	24	-2							
TITIBU	1.63	283.3	0	23	-4	0	46	-1				
SHIRAKAWA	1.64	336.5	0	24	-3	0	42	-5				
AJIRO	1.68	250.8	0	24K	-4	0	45	-3				
MAEBASI	1.77	296.6	0	25K	-4	0	46	-5				
MISIMA	1.78	254.3	0	26	-3	0	37	-14				
HUNATU	1.85	267.0	0	27	-3	0	47	-6				
KOHU	2.02	272.1	0	30	-2	0	52	-5				
OIWAKE	2.14	290.1	0	33	-1	0	55	-5				
HUKUSIMA	2.17	348.1	0	33K	-2	1	0	-1				
SHIZUOKA	2.25	254.0	0	33	-3	1	0	-3				

MATUSIRO	2.47	292.7	0	35K	-4	1	5	-3			
OMAESAKI	2.52	247.0	0	39	-1						
NAGANO	2.52	295.4	0	39	-1	1	2	-8			
MATUMOTO	2.57	285.1	0	38	-2	0	59	-12			
IIDA	2.62	268.7	0	39A	-2	1	10	-2			
SENDAI	2.65	357.7	0	42	1	1	11	-2			
YAMAGATA	2.68	348.4	0	40	-2	1	12	-2			
TAKADA	2.69	304.1	0	40	-2	1	18	4			
HATIDYOZIMA	2.72	202.7	0	45	3						
NIIGATA	2.80	325.8	0	48	4	1	20	4			
ISINOMAKI	2.81	4.5	0	43A	-1	1	47	30			
TAKAYAMA	3.12	280.9	0	40	-8						
AIKAWA	3.28	317.8	0	38	-12	1	24	-5			
TOYAMA	3.29	290.3	1	41	51	2	18	49			
NAGOYA	3.35	263.5	0	50	-1	1	39	8			
SAKATA	3.41	344.0	1	8	16	1	49	17			
GIHU	3.49	267.6	0	58	5						
MIZUSAWA	3.50	1.2	0	55	1	1	34	0			
TU	3.81	257.4	1	8	10						
KAMEYAMA	3.82	259.7	1	4	6	1	51	9			
HIKONE	3.92	266.3	1	6	7						
HUKUI	3.93	277.7	1	6	6	1	18	-27			
TSURUGA	4.05	271.9	1	6	5						
MORIOKA	4.07	1.4	1	1	-1	1	45	-4			
MIYAKO	4.09	10.2	1	1	-1	1	43	-6			
AKITA	4.16	350.0	1	11	8	2	3	12			
OWASE	4.27	250.1	1	19	15						
NARA	4.37	259.1	1	14	8						
KYOTO	4.38	263.7	1	11	5	1	55	-2			
ABUYAMA	4.54	262.1	1	4A	-4						
OSAKA	4.62	259.5	1	25	16	2	13	11			
SIOMISAKI	4.86	245.0				2	32	24			
HATINOHE	4.92	4.4	1	18	4						
TOYOOKA	5.07	270.8	1	28	12	2	28	14			
SUMOTO	5.19	257.5	1	36	19	2	32	15			
TAKAMATU	5.88	259.3	1	50	23						
HAKODATE	6.18	358.1	1	36	5	3	6	24			
MORI	6.48	356.9									
KOTI	6.53	253.7	1	58	22	2	33	-17			
URAKAWA	6.66	11.2				2	45	-9			
HIROO	6.88	14.3	1	38	-3						
OBIHIRO	7.48	12.3	1	49	0						
KUSIRO	7.80	18.5	1	52	-2						
SHILLONG	43.11	270.6	7	51A	-7						
COLLEGE	50.45	31.6	8	56	0						
NEW DELHI	53.71	281.7	9	21	0						
MOULD BAY	57.98	16.2	9	49	-2						
RESOLUTE	64.05	14.2	10	29	-3						
SODANKYLA	66.15	337.3	10	42	-4						
NURMIJARVI	71.05	332.1	11	12	-4						
HUNGRY HORSE	73.03	42.4	11	28	0						
UPPSALA	74.09	334.0	11	39	5						
EUREKA	76.97	50.7	11	19	-32						
COLLMBERG	82.18	330.1	12	15	-4						
STUTTGART	85.65	330.3	12	33	-3						
WICHITA MTS.	90.61	45.3	12	59	-1						
BYRD STATION	126.46	167.6	18	58	-1						

NOVEMBER 29 9.H 28.M 5.S EPICENTRE -36.39 -17.91 DEPTH= 0.KM

A= 0.76785 B=-0.24811 C=-0.59063 D=-0.3075 E=-0.9516
G=-0.5620 H= 0.1816 K=-0.8069 HT= -0.4

SE= 6.14

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
HERMANUS	30.22	97.4	6	15	0						11	8
WINDHOEK	33.25	75.3	6	29	-12							
KIMBERLEY	36.54	90.5	7	OK	-9							
LUANDA	39.39	53.6										
ARGENTINE I.	39.63	208.5	7	39	4						9	3
BULAWAYO	43.62	81.2	7	57	-11							
BROKEN HILL	46.70	74.5	8	23	-9							
LA PAZ	48.55	280.4	8	45	-2							
MBOUR	50.50	1.2				16	15	-1				
AREQUIPA	51.25	278.1	9	6	-2							

BANGUI	53.00	48.0								11	11	PP
MAWSON	53.48	151.9	9	22A	-2				9 31			
SOUTH POLE	53.80	180.0	9	29	2							
LWIRO	54.83	62.8	9	24K	-10	17	4	-11				
BYRD STATION	56.41	191.8	9	37	-9							
HUANCAYO	56.80	279.9	9	49	0							
TANANARIVE	59.49	91.9	10	14	7					10	50	
CARACAS	65.58	305.4	11	11	23					24	29	
SCOTT BASE	65.99	181.1	10	56	6							
BOGOTA	66.38	295.4	10	56	3	19	53	10		13	33	PP
CHINCHINA	67.75	294.5	11	0	-2							
WILKES	70.25	160.4				20	41	12		25	3	SS
CAPE HALLETT	71.45	182.6	11	32K	8	20	55	12		25	26	SS
TOLEDO	76.96	10.9				21	44	0		26	24	SS
MESSINA	80.40	26.1	12	10	-5	22	12	-9		23	9	PS
HELWAN	80.50	41.8	12	11	-5					12	49	
BAGNERES	80.77	13.3	12	11	-6							
ROME	82.72	22.4								31	21	
ATHENS	83.41	31.9	12	16	-15							
JERUSALEM	84.10	43.2	12	30	-4							
ROSELEND	84.70	17.7	12	45	8							
KSARA	86.00	42.3	12	53	9					14	49	
LJUBLJANA	87.1	22.0	12	45	-4					13	10	
STUTTGART	88.17	17.6	12	55	1					13	18	
ISTANBUL KA.	88.30	33.6	13	29	34					15	4	
PRUHONICE	90.66	20.3								23	56	
COLLMBERG	91.44	18.8	13	3	-6					16	39	PP
PALISADES	92.56	321.1				23	51	-26		24	19	SKKS
BLOOMINGTON	98.21	313.0								31	40	
ROLLA	100.68	309.3								26	54	
BOMBAY	101.53	75.1								20	44	
DUBUQUE	102.76	313.6								28	20	
WICHITA MTS.	103.14	303.4								27	25	PS
MANHATTEN	104.40	308.1								27	51	
RIVERVIEW	109.40	170.4								22	31	
TUCSON TELE.	110.36	295.6	19	7	33							
TUCSON	110.40	295.5	19	7	33							
EUREKA	117.49	300.2	19	17	29							
SHILLONG	120.01	79.0	18	53	0							
CHARTERS TS.	121.87	162.4								18	30	
COLLEGE	139.04	330.0	19	1	-28							

DECEMBER 1 7.H 34.M 21.S EPICENTRE 56.45 159.09 DEPTH= 31.KM

A=-0.51863 B= 0.19817 C= 0.83172 D= 0.3569 E= 0.9341
G=-0.7769 H= 0.2969 K=-0.5552 HT= -7.7

SE= 2.50

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KLYUCHI	1.00	97.0	0	15	-2	0	28	-3					
PETROPAVLOVK	3.45	184.4	0	53	1	1	39	6			1	15	
MAGADAN	5.39	308.6	1	21	1						2	44	
UGLEGORSK	12.65	241.5	2	52	-8						6	2	
Y.-SAKHLINSK	13.82	233.8	3	19	3						3	31	*SP
YAKUTSK	15.93	302.6	3	45	2	6	45	7			4	7	PPP
VLADIVOSTOK	21.86	243.9	4	52	1	8	54	8					
MATUSIRO	24.38	224.0	5	17	1	9	44	13			8	56	
CHANGCHUN	24.78	253.8	5	21K	1	9	44	7					
COLLEGE	26.56	49.8	5	37	0						6	8	
IRKUTSK	31.46	285.9	6	22	2								
PEKING	32.33	257.9	6	29	1	11	45	6					
ULAN-BATOR	32.39	277.3	6	33	4								
MOULD BAY	34.21	24.9	6	47K	3								
ZO-SE	36.56	242.2	7	5	1	12	51	7					
NANKING	36.98	245.9	7	8K	0	12	57	6					
ALERT	39.68	7.9	7	31	1								
RESOLUTE	40.44	23.2	7	38	1								
LANCHOW	41.95	265.0	7	53	4	14	15	10					
THULE	44.00	14.5	8	12	6								
ALBERNI	44.29	65.6	8	10	2								
CHENGTU	45.90	259.7	8	22	1	15	8	5					
PENTICTON	46.85	62.4	8	30	2								
BANFF	47.59	58.2	8	35	1								
KUNMING	50.95	256.3	9	1	1								

SHASTA	51.37	72.5	9 5	2						
SODANKYLA	51.55	338.6	9 5	0						
MINERAL	52.04	72.3	9 9K	1						
KIRUNA	52.32	341.5	9 14A	4						
BUTTE	52.57	61.3	9 13	1						
FRUNSE	52.93	293.4	9 17	2						
BOZEMAN	53.56	60.6	9 21	1						
RENO	53.58	71.7	9 21	1						
LHASA	53.85	270.2	9 24	2	17	3	10			
KAJAANI	54.14	336.0	9 25	1						
LICK	54.22	74.9	9 56K	31						
SHILLONG	56.55	266.4	9 41	0						
TASHKENT	56.74	295.7	9 43	0						
SKALSTUGAN	57.59	343.1	10 2	13						
FLAMING GRGE	57.89	63.4	9 52	1						
NURMIJARVI	57.96	335.4	9 52	1						
CHATRA	58.17	271.3	9 53	0						
PASADENA	58.47	74.8	9 56	1	18	13	19			10 33 PCP
MOSCOW	58.54	325.5	9 55K	0						
BOULDER CITY	58.85	71.0	9 59	1						
GLEN CANYON	59.78	67.9	10 5	1						
UPPSALA	60.08	338.7	10 7A	1						
TUCSON TELE.	63.82	70.6	10 32	1						
TUCSON	63.83	70.8	10 32	1						
ALBUQUERQUE	63.97	65.7	10 34	2						
ASHKABAD	64.69	300.8	10 38	1						
DUBUQUE	65.29	49.8	10 41	0				10 45		
MANHATTEN	65.37	55.9	10 41	0				10 44		
QUETTA	66.54	289.4	10 49	0						
TIFLIS	67.64	312.5	10 57K	2					15 9	PPP
WICHITA MTS.	68.04	60.2	10 58	0	20	0	6		39 13	PKPPKP
ROLLA	68.55	53.5	11 3	2				11 11		
SHAWINIGAN	68.58	35.7	11 3	2						
ST. LOUIS 1	68.68	51.9	11 1	-1						
FAYETTEVILLE	69.00	56.2	11 4K	0						
COLLMBERG	69.02	338.0	11 5K	1					11 19	
NIEDZIKA	69.07	332.6	10 59	-5						
BREBEUF	69.23	36.8	11 6K	1				11 16		
JENA	69.66	338.7	11 4	-4						
TEHERAN	69.74	304.3	11 10	2						
BLOOMINGTON	69.81	48.9	11 10	1						
PRUHONICE	69.93	336.5	11 18K	8						
C. GIRARDEAU	70.08	52.1	11 11A	0				11 14		
KASPERSKE H.	70.94	336.8	11 18K	2					11 35	
BRATISLAVA	71.03	334.2	11 23A	7						
STRASBOURG	72.64	340.5	11 25	-1						
HALIFAX	73.10	30.4	11 30A	1						
ROSELEND	75.64	339.7	11 45A	2						
COLUMBIA	76.52	47.8	11 49	1						
FLORENCE X.	76.53	336.6	11 20	-28						
CHARTERS TS.	77.01	192.4	11 52	1						
ISOLA	77.01	339.7	11 53	2						
KSARA	78.02	314.6	11 57	0					14 51	PP
BAGNERES	79.27	344.5	11 56	-7						
BRISBANE	83.68	185.6	12 29	3						
ADELAIDE	92.70	196.6	13 11A	1						
LA PAZ	126.62	61.3	19 3	3						
SCOTT BASE	134.13	177.7	19 15	1						
MAWSON	142.30	218.5	19 26	-3				19 34		

DECEMBER 1 21.H 13.M 5.S EPICENTRE 26.38 125.02 DEPTH= 210.KM

A=-0.51478 B= 0.73467 C= 0.44189 D= 0.8190 E= 0.5738
G=-0.2536 H= 0.3619 K=-0.8971 HT= 2.9

DEPTH OF FOCUS= 0.028R

SE= 2.71

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ISIGAKIZIMA	2.18	200.8	0 43	1	1 13	-1		
MAWASHI	2.40	92.9	0 46A	2				
ILAN	3.36	242.2	0 57A	2	1 41	3		
TAIPEI	3.43	247.7	0 56A	0	1 38	-2		
HWALIEN	3.90	232.8	1 1A	-1	1 48	-2		

HSINCHU	3.98	247.6	1	1	-2	1	50	-1			
TAICHUNG	4.51	241.5	1	10	0	2	2	-1			
HSINKONG	4.65	226.2	1	4	-7	1	55	-11			
TAWU	5.49	224.0	1	21	-1	2	21	-5			
TAINAN	5.51	233.4	1	23	1	2	21	-5			
ZO-SE	5.79	325.3	1	27A	1	2	32	0			
HENGCHUN	5.85	222.7	1	27A	0	2	37	3			
YAKUSIMA	6.30	48.7	1	31A	-1	2	23	-21			
TOMIE	7.03	26.8	1	43A	1	3	0	-1			
KAGOSIMA	7.09	41.8	1	44A	1					5	37
NAGASAKI	7.61	32.6	1	51A	2	2	40	-35			
UNZENDAKE	7.80	34.5	1	38	-14	2	45	-34			
NANKING	7.86	317.6	1	54A	1	3	21	1			
MIYAZAKI	7.86	43.9	1	52	-1	2	42	-38			
KUMAMOTO	8.10	36.3	1	57A	1	2	52	-34			
SAGA	8.24	32.6	1	59	1	3	50	21			
ASOSAN	8.36	37.6	2	2	3	3	22	-10			
HUKUOKA	8.55	31.6	2	4	2	3	45	9			
ITUHARA	8.62	24.3	2	5A	3	3	34	-4			
OOITA	8.91	38.4	1	42	-24	3	2	-43		2	7 PP
SIMONOSEKI	9.12	32.7	2	11A	2						
UWAZIMA	9.45	42.0	2	14	1					3	6
MATUYAMA	10.02	40.2	2	19	-2					5	50
HIROSIMA	10.21	37.0	2	23	0	4	8	-7			
KOTI	10.27	43.9	2	20A	-4	4	9	-7			
MUROTO	10.49	47.1	2	47	20	4	10	-11		5	6
HONG KONG	10.69	250.0	2	27A	-2	4	12	-14			
BAGUIO CITY	10.73	203.5	2	28	-2	4	28	1			
CANTON	11.11	255.4	2	33A	-1	4	39	3			
TAKAMATU	11.11	42.4	2	31	-3					3	27
OKAYAMA	11.28	40.7	2	35	-2	4	36	-4			
SUMOTO	11.65	44.7	2	38	-3	5	0	12		3	35
SIOMISAKI	11.68	50.4	2	39	-3	4	43	-6			
TOTTORI	12.02	38.6	2	43	-3	4	45	-12			
KOBE	12.04	44.2	2	56	10						
SAIGO	12.09	33.9	3	11	24	5	9	11			
MANILA	12.22	198.3	2	54	5	5	7	6			
OSAKA	12.24	45.2	2	51	2	5	0	-2			
OWASE	12.33	48.9	2	48	-2					3	40
TOYOOKA	12.40	40.3	2	51	0	5	1	-4		3	47
ABUYAMA	12.41	44.5	2	47A	-4						
NARA	12.46	45.8	2	50	-2						
KYOTO	12.61	44.3	2	50	-3					6	28
MAIZURU	12.70	42.0	3	17	22	5	7	-5			
KAMEYAMA	12.97	46.7	2	56A	-2	5	32	14			
HIKONE	13.09	44.7	2	57	-3	5	37	16			
NAGOYA	13.49	46.6	3	2	-3	5	32	2			
GIHU	13.51	45.4	3	3	-2						
OMAESAKI	14.02	51.1	3	15	4						
TORISIMA	14.05	69.6	3	12	1	6	4	21			
IIDA	14.27	47.2	3	14	0						
SHIZUOKA	14.34	50.1	3	13K	-2	6	1	12			
HATIDYOZIMA	14.47	58.9	3	18	1						
TOYAMA	14.61	42.3	3	28	10						
MATUMOTO	14.80	45.2	3	23	2						
MISIMA	14.80	50.6	3	19	-2	6	8	9			
KOHU	14.84	48.1	3	22	1	6	12	12			
AJIRO	14.87	51.1	3	21	-1	6	15	14			
HUNATU	14.88	49.0	3	21	-1	6	11	10			
OSIMA	14.92	52.5	3	22	0	6	17	15			
MATUSIRO	15.13	44.8	3	21A	-4	6	17	10	4 4	4	22 *SP
NAGANO	15.20	44.4	3	28	2	6	20	12			
OIWAKE	15.22	46.0	3	33	7	6	21	12			
MERA	15.32	52.7	3	28	1						
TITIBU	15.36	48.1	3	29	1	6	23	11			
YOKOHAMA	15.45	50.8	3	30	1	6	31	17			
PEKING	15.49	333.7	3	31A	2	6	22	7		4	25 *SP
TAKADA	15.51	43.2	3	28	-1						
MAEBASI	15.60	46.8	3	29A	-1	6	30	13			
TOKYO C.M.O.	15.65	50.1	3	31K	0	6	28	10			
KUMAGAYA	15.66	48.1	3	33	2						
HONGO	15.68	50.1	3	32	1					6	32
SIAN	15.95	303.3	3	35A	0						
TUKUBASAN	16.18	49.0	3	33A	-4	6	29	-1		8	27 PCP
UTUNOMIYA	16.21	47.7	3	34	-4	6	30	-1			
KAKIOKA	16.24	49.1	3	7	-31	6	28	-3			
MITO	16.52	49.1	3	39K	-2	6	39	2			
NIIGATA	16.52	42.4	3	42	1	6	4	-33			
SHIRAKAWA	16.77	46.6	3	42	-2	6	42	-1			

ONAHAMA	17.12	48.1	3	44	-4	6	47	-3				
HUKUSIMA	17.30	45.3	3	48	-2	6	54	0				
CHANGCHUN	17.41	0.7	3	53K	1	7	1	5				
YAMAGATA	17.52	43.7	3	51	-2	6	58	-1				
SAKATA	17.62	41.2									4	58
VLADIVOSTOK	17.62	16.8	3	52	-2						4	39
SENDAI	17.88	44.6	3	58	1	7	2	-4				
ISINOMAKI	18.24	44.8	3	59	-1	7	9	-4				
AKITA	18.32	39.7	4	3	2						8	21
MORIOKA	18.93	41.4	4	11	4	7	32	5				
CHENGTU	18.94	287.9	4	5A	-3	7	25	-2				
MIYAKO	19.38	42.7	4	45	33	7	33	-2				
AOMORI	19.44	38.3	4	47	34	7	44	8				
HATINOHE	19.68	40.0	4	12	-3	7	44	4				
KUNMING	20.11	271.3	4	19A	0	7	49	1				
HAKODATE	20.12	36.1				7	51	2			4	58
MORI	20.23	35.2									4	57
NHATRANG	20.48	229.6	4	13	-10	7	52	-3				
LANCHOW	20.49	303.2	4	22A	-1	7	48	-7			5	2 *SP
SUTTSU	20.57	33.3	4	59	35	9	10	73			17	6 SCS
SAPPORO	21.32	34.5	4	31K	0	8	0	-10			9	2 SS
URAKAWA	21.45	38.3	4	34	1	8	18	6				
HIROO	21.84	38.8	4	35	-1							
OBIHIRO	22.19	37.4	4	40	0							
GUAM	22.52	121.0	4	45	2	8	37	6				
KUSIRO	22.90	38.8	4	46K	-1	8	37	0				
WAKKANAI	23.22	30.8	5	26	36	9	45	62				
Y.-SAKHLINSK	24.91	29.6	5	5	-1				5	51	10	32 *SS
ULAN-BATOR	25.78	331.3	5	11	-3	9	20	-5				
TOCKLAI	27.03	277.6	5	33	8							
SHILLONG	29.77	275.9	5	47A	-2	10	21	-8	6	33	8	47 PCP
LHASA	30.11	284.1	5	52	0	10	34	0				
IRKUTSK	30.20	334.4	5	51	-2	10	34	-2	6	35	11	59 *SS
CHITTAGONG	30.46	269.7	5	56	1	10	39	-1				
CALCUTTA	33.51	271.4	6	24	2	11	28	1			7	42
CHATRA	33.76	279.4	6	22A	-2	11	29	-2			7	43 PP
MEDAN	33.92	232.5	6	27A	2	11	37	3				
BOKARO	35.51	274.6	6	39A	0	11	55	-3	7	25	8	2 PP
YAKUTSK	35.78	3.8	6	38	-3	11	55	-7	7	27	8	2 PP
PETROPAVLOVK	36.55	34.2	6	47	-1							
DJAKARTA	36.86	211.2	6	49A	-1	12	19	0				
LEMBANG	37.08	209.5	6	55K	3	12	26	4				
MAGADAN	37.66	21.3	6	56	-1							
VISHAKHAPTNM	39.48	266.1	7	13K	1	13	0	2			16	10 SS
RABAUL	40.19	135.1	7	18	0						8	25
DEHRA DUN	41.30	286.7	7	29	2	13	22	-3			9	8 PP
PORT MORESBY	41.56	145.9	7	29K	0	13	30	1			9	10 PCP
NEW DELHI	42.26	284.3	7	35A	0	13	34	-5	8	23	9	28 PP
SEHORE	43.45	276.6	7	6	-38						8	34
HYDERABAD	43.92	268.1	7	50A	2	14	1	-2			9	35 PP
FRUNSE	43.95	305.2	7	48	0	14	7	4	8	38	15	33 *SS
MADRAS	44.05	261.3	7	50K	1	14	5	0	8	38	9	43 PP
LAHORE	44.33	289.0	7	49	-2	14	2	-7				
WARSAK DAM	46.40	292.8	8	6	-1							
KODAIKANAL	47.63	259.4									14	44
POONA	47.68	271.6	8	16	-1	14	55	-1			10	49
TASHKENT	47.85	302.9	8	18	-1	14	56	-2	9	9	16	29 *SS
BOMBAY	48.48	272.5	8	23	-1	15	4	-3	9	12	10	24 PP
CHARTERS TS.	50.58	153.8	8	40	1	15	40	4				
QUETTA	50.81	288.5	8	40A	-1	15	39	0				
KARACHI	51.92	281.9	8	47	-2							
SVERDLOVSK	54.39	322.4	9	5K	-3	16	26	-2			20	7 SS
ASHKABAD	56.53	299.5	9	22	-1	16	57	1	10	13	18	54 SCS
MUNDARING	58.63	188.8	9	36K	-2	17	25	2				
PERTH	58.66	189.1	9	38	0	17	27	3			10	53
BRISBANE	59.76	151.4	9	46	1	17	42	4				
KOUMAC	60.22	136.9	9	47	-1							
ADELAIDE	62.38	167.3	10	2A	-1	18	13	2				
TEHERAN	62.44	298.3	10	2	-1							
RIVERVIEW	64.81	156.1	10	20K	1	18	50	9			20	10 *SS
COLLEGE	65.26	28.0	10	20	-1	18	47	1	11	7	12	17
GORIS	65.41	303.5	10	23K	1	18	48	0	11	16	11	56
CANBERRA	65.42	158.6	10	23K	0	18	55	7			12	48 PP
MELBOURNE	66.56	162.9	10	29	-1	19	6	4				
MOSCOW	67.20	322.2	10	32K	-2	19	3	-7	11	24	20	4 SCS
SODANKYLA	69.10	335.8	10	43	-2						12	20
KAJAANI	69.71	332.3	10	47	-2						12	35
PULKOVO	69.88	327.5	10	48	-2	19	37	-4	11	41	21	12 SCS

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained thanks to funding provided by the US National Science Foundation through grant EAR-9725140 (Villaseñor et al., 1997) and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of the EUROSEISMOS project.

MOULD BAY	70.37	13.3	10	48	-5					
SAVANNAH	70.79	162.6	10	56K	0				12	16 SP
TARRALEAH	71.15	163.3	10	58K	0					
KIRUNA	71.15	337.2	10	55K	-3	19	52 -4	11	47	21 28 *SS
ALERT	71.29	1.0	10	56K	-3					
FORT NELSON	71.97	162.9	11	2K	-1					
HELSINKI	72.28	328.9	11	4	-1				12	43
NURMIJARVI	72.29	329.3	11	3K	-2				17	30
SIMFEROPOL	72.47	311.9	11	4K	-2	20	8 -3	11	56	21 44 *SS
HAWAII V.OB.	72.70	76.5	11	8	1	20	19 5			
AFIAMALU	73.31	115.2	11	10A	-1	20	37 17			
KSARA	75.17	300.6	11	20	-1	20	35 -6	12	15	14 8 PP
UPPSALA	75.75	330.2	11	22K	-3	20	42 -5	12	15	11 37 PCP
RESOLUTE	75.93	10.1	11	23K	-3					
SKALSTUGAN	76.11	334.8	11	24K	-3			12	17	
FOCSANI	76.72	314.5	12	32	62					
LWOW	76.94	319.3	11	30	-1	20	57 -3	12	25	22 35 *SS
THULE	77.11	3.2	11	35	3			12	28	
ISTANBUL KA.	77.36	309.6	11	31	-2	20	58 -7	12	23	26 8 SS
ISTANBUL UN.	77.42	309.6	11	31K	-3					22 39
WARSAW	77.59	322.3				20	56 -11	12	25	22 40 PPS
BUCHAREST	77.96	313.6	12	29K	52	23	4 113			22 49 SKS
KARLSKRONA	78.50	327.4	11	38	-2			12	26	
KRAKOW	79.21	320.7	11	42	-1	21	20 -4	12	35	22 58 PPS
GOTEBORG	79.38	329.8	11	42	-2			12	35	
SKALNATE PL.	79.43	319.8	11	54	9					13 16
CHORZOW	79.62	321.2	11	44	-2			12	37	12 57
RACIBORZ	80.17	321.3	11	48	-1			12	42	12 0 PCP
COPENHAGEN	80.26	327.9	12	33	44	21	35 0	12	41	15 36 PP
SOFIA	80.53	313.0	11	51	1	21	38 0			
BERGEN	80.63	334.1	11	33	-18					12 10 PCP
HURBANOVO	81.26	319.3	12	6	12			12	49	
BELGRADE	81.38	315.8	11	51K	-4					14 53 PP
BRATISLAVA	81.75	319.9	11	56	-1			12	49	13 5 *SP
VIENNA-H.	82.13	320.3	11	58K	-1	21	47 -7			
PRUHONICE	82.25	322.4	11	58	-1			12	52	13 24 *SP
COLLMBERG	82.37	324.0	11	58	-2			12	54	15 13 PP
ATHENS	82.43	308.6	12	53K	53					
ALBERNI	82.45	38.3	12	0	0					
HALLE	82.81	324.6	12	0	-2					15 17 PP
KASPERSKE H.	83.23	322.0	12	3	-1			12	57	13 30 *SP
TITOGRAD	83.30	314.2	12	59	54	22	3 -3			23 44 PPS
JENA	83.32	324.2	12	3	-2	22	0 -6	12	58	15 26 PP
CHEB	83.37	323.2	12	4	-1			13	0	14 25
ZAGREB	83.61	318.3	13	0	54					23 37 PS
VICTORIA	83.63	38.5	12	6K	0					
LJUBLJANA	84.36	319.0	12	8K	-2			13	3	13 20 *SP
WITTEVEEN	84.68	327.6	12	11A	-1			13	6	
MUNSTER	84.73	326.5	12	11	-1					14 10
TRIESTE	85.03	319.0	12	11	-2	22	17 -6	13	5	23 57 *SS
PENTICTON	85.26	36.4	12	15K	0					
FELDBERG	85.36	324.8	12	21	6			13	16	
BENSBERG	85.57	325.9	12	15K	-1			13	9	15 18 PP
TARANTO	85.59	313.2				22	34 6			13 34
HEIDELBERG	85.70	324.0	12	15	-2			13	11	
STUTTGART	85.78	323.3	12	16	-1	22	18 -12	13	11	
DE BILT	85.84	327.6						13	12	24 14 PS
CORVALLIS	85.86	41.7	12	18	1					14 59
TUBINGEN	86.03	323.2	12	17	-1			13	12	
BANFF	86.23	33.3	12	18K	-1					
PADOVA	86.26	319.5	13	22	63					23 35 PS
EBINGEN	86.29	322.9	12	18	-2			13	13	
STRASBOURG	86.70	323.8	12	21A	-1			13	15	13 31 *SP
CHUR	86.77	321.6	12	21A	-1			13	16	
BOLOGNA	87.09	319.0	13	25	62	23	46 64			
DURHAM	87.12	332.2	12	13K	-11	22	46 3	13	6	22 30 SKS
BASLE	87.43	323.0	12	24	-1			13	20	
FLORENCE X.	87.55	318.4	12	26A	0	22	38 -9			
TANANARIVE	87.60	247.7	12	26A	0			13	20	15 58 PP
ROME	87.86	316.4	13	20A	53	23	50 60	14	16	16 47 PP
MESSINA	87.90	312.0	13	20A	53	23	44 54	13	54	16 45 PP
PAVIA	87.95	320.4	13	21A	54	23	45 54			
BESANCON	88.46	323.4	12	24	-6					
SHASTA	88.57	44.6	12	31	1					
ROSELEND	88.64	321.3	12	32	1			13	27	14 9
HUNGRY HORSE	88.77	34.9	12	33	2					
KEW	88.84	329.3				22	42 -17	13	26	24 8 SP
MINERAL	89.26	44.6	12	35A	1					

PARIS	89.27	326.1	13	29	55						
ISOLA	89.76	320.5	12	35	-1					16	13 PP
MONACO	89.82	320.0	12	35	-1			13	25		
GARCHY	89.98	324.7	13	29	52						
RENO	90.85	44.4	12	42A	1						
BUTTE	91.04	36.0	12	42	0						
BOZEMAN	92.07	35.6	12	48	1						
WILKES	93.08	185.8	12	51K	0	23	32 -4	13	47	29	42 SSS
EUREKA	93.26	42.7	12	53	1	23	43 5	13	48	16	36 PP
PASADENA	95.09	48.0	13	1	1	23	49 35			18	5
BOULDER CITY	96.14	44.9	13	7	2						
FLAMING GRGE	96.15	38.3	13	5	0			14	0		
LWIRO	96.56	270.7	13	7A	0	23	27 5				
GLEN CANYON	97.52	42.4	13	11	-1						
TOLEDO	98.79	322.8				23	35 1				
GRANADA	100.44	320.6								18	22 PP
ALBUQUERQUE	101.94	41.1	13	38	7					14	18
CAPE HALLETT	103.15	167.1	13	35	-2					17	51 PP
DUBUQUE	103.96	26.4								17	58 PP
MANHATTEN	104.07	32.1								17	57 PP
BULAWAYO	104.20	254.4	13	40	-1						
MAWSON	104.33	200.5								18	8 PP
WICHITA MTS.	106.53	36.3	13	52	777	24	13 3			18	16 PP
SCOTT BASE	106.86	171.5								18	21 PP
ROLLA	107.28	29.8								18	5 PP
BLOOMINGTON	108.43	25.4								19	19
C. GIRARDEAU	108.80	28.5				26	26 126			18	49 PP
PALISADES	110.69	15.2	18	49	41	24	29 2			19	41 PP
SOUTH POLE	116.22	180.0	18	21	2						
HERMANUS	116.77	243.0				24	58 7			26	20
MBOUR	125.16	313.1				26	10 -8			21	16 PP
SAN JUAN	134.21	14.8								22	2 PP
ANTIGUA	136.23	9.5	18	50	-7						
CARACAS	141.55	19.1	19	0	-7					22	44 PP
TRINIDAD	142.67	10.4	19	7	-2						
CHINCHINA	142.97	35.7	19	8A	-1					22	46 PP
BOGOTA	144.06	33.7	19	12	1					23	16 PKS
PORT STANLEY	154.62	175.8	19	39	12					20	49
LA PAZ	164.31	53.8	19	43K	5	27	10 50				

DECEMBER 2 12.H 40.M 14.S EPICENTRE 36.35 8.39 DEPTH= 35.KM

A= 0.79870 B= 0.11779 C= 0.59008 D= 0.1459 E=-0.9893
G= 0.5838 H= 0.0861 K=-0.8073 HT= -0.4

DEPTH OF FOCUS= 0.000R

SE= 3.17

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SETIF	2.42	267.4	0	39	0						0	46	PG
ALGIERS UNI.	4.32	277.2	1	6A	0						2	11	SG
MESSINA	6.00	69.9	1	28	-1						2	48	
ROME	6.39	28.6	1	35A	0	2	59	12			3	17	SS
ALICANTE	7.34	288.4	1	46	-2	3	5	-6			2	1	PG
MONACO	7.41	354.6	1	56	7	3	13	0					
TORTOSA	7.62	308.2	1	52	0	3	36	18					
FLORENCE X.	7.74	15.6	1	6	-48	2	36	-45					
PRATO	7.80	14.6	2	3	9	4	11	48					
ISOLA	7.89	353.0	1	53	-3	3	17	-8					
TARANTO	8.08	56.7	2	30	32						2	30	
ALMERIA	8.75	276.5	2	5K	-3	3	43	-3			4	9	SSS
ROSELEND	9.15	356.6	2	18	5	3	58	2			2	50	
BAGNERES	9.24	319.1	2	12	-2	3	57	-1			4	32	
PADOVA	9.43	15.1	2	23	6	4	4	1			2	47	P*
GRANADA	9.66	278.5	2	26K	6	4	20	11			2	56	PP
TRIESTE	10.13	21.9	2	26	-1	4	19	-1			3	14	PGPG
CLERMONT-FD.	10.22	338.8	2	30	2	4	21	-1					
TITOGRAD	10.37	50.9	2	31	1						6	8	
TOLEDO	10.42	293.5	2	31A	0	4	28	1			2	48	PP
CHUR	10.53	4.3	2	35	3								
NEUCHATEL	10.70	354.7	2	39	5								
LJUBLJANA	10.73	23.5	2	35	0	4	37	2					
BESANCON	11.04	351.4	2	42	3	4	48	6					
ZAGREB	11.06	28.8	2	41	2						3	0	
BASLE	11.19	357.2	2	45	4								

GARCHY	11.62	341.7	2	44	-3	5	13	17			
EBINGEN	11.83	1.9	2	52	2						
STRASBOURG	12.23	358.1	2	56	1	5	15	4		3	24
STUTTGART	12.43	2.7	2	58	0						
BELGRADE	12.47	43.5	2	57	-1					6	49 SG
KARLSRUHE	12.66	0.1	3	1	0	5	19	-2			
SOFIA	13.16	56.6	3	19	12						
PARIS	13.19	342.7	3	8	0						
VIENNA-H.	13.27	23.8	3	9K	0	5	31	-5			
KASPERSKE H.	13.33	14.9	3	10	0						
BRATISLAVA	13.45	25.8	3	11	0	6	7	27			
TIMISOARA	13.47	41.9								3	52
HURBANOVO	13.61	29.2	3	13	0	6	16	32			
COIMBRA	13.76	291.3	3	17K	2					3	26 PP
FELDBERG	13.87	0.2	2	45	-32						
FOLINIERE	14.02	335.1	3	19	0						
CHEB	14.03	10.7	3	18	-1						
SERRA PILAR	14.09	295.0	3	25A	5	6	1	5		3	44 PPP
LISBON	14.12	284.9	3	23K	3	6	6	10	3 29	3	43 PP
PRUHONICE	14.34	16.2	3	23	0						
PRAGUE	14.40	15.8	3	24	0						
BENSBERG	14.63	356.9	3	28K	1				3 41	4	6 PP
JENA	14.76	7.9	3	28	0	6	22	10		3	37 PP
COLLMBERG	15.31	11.0	3	36	0	6	20	-4		3	47 PP
HALLE	15.36	8.4	3	36	0					3	44 PP
RACIBORZ	15.46	24.3	3	44	7					3	55 PPP
SKALNATE PL.	15.48	30.4	3	46	8	6	52	24			
MUNSTER	15.63	358.2	3	42	2						
NIEDZIKA	15.69	29.9	3	44	3						
BUCHAREST	15.70	53.7	3	42	1	6	56	22		7	16 SS
CHORZOW	15.90	25.5	3	46	3					3	59 PP
KRAKOW	16.05	27.8	3	48A	3					4	2 PPP
KEW	16.35	340.3	3	54	5	7	5	16	4 7		
WITTEVEEN	16.52	356.3	3	56	5						
ISTANBUL UN.	16.74	67.5	3	55	1					12	10
ISTANBUL KA.	16.81	67.4	3	57	2	7	15	16			
LWOW	17.61	35.3	4	8K	3						
WARSAW	18.23	25.5	4	14	2					4	31 PP
KISHINEV	18.57	48.6	4	23K	6	7	50	11			
COPENHAGEN	19.53	6.9	4	28	0	8	9	8		4	49 PPP
DURHAM	19.66	342.7	4	35K	6	8	31	28			
KARLSKRONA	20.41	11.6	4	37	0						
SIMFEROPOL	21.26	58.2	4	46	0						
GOTEBORG	21.50	5.3	4	50	2						
KSARA	22.61	88.3	5	2	3	9	0	0		5	28 PP
BERGEN	24.15	356.3	5	24	10						
UPPSALA	24.27	11.4	5	16A	1	9	33	4			
SOTCHI	24.97	63.5	5	24A	2						
HELSINKI	26.12	18.9	5	34	1						
NURMIJARVI	26.33	18.2	5	34	-1					6	10
SKALSTUGAN	27.37	3.8	5	44	0						
PULKOVO	27.39	24.3	5	45	0						
MOSCOW	27.74	36.4	5	51K	3						
TIFLIS	28.64	68.0	5	59	3						
GORIS	29.95	72.3	6	11	3	11	7	5			
KAJAANI	30.13	16.8	6	12	3						
MAKHACH-KALA	30.62	65.4	6	14	0	11	19	7			
KIRUNA	32.26	8.5	6	26A	-2						
SODANKYLA	32.77	12.9	6	31	-1						
BANGUI	33.18	161.1	6	37	1					7	42 PP
APATITY	34.33	16.8	6	46	0	12	16	6			
TEHERAN	34.56	78.0	6	51	3						
SVERDLOVSK	40.12	42.4	7	36A	1						
LWIRO	42.86	149.2	7	1K	-56						
SAMARKAND	45.58	67.3	8	22A	3						
TASHKENT	46.85	64.4	8	31A	2						
DUZHANBE	47.22	68.2	8	36	4						
KHEYS	48.10	9.7	8	39	0						
QUETTA	48.72	79.5	8	46	2						
FRUNSE	50.28	61.1	8	58A	2						
KARACHI	51.09	85.7	9	6	4						
ALERT	51.69	350.9	9	6	0						
ALMATA	51.79	59.9	9	9	2						
THULE	51.88	343.0	9	13	5						
SEMIPALATNSK	52.10	50.4	9	10	1						
HALIFAX	53.75	302.6	9	20K	-2						
BROKEN HILL	53.97	155.7	9	26	3						
NEW DELHI	57.49	76.5	9	50A	1						
RESOLUTE	58.70	342.4	9	57A	0						

SHAWINIGAN	59.16	307.4	10	0	0					
BULAWAYO	59.35	157.8	10	5A	4					
POONA	59.70	88.5	10	6	2					
PALISADES	62.12	302.0				18	56	15	23 16	SS
FORDHAM	62.17	301.8	10	15	-6				25 46	
MOULD BAY	62.96	347.7	10	27	1					
TIKSI	64.55	17.6	10	36A	0					
CHATRA	66.09	73.5	10	48A	2					
TANANARIVE	66.27	139.2	10	54	7				11 16	
BOKARO	66.53	77.0	10	52	3					
MORGANTOWN	66.86	302.9	10	52K	1					
SAN JUAN	67.06	276.4	10	54	2					
ULAN-BATOR	69.13	45.4	11	8	3					
SHILLONG	70.36	72.3	11	14	1					
COLUMBIA	70.41	298.1	11	14	1					
YAKUTSK	71.20	25.2	11	18A	0					
GRAHAMSTOWN	71.36	164.0	10	52A	-27					
BLOOMINGTON	71.46	305.2	11	19A	0				18 9	
DUBUQUE	72.35	310.0	11	26	1				36 33	
LANCHOW	73.52	57.3	11	35	3					
ST. LOUIS I	74.21	306.4	11	36	1					
FLORISSANT	74.21	306.6	11	35	-1					
ROLLA	75.71	306.6	11	45	1				12 4	34 4
CHENGTU	76.63	61.8	11	52	3	21	38	6		
COLLEGE	77.40	349.8	11	55	1					
LITTLE ROCK	77.81	304.2	11	56A	0					
MANHATTEN	77.91	309.9	11	57	0				12 5	
SIAN	77.97	56.4	12	0A	3	21	55	8		
FAYETTEVILLE	78.25	306.2	11	59A	1					
KUNMING	78.84	67.1	12	4	2	22	7	11		
PEKING	79.12	48.1	12	6	3	22	9	10		
BANFF	79.94	328.0	12	7	-1					
HUNGRY HORSE	81.32	325.3	12	17	2					
CHANGCHUN	81.80	40.7	12	20	3					
BOZEMAN	81.81	321.9	12	21	4					
LARAMIE	81.90	315.9	12	21	3					
WICHITA MTS.	81.93	307.3	12	20	2	22	46	18		15 27 PP
BUTTE	82.31	322.9	12	22	2					
PENTICTON	83.06	328.7	12	26	2					
FLAMING GRGE	84.26	317.6	12	32	2					
ALBERNI	85.19	331.4	12	45	10					
VICTORIA	85.24	330.2	12	36	1					
SALT LAKE C.	85.70	318.9	12	40	3					
NANKING	85.82	52.9	12	20	-18					
ALBUQUERQUE	86.69	311.7	12	45	3					
EUREKA	88.80	320.3	12	56	4					13 35
BOULDER CITY	90.78	317.3	13	4	3					
MINERAL	90.91	324.2	13	5	3					
SHASTA	91.01	324.8	13	4	2					
TUCSON TELE.	91.05	312.3	13	6	3					
TUCSON	91.18	312.3	13	6	3					
WOODY	93.15	319.5	13	15	3					
BYRD STATION	131.88	190.7	19	13	3					
SCOTT BASE	137.36	173.4	19	22	1					22 8
CHARTERS TS.	139.84	77.9	19	29	4					
MELBOURNE	145.56	105.8	19	40	5					
SAVANNAH	147.78	112.4	19	47K	8					
CANBERRA	148.20	100.0	19	48A	8					

DECEMBER 3 8.H 40.M 30.S EPICENTRE 24.98 123.05 DEPTH= 141.KM
A=-0.49501 B= 0.76068 C= 0.41992 D= 0.8382 E= 0.5454
G=-0.2290 H= 0.3520 K=-0.9076 HT= 3.4

DEPTH OF FOCUS= 0.017R

SE= 1.77

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ILAN	1.20	260.4	0	25A	-1	0	44	-2				
TAIPEI	1.39	272.5	0	29A	1	0	47	-3				
HWALIEN	1.65	232.8	0	30A	-1	0	50	-5				
HSINCHU	1.90	265.1	0	33	-1	0	56	-4				
TAICHUNG	2.31	249.6	0	38	-1	1	6	-3				
HSINKONG	2.42	219.8	0	38A	-2	1	6	-5				

YUSHAN	2.43	232.6	0	39	-1	1	8	-3			
ALISHAN	2.52	235.3	0	47	6	1	16	3			
TAITUNG	2.82	218.6	0	43K	-2	1	18	-2			
TAINAN	3.25	233.4	0	51	0	1	28	-2			
TAWU	3.28	217.5	0	48	-3	1	25	-6			
KAOHSIUNG	3.46	227.9									
PENGHU	3.51	246.5	1	13	19	1	50	14			
HENGCHUN	3.64	216.0	0	56	0	1	41	2			
ZO-SE	6.32	345.2	1	33K	1	2	42	-1			
NANKING	7.99	332.9	1	55	1	3	27	4			
HONG KONG	8.57	253.7	2	1	-1	3	31	-6			
CANTON	9.08	260.1	2	8A	-1						
MANILA	10.42	190.6	2	27	1	4	23	2			
SIAN	15.36	310.2	3	30	0	6	20	4			
PEKING	16.08	340.6	3	42A	3	6	41	8			
MATUSIRO	17.37	44.9	3	52A	-3	7	10	9			
CHENGTU	17.76	292.8	3	59K	0	7	15	5			
KUNMING	18.41	274.8	4	7K	1	7	25	1			
CHANGCHUN	18.90	5.0	4	14A	2	7	41	7			
VLADIVOSTOK	19.50	19.7	4	18A	0						
LANCHOW	19.87	308.3	4	23	1	8	0	7			
ULAN-BATOR	26.22	334.9	5	21	-2						
Y.-SAKHLINSK	27.00	30.5	5	28	-2						
SHILLONG	28.17	277.9	5	39K	-2						
CHITTAGONG	28.69	271.3	5	46	0						
IRKUTSK	30.75	337.3	6	34	30						
CHATRA	32.27	281.2	6	18	1						
YAKUTSK	37.30	5.2	6	59A	-1						
DARWIN	37.90	167.6	7	4	-1	11	43	-62			
PETROPAVLOVK	38.70	34.2	7	9	-2						
RABAUL	40.52	131.7	7	26	0						
PORT MORESBY	41.46	142.5	7	35K	1	13	39	1			
WARSAK DAM	45.33	293.9	8	6	1						
POONA	45.95	272.1	8	10	0						
TIKSI	46.80	2.5	8	14	-3						
DUZHANBE	47.46	300.3	8	53	31						
QUETTA	49.59	289.3								13	31
CHARTERS TS.	50.16	151.2	8	43	0					10	1
SVERDLOVSK	54.43	323.2	9	13	-1						
MUNDARING	57.00	186.9	9	31K	-2						
BRISBANE	59.43	149.2	9	49	-1						
ADELAIDE	61.44	165.4	10	2K	-1						
KHEYS	61.50	350.3	10	2	-2						
RIVERVIEW	64.29	154.2	10	22A	0						
CANBERRA	64.81	156.7	10	26K	0					10	58 *SP
TIFLIS	65.37	306.3	11	3	34						
MELBOURNE	65.78	161.1	10	31	-1						
APATITY	67.05	335.3	10	38K	-2						
MOSCOW	67.22	322.3	10	40	-1						
COLLEGE	67.32	27.6	10	40	-1						
SODANKYLA	69.64	335.8	10	55	-1					11	30
SAVANNAH	70.02	161.0	10	58K	0						
TARRALEAH	70.35	161.8	11	1K	1						
KIRUNA	71.75	337.0	11	7K	-1	11	42				
MOULD BAY	72.13	12.9	11	10A	-1						
HELSINKI	72.55	328.7	11	13	0					11	49
NURMIJARVI	72.58	329.1	11	13K	0					11	47
ALERT	72.71	0.8	11	14A	0						
UPPSALA	76.08	329.9	11	32K	-1					12	8
SKALSTUGAN	76.61	334.5	11	35	-1						
RESOLUTE	77.61	9.6	11	40A	-2						
KARAPIRO	79.63	140.4	11	53	0						
PRUHONICE	82.26	321.8	12	6	-1					12	43
COLLMBERG	82.45	323.5	12	8	0	12	42			12	57 *SP
ALBERNI	84.64	37.5	12	28	9						
TANANARIVE	85.43	246.8	12	24K	1					12	50
PENTICTON	87.43	35.6	12	34	2						
CORVALLIS	88.07	40.9	12	37A	2						
BANFF	88.37	32.5	12	38	1						
ROSELEND	88.60	320.5	12	41	3						
SHASTA	90.80	43.8	12	50	2						
MINERAL	91.50	43.7	12	53K	2						
BERKELEY	92.48	46.0	12	57A	1						
RENO	93.09	43.6	13	0K	1						
LICK	93.19	46.2	13	0A	1						
BUTTE	93.20	35.2	13	0	1	13	36				
EUREKA	95.49	41.8	13	11	1	13	45		16	59	PP
WOODY	95.96	46.2	13	11	-1	13	47				
FLAMING GRGE	98.34	37.4	13	24	1						

TUCSON	103.31	44.7	18	0	255							
TUCSON TELE.	103.32	44.6	18	0	255							
SCOTT BASE	105.75	171.3	18	15	777							
WICHITA MTS.	108.70	35.3	18	34	777						29	21 PKKP
SOUTH POLE	114.83	180.0	18	27	3							
LA PAZ	166.57	53.2	19	51	3						20	54 PKP2

DECEMBER 3 16.H 14.M 31.S EPICENTRE -11.55 166.11 DEPTH= 89.KM

A=-0.95137 B= 0.23522 C=-0.19892 D= 0.2400 E= 0.9708
G= 0.1931 H=-0.0477 K=-0.9800 HT= 6.3

DEPTH OF FOCUS= 0.009R

SE= 2.27

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
HONIARA	6.42	288.6	1	30K	-4						1	45 PP
PORT VILA	6.50	161.1	1	41	6	3	9	21				
KOUMAC	9.10	190.4	2	8A	-2	3	55	3				
SUVA	13.59	120.3				5	47	8				
RABAUL	15.61	296.8	3	39	3	6	37	10				
PORT MORESBY	18.77	274.7	4	16K	1	7	47	10			4	33
BRISBANE	20.13	216.6	4	28	-1	8	14	9				
CHARTERS TS.	20.89	243.6	4	38	1						5	2
AFIAMALU	21.69	98.6	4	14	-31							
ONERAHI	25.25	164.1	5	20	1							
RIVERVIEW	26.06	209.3	5	29	2						10	0
KARAPIRO	27.59	163.8	5	39	-2							
CANBERRA	28.31	210.5	5	48K	1	10	34	8				
WELLINGTON	30.58	167.1	6	6	-2							
MELBOURNE	32.30	212.3	6	23	0							
ADELAIDE	34.10	222.4	6	38K	0							
SAVANNAH	34.32	205.5	6	40A	0							
TARRALEAH	35.11	205.7	6	47	0							
MUNDARING	50.11	237.9	8	48	0							
PERTH	50.42	238.0	9	9	18						16	7
MATUSIRO	54.58	332.5	9	17	-4	16	59	7				
LEMBANG	57.85	269.2	9	44	-1	17	44	8				
CAPE HALLETT	60.77	178.6	10	2	-3	18	44	31				
HONG KONG	61.02	303.5	10	7	0	18	23	7				
WILKES	66.08	201.4	10	41	1							
SCOTT BASE	66.30	179.9	10	40A	-1						11	49
CHANGCHUN	66.45	328.9	10	42	0							
PEKING	69.09	321.0	10	57	-2	19	59	4				
SIAN	70.83	312.5	11	10	1							
KUNMING	71.69	301.4	11	16	2	20	36	11				
CHENGTU	72.89	307.2	11	21	0	20	48	9				
LANCHOW	75.35	312.1	11	36	1							
BYRD STATION	76.00	170.0	11	36	-3							
SOUTH POLE	78.53	180.0	11	55	2							
SHILLONG	81.08	298.4	12	7K	0							
PARAISO	82.33	50.6	12	21K	8							
BERKELEY	82.94	49.2	12	17K	1	23	29	63				
LHASA	83.00	302.1	12	18	1	22	38	11				
LICK	83.22	49.9	12	19A	1							
COLLEGE	83.66	18.0	12	16	-4				12	43		
SHASTA	83.84	46.5	12	21	0							
MINERAL	84.28	47.0	12	25K	2							
MAWSON	84.39	202.0	12	23	-1							
FRESNO	84.42	50.9	12	23	-1							
PASADENA	84.87	53.8	12	27	1	22	51	5			24	5 PS
RENO	85.31	48.3	12	30	2							
BOULDER CITY	88.02	52.8	12	40	-1							
EUREKA	88.12	49.2	12	42	0							
PENTICTON	88.66	39.1	12	44	0							
GLEN CANYON	90.80	52.5	12	49	-6							
FLAMING GRGE	93.36	49.1	13	8	2							
ALBUQUERQUE	94.43	55.4	13	13	2							
NEW DELHI	94.49	298.1	13	12K	1							
POONA	95.71	287.7	13	18	1							
WICHITA MTS.	100.80	56.6	13	42	2	24	23	13			17	35 PP
ROLLA	106.42	53.8									28	2 SS
DUBUQUE	107.43	49.0									28	13 SS
BLOOMINGTON	110.66	52.4									27	56 SS

SODANKYLA	118.15	343.4	18	36	-1								
BREBEUF	119.26	44.1										17	13
PALISADES	120.04	49.2										20	16 PP
NURMIJARVI	123.51	338.3	18	47	0								
KIMBERLEY	125.22	222.2	18	56	6								
BULAWAYO	127.65	233.3	18	46	-9								
SAN JUAN	129.22	75.7	18	59	1							22	24
COLLMBERG	134.72	336.5										22	42
LWIRO	135.40	254.8	19	14	4								
BANGUI	147.05	260.2	19	33	2								

DECEMBER 3 18.H 31.M 55.S EPICENTRE 41.12 44.19 DEPTH= 23.KM

A= 0.54170 B= 0.52663 C= 0.65515 D= 0.6971 E=-0.7170
G= 0.4697 H= 0.4567 K=-0.7555 HT= -2.1

SE= 2.93

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
STEPANAVAN	0.19	130.6									0	4	PG
LENINAKAN	0.43	217.3									0	4	PG
BOGDANOVKA	0.47	288.5									0	7	PG
AKHALKALAKI	0.60	297.6									0	9	PG
TIFLIS	0.75	37.2									0	15	PG
BAKURIANA	0.79	320.5									0	14	PG
GORI	0.86	356.4									0	17	PG
BORZHOMI	0.93	319.5									0	16	PG
EREVAN	0.97	165.9									0	16	PG
DUZHETI	1.03	21.5									0	22	PG
ABASTUMANJ	1.20	301.9									0	20	PG
KIROVOBAD	1.69	105.5	0	30	1	0	54	4					
GEGECHKORI	1.83	312.7									0	36	PG
NAKHICHEVAN	2.13	153.9									0	36	PG
ZUGDIDI	2.22	309.7	0	37K	1	1	5	1					
GORIS	2.30	134.1	0	40	2						1	17	SG
GROZNY	2.48	27.3	0	43	3						1	13	
PIATIGORSK	3.02	344.5	0	48	0						1	37	SG
MAKHACH-KALA	3.08	52.1	0	53	4	1	32	7					
SHEMAKHA	3.40	96.9									1	2	P*
KRASNAYA	3.90	312.1	1	0K	0						2	2	SG
BAKU	4.40	97.8	1	10	3								
TEHERAN	7.79	131.3	2	0	5	3	40	16					
SIMFEROPOL	8.31	300.8	2	2	0	3	35	-2					
KIZYL-ARVAT	9.45	97.8	2	17	-1	4	2	-3			5	29	
KSARA	9.83	224.8	2	21	-2	4	2	-12			3	13	PG
ASHKABAD	11.38	101.6	2	41	-4	4	48	-4					
ISTANBUL KA.	11.42	274.7	2	44	-1	5	9	16					
ISTANBUL UN.	11.48	274.6	2	45A	-1	6	23	88					
BAIRAM-ALI	14.31	98.4	3	24	0								
MOSCOW	15.24	345.8	3	34	-2						3	42	PP
SOFIA	15.61	282.7	3	41	0	6	20	-13					
ATHENS	16.10	265.4	3	46K	-1								
LWOW	16.56	308.4	3	52	-1						7	9	
SAMARKAND	17.41	87.3	4	0	-3						7	27	
NIEDZIKA	18.68	304.4	4	20	1						4	41	PP
TASHKENT	18.86	81.1	4	21A	0						4	54	PPP
SVERDLOVSK	18.98	28.6	4	20K	-3								
DUZHANBE	19.03	89.6	4	24	1								
KRAKOW	19.11	306.0	4	25	1						4	55	PPP
WARSAW	19.31	312.9	4	28	2	8	1	4			8	14	SS
HURBANOVO	19.67	298.8	4	38	8						5	18	PP
CHORZOW	19.76	306.1	4	28	-3						4	42	PP
RACIBORZ	20.19	305.1	4	38	2						4	54	PP
BRATISLAVA	20.45	299.3	4	40	1						5	5	PP
PULKOVO	20.57	339.8	4	39	-1	8	27	3					
FERGANA	20.89	82.9	4	43	0	8	26	-4					
VIENNA-H.	20.95	299.2	4	47	3						6	57	
ANDIJAN	21.26	81.7	4	48	1						8	54	PCP
QUETTA	21.41	113.4	4	50	1	8	59	19					
MESSINA	22.20	271.9	4	53	-4	8	57	2	5	2	5	26	PP
PRUHONICE	22.45	303.3	4	58	-1	9	7	8					
HELSINKI	22.47	334.5	5	0	1								
TRIESTE	22.51	291.8	5	2	2	9	20	20			5	50	PP
FRUNSE	22.63	75.5	5	2	1								
NURMIJARVI	22.83	334.8	5	3	0	9	30	24					

KASPERSKE H.	22.91	300.8	5	4	0					6	18	
ROME	23.69	282.4	5	13A	2	9	28	7		10	31	SS
COLLMBERG	23.70	306.0	5	12K	1					5	45	PP
PADOVA	23.83	291.2	5	34	22					9	15	
CHEB	23.84	302.8	5	16	3					6	34	
KARLSKRONA	23.92	318.7	5	12	-1							
FLORENCE X.	24.36	287.3	4	59	-19	9	36	3				
JENA	24.49	304.7	5	22	3	9	50	15		5	36	PP
KAJAANI	24.92	342.8	5	23K	0							
UPPSALA	24.95	327.6	5	23K	0				5 37	10	20	
COPENHAGEN	25.33	315.9	5	31	4							
STUTTGART	25.69	299.1	5	29	-1					6	23	
PAVIA	25.74	290.9				10	25	29				
EBINGEN	25.86	297.8	5	34	2							
HEIDELBERG	26.11	300.5	5	36	2							
FELDBERG	26.36	302.3	5	43	6							
GOTEBORG	26.37	319.9	5	48	11							
STRASBOURG	26.68	298.6	5	41	2					6	42	
ROSELEND	26.81	291.7	5	47	6							
MUNSTER	27.11	306.0	5	44	1							
MONACO	27.12	287.9	5	53	9							
APATITY	27.13	351.0	5	43K	-1							
BENSBERG	27.26	303.7	5	37	-8					6	28	
ISOLA	27.34	288.9	5	45	-1							
SODANKYLA	28.01	345.6	5	52K	0							
SKALSTUGAN	29.21	331.0	6	25	23					8	33	
DEHRA DUN	29.36	100.7								12	13	
NEW DELHI	29.66	104.5	6	8A	2							
KIRUNA	29.71	342.0	6	7	0				6 21	8	37	
TROMSOE	31.47	343.4	6	22	0							
SHILLONG	42.21	96.3	7	53A	0							
BANGUI	43.18	219.0	7	58	-3				8 45			
ULAN-BATOR	44.13	59.2	8	15	6							
ALERT	51.61	350.7	9	7	0							
YAKUTSK	52.74	36.2	9	16	1							
RESOLUTE	61.33	348.6	10	14	-2							
MOULD BAY	62.45	355.6	10	24K	0							
MATUSIRO	69.77	58.9	11	10	-1					14	41	
KIMBERLEY	71.81	197.9	11	24	1							
COLLEGE	73.93	5.3	11	36	1							
SHAWINIGAN	76.25	320.7	11	49	0							
MORGANTOWN	84.91	320.1	12	35A	0							
BANFF	86.40	347.4	12	43	1							
PENTICTON	88.82	349.5	12	53	-1							
BOZEMAN	90.80	342.9	13	5	2							
WICHITA MTS.	97.13	329.9	13	32	0							
EUREKA	97.77	344.6	13	35	0					16	40	PP

DECEMBER 3 19.H 55.M 8.S EPICENTRE 44.24 134.80 DEPTH= 383.KM

A=-0.50647 B= 0.51004 C= 0.69524 D= 0.7096 E= 0.7046
G=-0.4899 H= 0.4933 K=-0.7188 HT= -3.3

DEPTH OF FOCUS= 0.055R

SE= 4.39

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SUTTSU	4.20	108.1	1	7	-7	2	2	-10				
MORI	4.73	114.9	1	13	-6							
SAPPORO	4.90	101.5	1	16K	-5	2	16	-8				
HAKODATE	5.00	117.0	1	16	-6	2	14	-12				
WAKKANAI	5.03	74.0	1	21	-2	2	27	0				
TOMAKOMAI	5.19	105.7	1	21	-3							
AOMORI	5.59	125.7	1	21	-8							
AKITA	6.00	137.0	1	21	-12	2	32	-14				
URAKAWA	6.20	106.9	1	28	-7	2	37	-13				
HATINOHE	6.21	124.3	1	27	-8	2	34	-16				
Y.-SAKHLINSK	6.21	60.6	1	34	-1	2	48	-2				
OBIHIRO	6.24	99.3	1	28	-8	2	42	-9				
MORIOKA	6.56	131.5	1	30	-9	2	39	-18				
CHANGCHUN	6.85	269.9	1	43A	0	3	6	3			14	11 SCS
UGLEGORSK	6.96	43.4	1	38	-6							
MIZUSAWA	6.96	135.0	1	34	-10	2	47	-19				
MIYAKO	7.04	128.2	1	34A	-11	2	46	-21				
KUSIRO	7.08	96.9	1	39	-6	2	54	-14				

YAMAGATA	7.30	143.2	1	34	-14	2	55	-17			
SENDAI	7.53	140.3				2	53	-25			
ISINOMAKI	7.60	137.6	1	38A	-13	2	57	-22			
TAKADA	7.60	158.7	1	38	-13						
TOYAMA	7.75	165.5	1	40	-13	3	8	-14			
HUKUSIMA	7.77	144.6	1	39	-14	3	4	-18			
NAGANO	7.99	159.9	1	48	-8	3	16	-11			
MATUSIRO	8.12	160.2	1	45K	-12	3	15	-14	10	40	SCP
SHIRAKAWA	8.22	148.1	1	46	-12	3	13	-19			
MATUMOTO	8.34	162.0				3	20	-15			
OIWAKE	8.40	158.8	1	54	-7	3	20	-15			
MAEBASI	8.48	156.0	1	50K	-12	3	21	-16			
ONAHAMA	8.63	145.4				3	18	-22	3	16	
TSURUGA	8.63	173.1	1	52	-11						
KUMAGAYA	8.81	155.0	2	2	-3	3	26	-18			
TITIBU	8.88	156.9	1	54	-12						
GIHU	8.96	169.6	1	59	-8						
MITO	8.96	149.2	2	2	-5	3	23	-24			
TUKUBASAN	8.97	151.4	1	53	-14	3	23	-25			
KAKIOKA	8.99	151.0	1	54	-13	3	24	-24			
IIDA	9.01	164.0	2	3	-5	3	31	-17			
HIKONE	9.03	172.4	2	0	-8	3	35	-14			
KOHU	9.03	160.1	1	55	-13	3	27	-22			
NAGOYA	9.21	168.8	1	59	-11	3	34	-19			
KYOTO	9.24	175.2				3	36	-18			
HUNATU	9.25	159.4	1	59	-11	3	32	-21			
TOKYO C.M.O.	9.35	154.4				3	35	-21	3	25	
ABUYAMA	9.38	176.1	2	1A	-11						
KAMEYAMA	9.47	171.6				3	41	-18			
YOKOHAMA	9.55	155.4	2	29	15	3	38	-22			
MISIMA	9.65	159.3				3	38	-25			
AJIRO	9.76	158.7	2	3	-13	3	42	-22			
OMAESAKI	9.98	163.5				3	52	-19			
MERA	10.08	155.7				3	50	-22			
OSIMA	10.09	158.0				3	48	-27			
HATIDYOZIMA	11.78	159.0				4	25	-24			
PEKING	14.44	259.5	3	8K	-2	5	44	2	14	26	SCS
ZO-SE	16.95	223.9				6	21	-9	14	32	SCS
NANKING	17.47	231.3	3	37	-4	6	34	-6	14	33	SCS
PETROPAVLOVK	17.98	52.3	3	46	0	6	58	9			
YAKUTSK	18.06	352.3	3	49	2	6	58	8			
MAGADAN	18.16	26.8				7	0	8			
ULAN-BATOR	19.65	290.6	3	4K	-59	7	26	7			
SIAN	22.31	252.3	4	25K	-3	8	2	-2			
LANCHOW	24.93	261.5	4	51	-1	8	44	-3	15	3	SCS
HONG KONG	27.71	224.6							11	37	
CHENGTU	27.77	251.2				9	24	-8	15	12	SCS
KUNMING	32.25	244.4	5	52	-4	10	34	-8	15	34	SCS
LHASA	37.44	262.1	6	40	0	12	0	0	16	6	SCS
SHILLONG	39.31	256.2	6	51K	-4						
ALMATA	41.04	289.6	7	12	3						
CHATRA	41.84	261.7	7	15	-1				16	29	
FRUNSE	42.79	290.0	7	24	1						
BOKARO	44.67	259.4	7	35	-3						
COLLEGE	45.92	35.5	7	48	0				9	14	12 33 SCP
SVERDLOVSK	46.48	313.2	7	54	2						
TASHKENT	47.03	290.5	7	56	-1				12	35	
NEW DELHI	47.96	271.1	8	2K	-2				17	10	
RABAUL	50.68	157.4	8	16	-8						
MOULD BAY	51.10	17.2	8	28K	1						
ALERT	53.22	2.8	8	43K	0						
APATITY	54.02	332.3	8	49K	0						
QUETTA	54.38	279.4	8	50	-1	15	58	0			
PORT MORESBY	54.55	165.0	8	45	-7						
ASHKABAD	56.02	292.1	9	1	-2						
SODANKYLA	56.34	333.8	9	7K	2	16	30	6	11	0	PP
RESOLUTE	56.87	14.0	9	9	0						
TROMSOE	57.22	338.0	9	12	1						
KAJAANI	57.88	330.3	9	17	1	16	50	6			
KIRUNA	57.95	335.9	9	16K	0	17	0	15	13	24	SCP
MOSCOW	58.50	318.8	9	21K	1	16	57	5			
THULE	58.71	6.2	9	24	3						
PULKOVO	59.42	325.3	9	26	0	17	8	4	11	41	PP
NURMIJARVI	61.20	328.0	9	39K	1	17	29	3	18	45	SCS
HELSINKI	61.30	327.6	9	39	1				10	29	
TEHERAN	61.87	293.6	9	43	1	17	39	4			
TIFLIS	62.55	302.5	9	47K	0	17	47	4			
GORIS	62.92	299.7	9	50	1	17	52	5			

SKALSTUGAN	63.33	335.0	9	53K	1					
ALBERNI	63.86	45.9	10	2	7					
UPPSALA	64.25	330.1	9	57K	-1	18	7	3	10	25 PCP
CHARTERS TS.	64.87	168.1	9	54	-7					
VICTORIA	65.06	45.9	10	1	-2					
PENTICTON	66.46	43.4	10	11	-1					
SIMFEROPOL	66.74	310.6	10	14A	1	18	38	4	11 34	
BANFF	67.18	40.0	10	15	-1					
CORVALLIS	67.64	49.1	10	19K	0					
GOTEBORG	67.83	330.8	10	20K	0					
BERGEN	67.88	335.6	10	23	3					
COPENHAGEN	69.20	329.2	10	29A	1					
KRAKOW	70.33	321.6	10	36	1				11	10 PCP
SHASTA	70.71	51.8	10	35A	-2					
RACIBORZ	71.07	322.5	10	42	2				11	13 PCP
MINERAL	71.39	51.6	10	40A	-1					
CALISTOGA	71.98	53.5	10	44K	-1					
ISTANBUL UN.	72.15	310.1	10	46	0	19	41	5	13	23
COLLMBERG	72.34	325.9	10	47	0				13	33 PP
HALLE	72.60	326.6	10	48	-1					
BERKELEY	72.69	53.9	10	47K	-2					
PRUHONICE	72.71	324.3	10	51K	2	19	49	7	12 17	13 42 PP
RENO	72.94	51.2	10	49A	-2					
BRATISLAVA	72.97	321.7	10	43A	-8					13 45 PP
KSARA	73.00	300.7	10	52	1					
BRISBANE	73.16	163.3	10	45	-7					
BOZEMAN	73.17	41.9	10	52	0					
JENA	73.19	326.4	10	53	1				12 20	13 42 PP
VIENNA-H.	73.24	322.1	10	54	2				12 19	
LICK	73.41	53.9	10	52K	-1					
STA. CRUZ C.	73.43	54.4	10	52K	-1					
PARAISO	73.67	55.1	10	57K	2					
KASPERSKE H.	73.77	324.2	10	55	0				11 14	13 39 PP
MUNSTER	73.89	329.1	10	58	2					
SOFIA	73.99	314.5	10	58	1					13 52
PRIEST	74.80	54.3	11	1K	0					
FRESNO	74.87	53.3	11	0	-1					
BENSBERG	74.87	328.7	11	2	1					14 0 PP
FELDBERG	74.98	327.6	11	14	12					
EUREKA	75.11	49.1	11	2	-1					
STUTTGART	75.82	326.3	11	8	1					
SALT LAKE C.	76.36	45.9	11	9	-1					
TRIESTE	76.38	321.8	11	10	0					14 12 PP
EBINGEN	76.41	326.1	11	10	0					
STRASBOURG	76.56	327.0	11	12	1					14 12 PP
ATHENS	77.19	310.9	11	14	0					
BASLE	77.49	326.4	11	18A	2	20	54	20		
FLAMING GRGE	77.49	44.3	11	15	-1					
PASADENA	77.65	54.3	11	15	-2					
BOULDER CITY	78.25	51.0	11	19	-1					
BESANCON	78.35	327.2	11	21	0					
PARIS	78.36	330.1	11	22	1					
FLORENCE X.	78.95	322.0	11	9	-15					14 12
RIVERVIEW	79.11	166.2	11	20K	-5					23 14
ROSELEND	79.12	325.2	11	28K	3					
GLEN CANYON	79.30	48.3	11	25	-1					
FOLINIERE	79.43	331.7	11	27	1					
GARCHY	79.43	328.9	11	27	1					14 36 PP
CANBERRA	80.23	168.3	11	26K	-5					
ISOLA	80.43	324.8	11	31	-1					
ALBUQUERQUE	83.54	46.5	11	46	-1					
DUBUQUE	84.53	32.0	11	54A	2	21	46	1		
MANHATTEN	84.89	37.6	11	53	-1					
SHAWINIGAN	86.37	18.7	12	0A	-1					
BREBEUF	87.16	19.6	12	4A	-1					
WICHITA MTS.	87.65	41.4	12	6	-1	22	16	1		15 36 PP
ST. LOUIS 1	88.02	33.7	12	9A	0	22	18	0		
FAYETTEVILLE	88.53	37.7	12	11A	0					
BLOOMINGTON	88.98	30.9	12	13	-1	22	28	1		
KARAPIRO	89.71	148.9	12	13	-4					
SCOTT BASE	123.39	172.3	18	10	-2					
SOUTH POLE	134.05	180.0	18	33	0					
LA PAZ	146.23	42.3	18	56A	1					21 59 PP

DECEMBER 4 12.H 38.M 9.S EPICENTRE 33.39 95.25 DEPTH= 0.KM

A=-0.07649 B= 0.83318 C= 0.54768 D= 0.9958 E= 0.0914
G=-0.0501 H= 0.5454 K=-0.8367 HT= 0.7

SE= 2.70

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LHASA	5.18	225.0	1	23K	2								
TOCKLAI	6.63	183.7	1	42	1	3	25	26					
LANCHOW	7.55	67.0	1	55	1	3	23	1					
CHENGTU	7.92	107.7	2	0A	0	3	35	4					
SHILLONG	8.32	201.5	2	1K	-4	3	28	-13					
TIENSHUI	8.81	79.3	2	14	2								
CHATRA	9.57	229.0	2	22K	0	4	13	1			2	35	PP
KUNMING	10.52	139.6	2	33A	-2	4	33	-2					
CHITTAGONG	11.39	196.3	2	44	-3								
SIAN	11.41	81.9	2	46	-2	5	0	3					
CALCUTTA	12.40	211.0	3	0	-1	5	15	-6					
BOKARO	12.62	223.5	2	59K	-5	5	16	-10			3	9	PP
DEHRA DUN	14.93	262.8	3	36	2	6	21	-1			3	51	PP
NEW DELHI	16.20	257.6	3	49A	-2	6	47	-4			4	4	PP
ULAN-BATOR	16.97	27.7	2	48	-73	7	21	12					
ALMATA	17.39	309.9	4	6	0						7	32	
PEKING	18.02	62.4	4	13K	-1	7	44	11					
FRUNSE	18.73	306.2	4	23	0						8	3	SS
CANTON	18.93	118.2	4	21A	-4	7	56	2					
VISHAKHAPTNM	18.93	217.4	4	22K	-3	7	59	5					
SEHORE	18.93	242.2	4	21	-4	7	47	-7			4	45	PPP
WARSAK DAM	19.72	278.4	4	35	1								
NANKING	19.84	87.4	4	34K	-2	8	15	1					
HONG KONG	20.02	118.7	4	35A	-3	8	5	-13			4	47	PP
KABANSK	20.40	20.5	4	41	-1						8	31	
PORT BLAIR	21.74	186.7	4	59	4	8	58	6					
HYDERABAD	21.92	227.6	5	0K	3	9	1	6			5	34	PP
ZO-SE	22.04	88.8	4	57K	-1	9	1	4					
TASHKENT	22.05	298.6	4	58	0						5	25	PP
TAICHUNG	24.07	105.9				9	33	-1					
POONA	24.20	237.6	5	18	-1	9	36	0			5	43	PP
QUETTA	24.23	270.1	5	19	-1	9	37	1					
TAINAN	24.27	108.8				9	52	16					
TAIPEI	24.35	103.1	5	1	-20	9	59	21					
MADRAS	24.51	217.6	5	21	-1	9	48	7			6	8	PP
NHATRANG	24.64	145.5	5	23	-1	9	49	6					
ILAN	24.65	103.4									9	14	
BOMBAY	24.69	239.8	5	22	-2	9	47	3					
HWALIEN	24.91	105.3	5	30	4								
HSINKONG	25.13	107.3	5	31	3	10	10	19					
TAITUNG	25.13	108.3	5	36	8	10	15	24					
TAWU	25.14	109.3	5	9	-19								
HENGCHUN	25.20	110.2									14	17	
CHANGCHUN	25.58	57.1	5	32K	-1	10	0	1					
KARACHI	26.01	258.3	5	50	13								
MEDAN	29.83	173.1	6	11	0						15	51	
MANILA	29.93	122.3	6	15	3	11	5	-4					
VLADIVOSTOK	30.17	60.4	6	13	-1	11	12	-1			7	20	PP
ASHKABAD	30.19	289.3	6	16	1						7	16	PP
MATUSIRO	35.14	72.5	6	55	-3	12	29	-2					
TEHERAN	35.97	286.3	7	6	1	12	44	0					
YAKUTSK	36.07	27.0	7	5	-1	12	47	2			15	9	SSS
TUKUBASAN	36.70	72.6	7	7K	-4						8	32	PPP
Y.-SAKHLINSK	38.15	54.7	7	24	1						13	22	SCP
GORIS	39.43	293.3	7	34	0						9	9	PP
TIFLIS	40.36	297.0	7	42A	1	13	54	4			9	17	PP
DJAKARTA	40.85	162.2	8	23	38	13	53	-5					
LEMBANG	41.68	161.3	7	53	1	14	11	1					
MAGADAN	44.57	36.8	8	19	3								
MOSCOW	45.16	317.6	8	21A	0	15	4	3			10	8	PP
SIMFEROPOL	47.74	302.8	8	41	0	15	39	2			10	32	PP
KSARA	48.83	287.9	8	50	1	15	58	5			10	47	PP
APATITY	48.89	333.3	8	50	0								
PULKOVO	49.32	322.8	8	53	0	15	59	-1			16	8	PS
KAJAANI	50.77	328.4	9	4	0								
SODANKYLA	51.46	332.6	9	7	-2	16	31	2			10	24	PCP
HELSINKI	52.01	323.3	9	11	-3								
ISTANBUL KA.	52.12	298.8	9	19	5	16	37	-1			11	21	PP
NURMIJARVI	52.15	323.8	9	13	-2	16	42	3			11	7	PP
ISTANBUL UN.	52.19	298.8	9	13A	-2	16	38	-1			10	35	
BUCHAREST	53.46	303.5	9	23	-1	17	3	7					
LWOW	53.72	310.5	9	26	0	17	1	1			21	17	

KIRUNA	53.85	333.0	9	25	-2	17	2	0		21 4 SS
TROMSOE	54.39	335.3	9	30	-1					
WARSAW	55.13	313.8	9	28	-9	17	14	-5	9 43	17 33 PPS
UPPSALA	55.71	323.4	9	40K	-1	17	27	0		
SOFIA	55.84	302.1	9	41	-1					11 43 PP
KRAKOW	56.26	311.4	9	48	3	17	36	2		10 31
CHORZOW	56.79	311.9	9	47	-2					10 24
ATHENS	56.97	296.6	9	47	-3					
BELGRADE	57.25	305.3	9	52	0					
RACIBORZ	57.34	311.8	9	57	4					10 40 PCP
SKALSTUGAN	57.61	328.3	9	52	-2					
HURBANOVO	57.91	309.2	9	58	1					
BRATISLAVA	58.54	309.8	9	59	-2					12 8 PP
VIENNA-H.	58.98	310.1	9	39	-25					
GOTEBORG	59.02	321.5	10	3	-1					
COPENHAGEN	59.28	319.2	10	5	-1	18	12	-2		13 27 PPP
PRUHONICE	59.63	312.4	10	8	0					
COLLMBERG	60.19	314.2	10	10A	-2					12 22 PP
KASPERSKE H.	60.49	311.7	10	13A	-1					
HALLE	60.75	314.6	10	14	-2	18	33	0		
JENA	61.15	314.1	10	17	-2	18	39	1		12 13 PP
TRIESTE	61.50	307.9	10	20	-1	18	38	-4		12 37 PP
PADOVA	62.82	308.1								13 41
MESSINA	62.92	299.5	10	30	-1	18	57	-3	10 40	12 52 PP
MUNSTER	63.14	316.1	10	32	0					
FELDBERG	63.27	314.1	10	39	6					
STUTTGART	63.28	312.4	10	32	-1					11 7 PCP
WITTEVEEN	63.39	317.3	10	34	0					
HEIDELBERG	63.40	313.2	10	33	-1					
ROME	63.70	304.3	10	39	3	19	27	17		19 59 PS
BENSBERG	63.77	315.2	10	33	-3					11 17
FLORENCE X.	63.83	306.6	10	46	9					23 11 SS
ALERT	63.83	356.8	10	36	-1					
STRASBOURG	64.28	312.6	10	46	6					23 11 SS
PORT MORESBY	65.13	121.1	10	44	-1	19	29	2	10 48	
RABAUL	65.45	113.2	10	49	2					
ROSELEND	65.56	309.5	10	51	3					11 11
BESANCON	65.91	311.7	10	49	-1					
ISOLA	66.46	308.3	10	53	-1					
DURHAM	67.12	321.4	10	58	0					
PARIS	67.40	314.3	10	59	-1					
GARCHY	67.70	312.7	11	4	2					
KEW	67.88	317.8	11	8	5					
MUNDARING	67.95	160.8	11	1A	-2					
MOULD BAY	68.49	8.4	11	4	-2					
TANANARIVE	69.11	228.5	11	12A	2					14 2 PP
FOLINIERE	69.18	315.2	11	4	-7					
THULE	69.97	355.9	11	19	3					
COLLEGE	70.53	23.8	11	16	-3					12 10
BAGNERES	71.45	309.7	11	31	6					
RESOLUTE	72.00	2.8	11	28	0	20	48	-1		
CHARTERS TS.	72.08	129.8	11	27	-1					
TOLEDO	75.77	308.4	11	50	0					14 40 PP
ALMERIA	76.29	305.1	11	53	0	21	22	-15		14 44 PP
BANGUI	76.44	266.3	11	51	-2					12 6 SP
ADELAIDE	79.27	144.9	12	8	-1					
BROKEN HILL	79.41	244.9	12	27	17					
BRISBANE	81.45	130.7	12	21	0	22	38	6		
BULAWAYO	82.86	240.4	12	8	-20					
CANBERRA	84.88	138.5	12	38	0					
RIVERVIEW	85.01	136.2	12	41	2	23	11	3		
PRETORIA	86.71	236.3	13	13	26					
SAVANNAH	88.68	143.9	12	52	-5					
TARRALEAH	88.76	144.7	13	1	4				13 12	
MOORLANDS	89.22	144.3	13	2	3					
KIMBERLEY	90.94	235.9	13	5K	-2					
BANFF	91.55	18.8	13	8	-2					
PENTICTON	92.01	22.0	13	14	2					
GRAHAMSTOWN	92.56	231.3	13	18	3					
HUNGRY HORSE	94.52	19.1	13	23	-1					
SHASTA	98.51	28.0	13	45	3					
MINERAL	99.12	27.7	13	57A	12					17 48
EUREKA	101.95	24.2	14	2	4					
FLAMING GRGE	102.64	18.9	14	9	8					
WOODY	104.22	28.1	18	24	256					
PALISADES	105.30	351.5				25	5	13		28 5 PS
BOULDER CITY	105.48	24.9	18	25	777					
WICHITA MTS.	111.02	12.2	18	16	-20					19 13 PP

SCOTT BASE	118.62	166.8	18	55	5							
CARACAS	133.17	335.6									22	43 PP
LA PAZ	157.47	314.2	20	4	6						23	31 PKS

DECEMBER 5 13.H 1.M 0.S EPICENTRE -50.73 139.83 DEPTH= 0.KM

A=-0.48560 B= 0.40999 C=-0.77207 D= 0.6451 E= 0.7641
G= 0.5899 H=-0.4981 K=-0.6355 HT= -5.7

SE= 3.24

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
FORT NELSON	9.35	36.3	2	20	1								
TARRALEAH	9.59	31.0	2	24A	1								
MOORLANDS	9.71	34.2	2	27	3								
SAVANNAH	10.35	32.3	2	34A	1								
MACQUARIE I.	12.21	115.4	2	57	-1								
ADELAIDE	15.77	356.7	3	43A	-2	6	47	6			7	1	SS
CANBERRA	16.78	26.9	4	0	2				4	12	7	26	*SS
RIVERVIEW	18.81	30.5	4	25A	2	8	0	9	4	35	4	44	PP
ROXBURGH	20.31	86.5	4	43	3	8	34	10					
WILKES	21.55	212.5	4	51A	-2	8	39	-9					
KAIMATA	23.06	81.4	5	14	6								
GEBBIES PASS	23.24	85.2	5	20	10								
COBB RIVER	24.66	79.8	5	27	3								
BRISBANE	25.31	27.8	5	31	1						6	12	PP
CAPE HALLETT	25.48	158.9	5	32	0	10	3	6					
MUNDARING	25.61	308.0	5	31A	-2	9	58	-1					
PERTH	25.82	307.5	5	35	0	10	3	0			6	2	
WELLINGTON	25.83	82.2	5	36	1	10	23	20					
CHATEAU	27.51	79.1	5	51	1								
KARAPIRO	28.28	77.0	6	1	4								
TUAI	28.75	80.0	6	2	0								
SCOTT BASE	29.00	168.6	6	7	3	10	58	3			7	6	PP
DARWIN	38.94	345.9	7	29	-1	13	45	16					
MAWSON	39.81	215.7	7	35	-2	13	46	4			9	11	PP
BYRD STATION	42.29	165.2	7	56	-1								
SUVA	44.66	57.6				15	4	11					
LEMBANG	51.30	317.3	9	9	1	16	26	-1					
DJAKARTA	52.23	316.8	9	1	-14						17	48	
AFIAMALU	53.54	64.5				16	48	-9			22	36	SSS
MEDAN	64.55	313.3	10	40	-1	19	19	-1					
PORT BLAIR	74.42	311.8									21	15	
HONG KONG	76.16	335.6	11	30	-22	21	6	-30					
GRAHAMSTOWN	77.76	231.9	11	30	-31								
HERMANUS	80.39	226.2	12	18	3	22	23	2			15	16	PP
KODAIKANAL	81.14	298.1									24	50	
MADRAS	81.93	301.8	12	51	28	22	41	4			15	47	
KIMBERLEY	82.35	233.4	12	23	-2								
CHITTAGONG	84.17	316.2	12	34	-1								
VISHAKHAPTNM	84.23	307.0	12	38	3	23	2	2			16	7	
CALCUTTA	85.87	313.5	13	20	37	23	18	2					
HOWRAH	85.91	313.5	12	15	-28								
HYDERABAD	86.51	302.9				23	16	-6			34	22	
SHILLONG	86.96	317.8	12	51K	3	23	30	4			24	11	
BULAWAYO	87.24	241.3	12	50	0								
BOKARO	88.18	312.1	13	6	12								
POONA	89.91	299.9	13	2	-1	23	58	4			24	11	PS
CHATRA	90.12	314.7	13	3	0	23	59	3			23	17	
BOMBAY	90.78	299.4	13	31	24	23	58	-4			20	30	
BROKEN HILL	91.88	244.5	13	11	-1								
NEW DELHI	96.34	308.2	13	32	0								
DEHRA DUN	97.35	309.8				24	11	-3			16	51	
LWIRO	101.40	252.1	14	4	9								
QUETTA	102.95	301.9	14	2	0								
TIFLIS	123.61	296.4	19	3	3								
SVERDLOVSK	125.40	318.5	19	4	1								
CHINCHINA	125.63	134.8	19	6	3								
BOGOTA	125.99	136.6	19	7	3								
EUREKA	127.56	71.2	19	12	4	26	38	24			21	7	PP
COLLEGE	128.02	31.1	19	8	0								
ALBUQUERQUE	130.56	81.9	18	33	-40						28	42	PKKP
ISTANBUL UN.	132.50	286.4	19	18	1								
RACIBORZ	133.63	292.3	19	37	18								
HUNGRY HORSE	133.87	62.7	19	24	4								
ATHENS	133.95	279.7							22	34	24	4	

LARAMIE	134.99	75.6	18 53	-29							
WICHITA MTS.	135.39	87.8	19 15	-7	26 28	-4			23 0	PKS	
FAYETTEVILLE	139.05	89.5	19 23	-6							
MBOUR	139.16	215.7							22 26	PP	
LITTLE ROCK	139.40	92.5	19 31	1							
MANHATTEN	139.40	84.0	19 26	-4					26 58		
ROLLA	141.60	89.0	19 34K	0					27 34		
C. GIRARDEAU	142.76	91.6	19 37	1					27 41		
ST. LOUIS 1	143.10	89.3	19 36	0					28 45		
FLORISSANT	143.10	89.0	19 36	0					27 36		
HELSINKI	143.34	310.6	19 38	1							
BRATISLAVA	143.47	288.9	19 4	-33							
NURMIJARVI	143.58	311.0	19 34	-3							
SODANKYLA	143.98	322.8	19 34	-4							
LJUBLJANA	144.08	284.3	19 36	-2			20 0		22 10	PP	
TRIESTE	144.37	283.3	19 28	-10					24 4		
DUBUQUE	144.95	83.5	19 40	1							
FLORENCE X.	145.00	279.1	19 50	11							
PRATO	145.16	279.0	19 43	3					21 10	PP	
PRUHONICE	145.75	290.5	19 41	0							
BLOOMINGTON	145.79	91.5	19 43A	2					28 6		
KASPERSKE H.	145.99	288.7	19 39	-2					22 8	PP	
KIRUNA	146.38	323.3	19 43	1							
UPPSALA	146.87	308.6	19 45A	2							
TROMSOE	146.87	326.6	19 46	3							
CHEB	147.08	289.7	19 48	5							
KARLSKRONA	147.14	301.5	19 39	-4							
COLLMBERG	147.15	292.1	19 46	3					23 11	PP	
MONACO	147.40	276.4	19 47	4							
CHUR	147.52	282.9	19 47	3							
HALLE	147.84	292.0	19 49	5					23 38	PP	
RAVENSBURG	147.86	284.5	19 50	6							
JENA	147.86	290.9	19 48	4					23 45		
EBINGEN	148.42	284.8	19 49	4							
STUTTGART	148.46	286.0	19 50	5							
CHAPEL HILL	148.49	102.9	19 48	3							
TUBINGEN	148.50	285.5	19 50	5							
ROSELEND	148.83	279.2	19 50	4					20 56		
BASLE	149.02	283.0							35 14		
HEIDELBERG	149.04	286.9	19 51	5							
NEUCHATEL	149.19	281.7	19 52	6					20 53		
STRASBOURG	149.30	285.0	19 52	7					20 42		
ALICANTE	149.49	261.6	19 48	1					42 47	SS	
FELDBERG	149.49	288.3	19 51	4							
SKALSTUGAN	149.74	315.3	19 50	3							
ALMERIA	149.81	257.3	19 44	-3					19 58	PKP2	
BESANCON	149.91	281.6	19 52	5					20 44		
MORGANTOWN	150.19	96.3	19 55	7							
TORTOSA	150.29	266.5	19 40	-8							
BENSBERG	150.51	289.1	19 56	8					20 22		
MUNSTER	150.54	291.3							20 7		
GRANADA	150.72	256.7	20 0A	11					23 48	PP	
GEORGETOWN	151.58	100.2	19 59	9							
BAGNERES	151.67	271.2	18 58	-52							
GARCHY	151.73	279.6	19 59	9							
TOLEDO	152.64	260.7							20 1	PKP2	
PARIS	152.65	282.8	20 0	8							
PALISADES	154.78	99.5							30 52	SKKS	
COLUMBIA	156.00	103.6	19 45	-11							

DECEMBER 5 13.H 2.M 37.S EPICENTRE -16.35 167.85 DEPTH= 205.KM

A=-0.93855 B= 0.20209 C=-0.27981 D= 0.2105 E= 0.9776
G= 0.2735 H=-0.0589 K=-0.9601 HT= 5.5

DEPTH OF FOCUS= 0.027R

SE= 2.12

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PORT VILA	1.44	161.8	0	31K	-3	0	53	-8				
KOUMAC	5.30	218.2	1	21A	2	2	25	4				
NOUMEA	6.06	192.4	1	28A	-1	2	39	1				
SUVA	10.27	101.6	2	29	6	4	15	-1				
HONIARA	10.32	310.8	2	26	2	4	29	12				

BRISBANE	17.76	229.3	3	54	-1	7	11	7			
RAOUL ISLAND	18.23	136.5	4	0	2						
RABAUL	19.57	306.4	4	14	0					11	43
AFIAMALU	19.81	85.7	4	13	-3	7	41	-2		11	42 SCP
ONERAHI	20.19	164.5	4	21	1						
CHARTERS TS.	20.84	256.5	4	28K	1	8	11	9			
PORT MORESBY	21.32	286.4	4	33	2					8	15
KARAPIRO	22.54	164.0	4	44	1					11	49 SCP
CHATEAU	23.74	165.0	4	53	-2					11	50 SCP
TUAI	23.80	161.8	4	54	-1						
COBB RIVER	25.00	171.2	5	11	5						
CANBERRA	25.30	218.2	5	10	1						
WELLINGTON	25.55	167.8	5	9	-2						
KAIMATA	26.26	174.0	5	18	0						
GEBBIES PASS	27.56	172.5	5	26	-4						
SAVANNAH	30.90	210.9	6	6	7						
TARRALEAH	31.70	211.0	6	6	0						
ADELAIDE	31.96	229.0	6	9	0						
GUAM	37.43	321.1	6	55	0					8	29 PP
HAWAII V.OB.	50.79	47.0	8	40	-1					21	19
MANILA	55.53	301.2	9	20	4	17	0	17			
CAPE HALLETT	55.97	179.1	9	18	-1						
BAGUIO CITY	56.86	302.7	9	24	-1						
TUKUBASAN	58.50	333.8	9	35K	-2	17	18	-4	10 17	11	52 PP
MATUSIRO	59.59	332.5	9	43K	-1	17	37	1	10 29	21	52 SS
SCOTT BASE	61.52	180.3	9	56K	-1	17	58	-3	10 44	10	36 PCP
ZO-SE	65.08	316.5	10	19K	-1	18	46	1			
HONG KONG	65.10	304.6	10	21	0	18	51	6		11	11
CANTON	66.16	304.9	10	22K	-5						
Y.-SAKHLINSK	67.01	341.6	10	32	-1	19	13	5			
NANKING	67.28	315.9	10	34K	0	19	10	-1			
VLADIVOSTOK	67.76	332.3	10	37K	0	19	25	8			
UGLEGORSK	69.05	342.2	10	45	0	19	40	8			
PETROPAVLOVK	69.54	354.1	10	47	-1						
CHANGCHUN	71.41	328.9	10	59K	0	20	4	5			
PEKING	73.87	321.2	11	14K	0	20	33	6			
SIAN	75.30	312.8	11	23K	1	20	50	7			
KUNMING	75.63	301.9	11	25K	1						
CHENGTU	77.13	307.5	11	33	1						
MAWSON	80.60	202.0	11	51	0						
YAKUTSK	83.72	343.0	12	6	-1						
ULAN-BATOR	83.88	323.7	12	9K	1						
PARAISO	84.09	49.6	12	14A	5					13	8
PT. REYES	84.48	47.9	12	11K	0					13	1
UKIAH	84.70	48.8	12	12	0						
BERKELEY	84.83	48.3	12	12A	0					13	3 PP
SHILLONG	84.84	298.4	12	12	-1						
CALISTOGA	84.93	47.5	12	12K	-1						
VINEYARD	84.99	49.6	12	16	3						
LICK	85.05	49.0	12	14	0						
SHASTA	85.94	45.7	12	17	-1					13	15 PP
FRESNO	86.16	50.1	12	19	0						
MINERAL	86.34	46.2	12	21K	1					13	11
PASADENA	86.37	53.0	12	19	-1					13	10 PP
RENO	87.26	47.5	12	25	1						
COLLEGE	87.69	17.4	12	24	-2				13 18		
ALBERNI	88.23	37.2	12	29	0						
BOULDER CITY	89.59	52.3	12	36	1				13 26		
EUREKA	89.98	48.7	12	37	0	23	0	-10	13 25	16	15 PP
PENTICTON	91.32	38.6	12	43	0						
TUCSON	91.49	56.9	12	44	1						
TUCSON TELE.	91.60	56.9	12	44	0						
TIKSI	91.65	348.5	12	43A	-2						
HUNGRY HORSE	94.39	40.9	12	58	-1						
FLAMING GRGE	95.17	49.0	12	23	-48				13 16		
ALBUQUERQUE	95.76	55.4	13	3	0				13 54		
LARAMIE	98.09	49.4	13	16	2					13	54
SEMIPALATNSK	100.91	319.4								17	34 PP
MOULD BAY	101.76	13.5	17	55	264						
WICHITA MTS.	101.99	57.2	13	31	-1						
TASHKENT	106.96	308.9	17	34	777						
DUZHANBE	107.01	306.0	17	23	777						
RESOLUTE	107.58	16.1	18	1	777						
SAMARKAND	108.52	306.9	18	20	777						
KHEYS	109.23	350.6	17	51	777						
ALERT	110.99	6.2	18	7	-1						
SVERDLOVSK	112.95	325.2	17	27	-45						
CHINCHINA	116.83	92.7								29	26 PS
BOGOTA	118.22	93.5								29	44 PS

APATITY	121.09	341.3	18	27	-1			27	59	PKKP
PALISADES	121.78	51.7								
SHAWINIGAN	121.84	45.1	18	29	-1					
KIMBERLEY	122.68	218.8	18	33	2					
MAKHACH-KALA	123.10	310.9	18	7	-25					
TROMSOE	123.37	347.5	18	32	-1					
GORIS	124.44	306.9	18	36	1					
MOSCOW	125.55	327.9	18	39	2					
BULAWAYO	125.98	229.3	17	40	-58					
CARACAS	126.53	88.9						21	14	
PULKOVO	126.85	334.7	18	41	2					
SOTCHI	128.53	313.0						19	35	
NURMIJARVI	128.57	337.7	18	43	0			22	4	PKS
HELSINKI	128.69	337.3	18	46	3			21	46	SKP
BROKEN HILL	129.54	234.9	18	29	-15			21	30	
UPPSALA	131.47	340.5	19	11	23			21	55	SKP
TRINIDAD	131.87	90.3	18	41	-8					
WINDHOEK	131.87	217.3						22	0	
ANTIGUA	132.52	81.6	18	50	0					
KSARA	133.59	301.3	18	57	5			20	27	PP
KISHINEV	134.42	321.1						21	19	PP
LWOW	135.65	326.8						22	11	PP
ISTANBUL KA.	136.81	313.3						21	4	PP
CHORZOW	137.88	330.4						22	16	
RACIBORZ	138.40	330.6						21	46	
COLLMBERG	139.76	335.6	19	9	6			22	22	PP
PRUHONICE	140.12	333.1						22	24	
BRATISLAVA	140.32	329.2	18	56	-8			20	58	
BELGRADE	140.55	322.9	19	8	3			22	25	PP
FELDBERG	142.35	338.3	19	12	4					
LJUBLJANA	142.97	328.7	19	8	-1			22	20	PP
STUTTGART	143.23	336.2	19	8	-2	19	32	22	31	PP
TUBINGEN	143.51	336.1	19	8	-2					
EBINGEN	143.83	335.9	19	11	0					
STRASBOURG	143.96	337.4	19	10	-1					
CHUR	144.67	334.0	19	13K	1					
PADOVA	145.35	329.1	19	17	4			20	23	
PARIS	145.49	342.8	19	15	1					
BESANCON	145.73	337.9	19	17	3			20	9	
FOLINIERE	146.29	346.0	19	17	2			20	10	PKP2
ROSELEND	146.55	334.4	19	21	6			19	41	
GARCHY	146.69	341.0	19	19	3			20	12	
ROME	146.90	325.3	19	8	-8			24	25	PPP
BANGUI	147.54	251.9	19	21	4			22	48	PP
MONACO	148.04	332.7	19	24	6					
MESSINA	148.25	317.2	19	19	1	26	9 3	22	59	PP

DECEMBER 6 2.H 16.M 4.S EPICENTRE 37.47 142.58 DEPTH= 97.KM

A=-0.63188 B= 0.48347 C= 0.60579 D= 0.6077 E= 0.7942
G=-0.4811 H= 0.3681 K=-0.7956 HT= -0.8

DEPTH OF FOCUS= 0.010R

SE= 4.45

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ISINOMAKI	1.38	314.2	0	17A	-9	0	34	-10				
ONAHAMA	1.44	249.2	0	21	-5	0	41	-5				
SENDAI	1.55	301.4	0	20A	-8	0	39	-9				
HUKUSIMA	1.70	280.0	0	23A	-7	0	47	-4				
SHIRAKAWA	1.91	260.1	0	29A	-3	0	53	-3				
YAMAGATA	1.93	294.4	0	26A	-6	0	49	-7				
MIZUSAWA	2.01	325.9	0	25	-8	0	59	1				
MITO	2.01	237.8	0	30A	-3	1	16	18				
TYOSI	2.23	219.0	0	34K	-3	1	1	-2				
KAKIOKA	2.29	237.9	0	35	-2	1	4	-1				
TUKUBASAN	2.35	238.6	0	33A	-5							
UTUNOMIYA	2.36	247.8	0	33	-5	1	9	3				
MORIOKA	2.48	334.0	0	31A	-9	0	58	-12				
SAKATA	2.59	304.2	0	39	-2	1	10	-2				
NIIGATA	2.83	280.1	0	44	-1	1	17	-1				
HONGO	2.86	233.0	0	45	0						1	38
KUMAGAYA	2.89	243.8	0	43A	-3	1	36	17				
TOKYO C.M.O.	2.90	232.7	0	43	-3	1	27	7				

AKITA	2.97	319.9	0	49	2	1	23	2				
MAEBASI	3.01	250.2	0	44	-3	1	23	1				
YOKOHAMA	3.12	230.1	0	48K	-1	1	29	4				
HATINOHE	3.16	345.3	0	42	-7	1	19	-7				
MERA	3.38	221.9	0	53	1							
OIWAKE	3.42	251.8	0	45	-8	1	50	17				
TAKADA	3.47	265.2	0	56	2	1	39	5				
AIKAWA	3.47	280.4	0	49	-5	1	48	14				
NAGANO	3.59	258.4	0	57	2	1	52	15				
MATUSIRO	3.62	256.4	0	52A	-4	1	54	17				
AOMORI	3.62	337.9	0	53	-3	1	38	0				
HUNATU	3.65	238.5	0	58	2	1	44	6				
KOHU	3.70	242.1	0	54	-3	1	56	17				
AJIRO	3.71	230.3	0	53	-4	1	37	-3				
OSIMA	3.74	224.8	0	54	-3							
MISIMA	3.76	232.4	0	56	-1	1	47	6				
SHIZUOKA	4.20	234.8	1	12	8	1	59	7				
IIDA	4.29	244.4	1	4	-1	2	7	13				
TOYAMA	4.37	261.5	1	13	7	2	8	12				
WAZIMA	4.52	270.6									1	34
OMAESAKI	4.55	232.2	1	22	14							
HAKODATE	4.55	342.6	1	4	-4	1	59	-1				
URAKAWA	4.67	1.8	1	13	3	1	51	-12				
HIROO	4.84	6.5	1	15	3							
MORI	4.87	342.1									1	28
MURORAN	5.00	346.2				1	59	-12				
NAGOYA	5.08	244.8	1	24	8	2	26	13				
GIHU	5.12	247.9	1	18	2	2	32	18				
TOMAKOMAI	5.21	351.8				2	7	-9				
OBIHIRO	5.46	4.8	1	27	6	2	32	9				
TSURUGA	5.55	252.8	1	14	-8							
HIKONE	5.56	248.6	1	25	3	2	35	10				
KAMEYAMA	5.59	243.9	1	33	10	2	35	9				
SAPPORO	5.67	350.8				2	30	3			2	1
KUSIRO	5.67	13.6				2	9	-19				
KYOTO	6.05	248.2	1	31	2						3	5
OWASE	6.20	238.7	1	22	-9							
NEMURO	6.28	20.4									2	20
TOYOOKA	6.54	255.1	1	35	-1							
SIOMISAKI	6.85	236.2				3	20	23			4	0
SUMOTO	6.96	245.6									2	30
ULAN-BATOR	28.00	303.3	5	43	-1							
COLLEGE	48.23	32.5	8	32	-1						9	32
NEW DELHI	54.56	281.1	9	20K	-1							
MOULD BAY	55.85	16.7	9	28	-2							
WARSAK DAM	56.49	289.6	9	35	0							
ALERT	59.64	3.7	9	54	-2							
QUETTA	61.71	287.7	10	11	1							
RESOLUTE	61.95	14.7	10	10	-2							
SODANKYLA	64.92	337.4	10	30K	-2							
KIRUNA	66.44	339.5	10	40A	-1							
NURMIJARVI	69.99	332.3	11	2	-1							
HUNGRY HORSE	70.83	43.4	11	8	0							
EUREKA	74.85	51.8	11	32	0							
CHINA LAKE	75.96	55.6	11	38	0							
COLLMBERG	81.18	330.7	12	7	0							
WICHITA MTS.	88.43	46.2	12	44	1							
BYRD STATION	127.99	167.3	18	59	4							

DECEMBER 6 5.H 48.M 40.S EPICENTRE 13.46 93.12 DEPTH= 32.KM
A=-0.05297 B= 0.97145 C= 0.23124 D= 0.9985 E= 0.0544
G=-0.0126 H= 0.2309 K=-0.9729 HT= 6.0

SE= 2.60

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT BLAIR	1.82	192.5	0	33	4	0	51	0					
CHITTAGONG	8.94	352.2	2	5	-5								
CALCUTTA	10.09	334.1	2	22	-4	4	14	-5					
VISHAKHAPTNM	10.37	295.4	2	28K	-1	4	30	4			2	37	PP
MEDAN	11.25	150.3	2	41K	0								
SHILLONG	12.11	354.6	2	47A	-6	5	1	-7			5	11	SS
BOKARO	12.43	327.2	2	55	-2	5	16	0			3	4	PP
MADRAS	12.61	269.4	2	59K	-1	5	18	-2			3	10	PP

TOCKLAI	13.32	6.4	3 18	9				
CHATRA	14.43	338.2	3 21	-3				6 24
HYDERABAD	14.68	287.5	3 27	0	5 59	-10		
KUNMING	14.72	36.6	3 28A	1	6 24	14		
KODAIKANAL	15.65	259.9	3 21A	-19				7 3
LHASA	16.22	353.5	3 43	-4	6 51	6		
SEHORE	18.02	304.7	4 11	2	7 26	0		4 26 PP
POONA	19.20	287.7	4 24	0	7 55	2		4 42 PP
CHENGTU	19.85	28.6	4 29A	-2	8 7	0		
BOMBAY	20.23	288.2	4 36	1	8 27	12		5 17 PPP
NEW DELHI	21.11	317.9	4 47A	3	8 47	15		5 15 PP
CANTON	21.43	60.6	4 46K	-1	8 47	9		
DEHRA DUN	21.80	322.7	4 53	2	8 47	2		5 13 PP
HONG KONG	21.86	63.3	4 49	-2	8 40	-6		5 30 PP
DJAKARTA	23.79	144.3	5 13	3				
LANCHOW	24.47	21.3	5 18A	1	9 35	3		
LAHORE	24.94	319.3	5 21	-1	9 57	17		
SIAN	25.18	32.0	5 21A	-3	11 4	20		
BAGUIO CITY	26.69	80.2	5 50	12	11 4	55		
KARACHI	27.06	298.6	5 47	6				
MANILA	27.14	84.1	5 50	8	10 23	6		
WARSAK DAM	28.31	319.9	5 54	1				
QUETTA	29.34	308.8	6 4A	2	11 14	22		
NANKING	29.91	47.5	6 5A	-2	10 58	-3		
ZO-SE	31.21	51.1	6 18	0	11 22	1		
PEKING	33.33	33.2	6 36A	-1	11 56	2		
FRUNSE	33.35	334.9	6 38	1	12 4	9		
TASHKENT	34.68	327.6	6 49	1				
ULAN-BATOR	36.23	15.7	7 0A	-2	12 50	11		
ASHKABAD	39.34	314.7	7 30A	2	13 39	12		9 14 PP
IRKUTSK	39.74	10.8	7 32	1	13 41	8		9 1 PP
CHANGCHUN	40.93	36.0	7 40A	-1	13 46	-4		
TEHERAN	43.52	308.1	8 4	2	14 33	5		
VLADIVOSTOK	44.53	40.8	8 8	-2	14 40	-3		9 50 PP
DARWIN	45.35	122.9	8 15	-2				
MATUSIRO	46.35	52.0	8 16	-9	15 0	-9		9 58 PP
TUKUBASAN	47.72	53.0	8 31	-4	15 25	-3	8 38	8 46 *SP
GORIS	48.56	311.2	8 43A	1	15 46	6		10 41 PP
MIZUSAWA	49.34	49.6	8 47	-1				
MUNDARING	50.30	154.3	8 50A	-5				
TIFLIS	50.39	313.5	8 57A	1	16 15	9		10 49 PP
Y.-SAKHLINSK	53.12	40.6	9 16	-1				
YAKUTSK	55.09	20.1	9 29	-2	17 9	-1		11 35 PP
TANANARIVE	55.24	235.4	9 32A	0				10 29
KSARA	55.50	301.8	9 34A	0	17 31	16		11 38 PP
PORT MORESBY	58.24	110.1	9 49	-4	17 30	-21	10 2	
ISTANBUL KA.	61.76	309.5	10 17	-1	18 43	6		
ISTANBUL UN.	61.81	309.4	10 17A	-1	18 39	2		
CHARTERS TS.	61.99	121.6	10 17	-2				10 38
MAGADAN	62.36	29.1	10 21	-1				
BUCHAREST	64.31	312.9	10 34A	0	19 20	11		
PETROPAVLOVK	64.68	37.5	10 34	-3	19 16	3		19 34 PS
ADELAIDE	64.72	139.5	10 34K	-3				
PULKOVO	64.88	330.2	10 37	-1				
LWIRO	65.65	261.3	10 45A	2				
ATHENS	65.66	305.7	10 41A	-2				
SOFIA	66.17	310.9	10 45	-1				13 11 PP
APATITY	66.29	338.8	10 45A	-2				
LWOW	66.35	318.7	10 47	-1				11 6 *SP
KAJAANI	67.32	334.3	10 53	-1				
HELSINKI	67.59	329.9	10 55	0				
NURMIJARVI	67.81	330.2	10 55A	-2				
BELGRADE	68.37	313.0	11 1K	1				12 5
WARSAW	68.52	321.0	10 57	-4				
SODANKYLA	68.69	337.6	11 1A	-1				
KRAKOW	69.01	318.6	11 4	0				11 37 PCP
CHORZOW	69.63	318.8	11 7	-1				11 27 PCP
BROKEN HILL	69.75	248.9	11 10A	1				
RACIBORZ	70.13	318.6	11 13	2				11 33 PCP
MELBOURNE	70.45	138.6	11 11	-2				
BRISBANE	70.66	125.6	11 14	0	20 28	3		
BRATISLAVA	70.79	316.5	11 19	4				13 54 PP
KIRUNA	71.11	337.5	11 17K	0	20 39	9		
UPPSALA	71.18	328.9	11 17K	0				
VIENNA-H.	71.27	316.6	11 19A	1				13 59 PP
BULAWAYO	71.69	243.3	11 22A	2				
CANBERRA	71.75	134.5	11 18	-3				11 47
TROMSOE	71.98	339.3	11 21	-1				
KARLSKRONA	71.99	324.9	11 18	-4				

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MESSINA	72.10	306.0	11	21A	-2	21	5	24	12	1			
PRUHONICE	72.48	318.4	11	25A	0	20	59	13			14	7	PP
LJUBLJANA	72.55	314.3	11	26A	1						14	38	PP
TRIESTE	73.10	313.9	11	28	-1								
KASPERSKE H.	73.12	317.5	11	28	-1						14	16	PP
COLLMBERG	73.45	319.8	11	30	-1						14	15	PP
BANGUI	73.93	270.7	11	34	0	21	5	3					
SKALSTUGAN	73.97	332.6	11	34K	0								
TARRALEAH	73.98	141.7	11	32	-2								
GOTEBORG	74.01	326.5	11	31K	-3								
HALLE	74.11	320.0	11	35	0								
JENA	74.36	319.5	11	36	0						14	23	PP
PADOVA	74.43	313.7	11	39	3						13	15	
FLORENCE X.	74.99	312.1	11	57	17						12	45	
PRATO	75.09	312.2	11	46	6								
RAVENSBURG	75.82	316.3	11	44	0								
CHUR	75.95	315.3	11	42	-3								
STUTTGART	75.97	317.3	11	46	1	21	41	16					
EBINGEN	76.22	316.7	11	46	-1								
HEIDELBERG	76.29	318.0	11	47	0								
FELDBERG	76.39	318.8	11	50	2								
MUNSTER	76.77	320.7	11	51	1								
STRASBOURG	76.98	317.2	11	52	1						14	42	
BENSBERG	77.14	319.7	11	52A	0						12	49	
BASLE	77.21	316.1	11	42	-10								
NEUCHATEL	77.70	315.7	11	55	0								
MONACO	77.74	312.3	11	55	0								
BESANCON	78.33	316.0	11	57	-1						12	45	
GRAHAMSTOWN	78.60	231.6	11	1	-59								
GARCHY	80.28	316.3	12	8	-1						15	12	
PARIS	80.42	317.9	12	10	0								
CLERMONT-FD.	80.50	314.8	12	11	1								
KEW	81.73	320.9	12	17	0								
FOLINIERE	82.36	318.2	12	20	0								
WINDHOEK	82.59	244.8	12	22K	1								
BAGNERES	83.09	312.5	11	23	-61						14	57	PP
TORTOSA	83.29	310.2	12	27	2								
ALERT	83.54	356.9	12	25	-1								
MAWSON	83.77	191.2	12	26A	-1								
HERMANUS	84.66	232.9	12	37	5						23	8	SCS
ALMERIA	86.44	306.9	12	42K	2								
TOLEDO	86.89	310.1	12	44	1								
MOULD BAY	88.40	7.4	12	48A	-2								
COLLEGE	89.58	21.9	12	53	-2				13	1	30	29	PKKP
THULE	89.61	355.7	12	55	-1								
SERRA PILAR	89.87	312.3	12	57A	0				13	6			
RESOLUTE	91.90	2.1	13	5	-1	24	1	-2			16	49	PP
KARAPIRO	92.30	128.3	13	6	-2								
CHATEAU	92.63	129.6	13	7	-3								
HUNGRY HORSE	113.90	19.4	18	38	3						29	17	PKKP
RENO	119.00	28.7	18	45	0								
LICK	119.83	31.6	18	43K	-4								
EUREKA	120.77	26.0	18	50	1						21	52	PP
FLAMING GRGE	122.01	20.0	18	52	1								
PASADENA	124.07	31.3	18	56	1								
BOULDER CITY	124.18	27.4	18	58	3								
DUBUQUE	124.20	3.4	18	57K	2								
PALISADES	124.50	348.1									21	4	PP
GLEN CANYON	124.71	24.0	18	47	-9								
MORGANTOWN	126.80	353.3	19	1	1								
MANHATTEN	126.84	9.4	19	1	1								
BLOOMINGTON	127.63	359.6	19	3A	1						21	4	PP
ST. LOUIS †	128.08	3.3	19	3	0						21	27	PP
ALBUQUERQUE	128.40	20.6	19	5	1						21	24	PP
TUCSON TELE.	129.06	26.1	19	7	2								
TUCSON	129.09	26.3	19	7	2								
C. GIRARDEAU	129.43	2.7	19	6K	0						21	24	PP
FAYETTEVILLE	130.24	7.8	19	8K	1						21	26	PP
WICHITA MTS.	130.82	12.8	19	9	1						21	26	PP
LITTLE ROCK	131.75	6.0	19	10	0						22	36	PKS
GRENADA	144.44	314.4	19	32	-1								
TACUBAYA	145.17	20.6									19	43	
TRINIDAD	145.17	312.2	19	37	3								
HOPE	147.20	342.0	19	42	4								
BLACK RIVER	147.50	343.9	19	43	5								
CARACAS	149.04	319.3	19	43A	2						23	24	PP
BOGOTA	157.99	323.9	19	58	5						23	50	PKS
CHINCHINA	158.55	327.9	19	57	3								
LA PAZ	161.64	258.2	20	0A	3						24	27	PP

DECEMBER 6 13.H 35.M 49.S EPICENTRE -23.72-175.86 DEPTH= 54.KM

A=-0.91412 B=-0.06616 C=-0.40002 D=-0.0722 E= 0.9974
G= 0.3990 H= 0.0289 K=-0.9165 HT= 3.7

DEPTH OF FOCUS= 0.003R

SE= 1.78

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
RAOUL ISLAND	5.81	198.1	1	21	-5	2	24	-8				
SUVA	7.69	315.0	1	53	1	3	38	19				
AFIAMALU	10.49	22.3	2	50A	19	4	13	-15				
PORT VILA	15.95	289.0	3	46A	3	6	59	21				
KARAPIRO	15.96	205.5	3	44	1							
NOUMEA	16.35	271.5	3	51K	3	7	31	44				
KOUMAC	18.66	275.8	4	17	1							
WELLINGTON	19.19	201.9				7	37	-14				
KAIMATA	21.52	206.3				8	29	-8				
HONIARA	27.13	297.5	5	38	-2							
BRISBANE	28.49	256.0	5	49	-4	10	55	20				
RIVERVIEW	30.51	243.2	6	11	0							
CANBERRA	32.53	241.1	6	28K	0						9	16 PCP
CHARTERS TS.	35.26	268.4	6	50A	-2	12	19	-2				
SAVANNAH	35.56	230.7	6	54	0							
MELBOURNE	36.20	237.9	7	0	0							
TARRALEAH	36.26	230.1	7	3	3							
RABAUL	36.43	297.2	7	3	1						13	28
PORT MORESBY	38.07	285.7	7	13	-3	13	9	5	7	20		
ADELAIDE	40.84	243.4	7	37	-1							
CAPE HALLETT	49.24	185.6	8	47K	1	15	57	11			19	41 SS
DARWIN	51.67	272.8	10	3	59							
SCOTT BASE	54.82	184.4	9	29	2	17	8	6			11	46 PP
MUNDARING	59.77	245.7	9	59	-3							
PERTH	60.09	245.7	10	7	3						13	53
BYRD STATION	61.15	170.5	10	11	-1						17	7
WILKES	61.95	206.0	10	17K	0	18	35	0			20	10 SCS
SOUTH POLE	66.42	180.0	10	48	2							
TUKUBASAN	72.70	323.9	11	21A	-3						38	52 PKPPKP
MATUSIRO	73.96	323.0	11	29	-3						25	31
LEMBANG	74.96	269.1	11	39	1	21	44	34				
VINEYARD	79.08	41.7	12	2K	1							
MAWSON	79.21	199.5	12	1	0				12	12	12	6 PCP
BERKELEY	79.29	40.4	12	3K	1	22	6	10			27	17 SS
LICK	79.31	41.1	12	3K	1							
PASADENA	79.47	45.5	12	3	0	22	5	7			23	23 PS
PETROPAVLOVK	79.57	344.7	11	58	-5						22	4 SCS
CALISTOGA	79.61	39.7	12	4K	0							
Y.-SAKHLINSK	79.72	332.6	12	4	0							
SHASTA	81.09	38.2	12	11	0							
ZO-SE	81.27	309.4	12	13	1	22	17	0				
MINERAL	81.31	38.9	12	11A	-2							
RENO	81.83	40.4	12	16	1							
VLADIVOSTOK	82.04	324.2	12	15	-1						12	26 PCP
BOULDER CITY	82.76	45.7	12	20	0							
CANTON	83.02	298.8	12	23	2	22	28	-7				
TUCSON	83.37	50.7	12	24	1							
TUCSON TELE.	83.50	50.6	12	25	1							
NANKING	83.50	309.0	12	25	1							
EUREKA	84.12	42.3	12	27	0							
GLEN CANYON	85.46	46.4	12	35	1							
ALBERNI	85.69	30.7	12	34	-1							
VICTORIA	85.83	31.9	12	33	-2							
CHANGCHUN	86.14	321.6	12	36A	-1	23	5	-1				
ALBUQUERQUE	87.89	50.3	12	46	1							
PENTICTON	88.24	33.0	12	47	0							
FLAMING GRGE	89.07	44.0	12	51	0							
PEKING	89.56	314.6	12	53	0	23	35	-3				
BUTTE	89.99	38.5	12	55	0							
HUNGRY HORSE	90.54	36.0	12	58	0							
BOZEMAN	90.67	39.4	12	59	0							
COLLEGE	90.93	11.6	12	59	-1				13	11	14	14
BANFF	91.44	33.2	13	1	-1							
LARAMIE	91.72	45.2	13	4	1							

SIAN	91.74	306.7	13	4	1						
KUNMING	92.56	296.2	13	9A	2						
WICHITA MTS.	93.47	53.6	13	11	0	24	22	10	25	41	PS
CHENGTU	93.88	301.7	13	15	2						
YAKUTSK	95.81	337.3	13	21	-1						
LANCHOW	96.28	306.5	13	26	2						
FAYETTEVILLE	97.30	53.9	13	29K	0						
LA PAZ	98.91	112.3	13	43	7	24	18	10			
CARACAS	111.40	87.6							34	52	SS
PALISADES	113.90	54.1				25	35	20	19	49	PP
BOMBAY	116.38	280.1							20	48	
HERMANUS	120.43	194.5							36	50	SS
TASHKENT	123.60	304.9							20	33	PP
KIMBERLEY	124.17	202.0	18	56A	3						
QUETTA	124.24	291.3	18	55	2						
ASHKABAD	131.97	300.4	19	21	13						
TROMSOE	133.23	353.0	19	12	1						
SODANKYLA	134.15	348.1	19	13	1						
KIRUNA	134.75	351.4	19	14	1						
TEHERAN	137.62	297.6	19	23	4						
NURMIJARVI	140.56	344.2	19	22	-2						
HELSINKI	140.78	343.7	19	29	5						
TIFLIS	141.78	308.0	19	22	-4						
UPPSALA	142.67	348.8	19	25	-3						
LWIRO	144.75	226.3	19	33A	2						
GOTEBORG	145.59	352.6	19	34	1						
LUANDA	146.43	196.4	19	43K	9						
SIMFEROPOL	147.71	318.4	19	41	5						
WARSAW	148.74	339.9	19	49	11				23	10	PKS
LWOW	149.65	334.1	19	46	7				23	18	PKS
KSARA	150.52	297.1	19	43	2				23	23	PP
WITTEVEEN	150.88	356.8	19	49	8				20	0	PKP2
KRAKOW	150.97	338.8	19	49	8				20	3	PKP2
RACIBORZ	151.49	340.9	19	51	9				19	59	PKP2
HALLE	151.62	349.7	19	50	8				19	58	PKP2
COLLMBERG	151.63	348.3	19	44	2				23	22	PP
MUNSTER	151.67	355.5	19	51	9						
KEW	152.08	6.0	19	51	8						
JENA	152.23	349.9	19	52	9				23	30	PP
PRUHONICE	152.55	345.3	19	53A	9				23	30	PP
BUCHAREST	152.64	324.3	19	45	1						
BENSBERG	152.71	355.8	19	53	9				20	24	
ISTANBUL KA.	152.90	315.6	19	45	1				23	37	PP
ISTANBUL UN.	152.96	315.6	19	43	-1				25	39	
BRATISLAVA	153.52	340.3	19	53	8						
KASPERSKE H.	153.57	346.0	19	46	1				23	32	PP
VIENNA-H.	153.66	341.4	19	47A	2						
STUTTGART	154.67	352.0	19	47	0				20	10	PKP2
FOLINIERE	154.74	7.2	19	57	10						
STRASBOURG	155.03	354.3	19	48	1				20	23	PKP2
BELGRADE	155.10	331.7	19	45A	-2				20	9	
SOFIA	155.28	324.6	19	49	2				20	15	
LJUBLJANA	156.19	341.9	19	50	1				20	24	PKP2
BANGUI	156.23	218.2	19	49	0				23	57	PP
BESANCON	156.48	356.9							20	27	PKP2
GARCHY	156.48	1.8	19	51	2				20	19	PKP2
MBOUR	158.01	111.2							19	9	PP
ATHENS	158.05	314.9							20	25	PKP2
ROSELEND	158.10	353.4							20	26	PKP2
MONACO	159.86	353.1							20	25	PKP2
ROME	160.58	341.0							20	36	PKP2
TOLEDO	162.47	21.3	20	0	4				20	58	PKP2
MESSINA	162.59	328.6							20	56	
GRANADA	165.03	24.6	20	57A	59						

DECEMBER 6 16.H 39.M 38.S EPICENTRE 49.32 155.48 DEPTH= 57.KM

A=-0.59531 B= 0.27161 C= 0.75619 D= 0.4151 E= 0.9098
G=-0.6880 H= 0.3139 K=-0.6543 HT= -5.2

DEPTH OF FOCUS= 0.004R

SE= 2.66

DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S

PETROPAVLOVK	4.21	27.1	1	3	0	1	52	0		1	18 *SP
KLYUCHI	7.73	22.9	1	54	2	3	30	11		2	10 *SP
UGLEGORSK	8.78	273.5	2	12	5	3	58	13			
Y.-SAKHLINSK	8.83	259.7	2	10	3	3	54	8			
OKHA	8.90	303.1	2	13	5	3	58	10			
NEMURO	9.09	232.5	2	7K	-4					2	23
KUSIRO	9.96	234.6	2	19A	-4	4	6	-8			
WAKKANAI	10.14	252.6	2	31	6	4	28	10			
ASAHIGAWA	10.59	243.4	2	29	-2						
OBIHIRO	10.65	237.7	2	35	3						
RUMOE	10.93	245.8	2	39	3					3	5
HIROO	11.02	234.9	2	34	-3						
URAKAWA	11.40	235.8	2	40	-2						
SAPPORO	11.61	242.7	2	51	6	5	5	11			
TOMAKOMAI	11.75	240.5								3	3
MURORAN	12.29	240.7	2	52	-2						
SUTTSU	12.42	244.1	2	55	-1						
MORI	12.66	240.8	3	1	2						
HATINOHE	13.21	233.5	3	1	-5	5	17	-15			
AOMORI	13.40	236.2	3	10	1	5	31	-6			
MIYAKO	13.63	229.9								3	30
MORIOKA	14.00	232.0	3	11	-6	5	38	-13			
MIZUSAWA	14.45	230.6	3	17	-6	5	23	-39			
AKITA	14.55	234.5	3	14	-10					7	39
ISINOMAKI	14.90	228.3	3	22	-6	5	59	-13			
SENDAI	15.23	229.0	3	28	-5						
YAMAGATA	15.52	230.2	3	31	-5	6	18	-9			
HUKUSIMA	15.84	228.7	3	44	3	6	46	12			
ONAHAMA	16.27	226.0	3	45	-1						
SHIRAKAWA	16.46	227.9	3	49	1						
MITO	16.94	225.8	3	58	4						
UTUNOMIYA	17.09	227.5	3	52	-4					4	16
KAKIOKA	17.20	226.2	3	52	-5	7	0	-5			
TUKUBASAN	17.24	226.3	3	51	-7	6	58	-8	3 59	4	17 PPP
VLADIVOSTOK	17.42	258.1	4	0	0					6	37
TAKADA	17.47	232.1	3	58	-3						
MAEBASI	17.60	228.9	4	2	0	7	23	9			
KUMAGAYA	17.64	227.8	4	2	-1	7	44	29			
HONGO	17.81	226.1	4	2	-3					7	24
NAGANO	17.82	231.3	4	10	5	7	42	23			
TOKYO C.M.O.	17.85	226.1	4	9K	3	7	15	-5			
OIWAKE	17.91	229.9	4	8	2	7	35	14			
MATUSIRO	17.92	231.0	4	3K	-3	7	26	5			
YOKOHAMA	18.10	225.8	4	5	-4					7	15
MATUMOTO	18.26	230.9	4	14	3						
TOYAMA	18.32	233.3	4	15	4						
KOHU	18.43	228.6	4	13	0	7	46	13			
MERA	18.43	224.5	4	15	2	8	12	39			
HUNATU	18.46	227.8	4	13	0	7	45	12			
AJIRO	18.67	226.3	4	12	-3						
MISIMA	18.68	226.7	4	14	-2						
OSIMA	18.76	225.2	4	18	1	7	47	7			
IIDA	18.91	229.7	4	19	1						
SHIZUOKA	19.06	227.6	4	18	-2	7	56	9			
OMAESAKI	19.45	227.3	4	29	5						
GIHU	19.54	231.6	4	24	-1						
NAGOYA	19.61	230.8	4	26	0					5	6
TSURUGA	19.71	233.4	4	26	-1						
HIKONE	19.90	232.3	4	32	3					8	51
HATIDYOZIMA	19.98	221.6	4	28	-2						
KAMEYAMA	20.12	231.1	4	33	2	8	5	-4			
KYOTO	20.37	232.8	4	35	1	8	25	11			
TOYOOKA	20.46	235.4	4	34	-1	8	20	4		10	22
ABUYAMA	20.57	232.8	4	35A	-1						
NARA	20.58	232.0	4	36	0						
OSAKA	20.76	232.5	4	38	0	8	30	9			
OWASE	20.87	230.3	4	40	1	8	35	11			
SUMOTO	21.32	233.1	4	47	3	8	44	12		12	13
CHANGCHUN	21.37	266.6	4	41A	-3	8	24	-9			
SIOMISAKI	21.58	230.0	4	47	1	8	50	13			
TAKAMATU	21.79	234.5	4	52	4	8	49	8			
MUROTO	22.55	232.5	4	57	1	9	4	10			
KOTI	22.66	234.1	4	57	0	9	0	4			
MATUYAMA	22.84	235.8	5	0	1	9	11	11			
UWAZIMA	23.43	235.2	5	13	9	9	14	4			
SIMIDU	23.55	233.8	5	6	0	9	18	6			
SIMONOSEKI	23.78	238.9	5	8	0						
OOITA	23.93	236.7	4	58	-11						
HUKUOKA	24.36	239.2	5	15A	2	9	31	5			

SAGA	24.65	238.7	5	15	-1				5	58
KUMAMOTO	24.75	237.5	5	17	0					
NAGASAKI	25.27	238.5	5	24A	2	9	54	13		
PEKING	29.16	266.5	5	56A	-2	10	35	-9		
ZO-SE	31.53	247.6	6	19A	0	11	24	2		
ULAN-BATOR	31.70	286.3	6	19A	-1	11	26	2		
IRKUTSK	31.92	295.2	6	21	-1				7	39 PPP
NANKING	32.33	251.6	6	25A	-1	11	35	1		
COLLEGE	33.16	40.7	6	33	0	11	49	2	17	14 SCS
TAIPEI	35.85	239.9							11	30
SIAN	37.22	263.9	7	5	-2					
LANCHOW	39.46	270.3	7	27A	1	13	26	2		
MOULD BAY	41.64	21.1	7	44A	0					
CANTON	42.12	247.1	7	49A	1	14	5	2		
HONG KONG	42.22	245.5	7	50	1	14	6	1	9	36 PP
CHENGTU	42.70	263.7	7	52A	-1	14	10	-2		
MANILA	44.53	231.2	8	9	2	14	59	21		
ALERT	47.03	6.3	8	26	-1					
KUNMING	47.28	259.1	8	30A	1	15	18	1		
RESOLUTE	47.89	19.7	8	34A	0					
HAWAII V.OB.	49.22	109.2	8	53	9	16	2	17		
ALBERNI	49.61	57.8	8	47A	0					
VICTORIA	50.79	58.0	8	56A	0					
THULE	51.45	12.1	9	1	0	16	18	2	9	28
LHASA	51.84	272.8	9	7A	3					
ALMATA	52.30	295.2	9	8	0					
PENTICTON	52.42	55.3	9	8A	-1					
SVERDLOVSK	53.04	316.7	9	12A	-1	16	37	0	11	14 PP
RABAUL	53.38	184.1	9	15	-1					
BANFF	53.50	51.5	9	15A	-2					
FRUNSE	53.93	296.0	9	19	-1				12	40 PPP
SHILLONG	54.03	268.4	9	20A	-1	16	51	0	9	31
APATITY	55.61	336.8	9	30	-2	17	8	-4		
HUNGRY HORSE	55.97	53.6	9	34	-1					
CHATRA	56.25	273.0	9	35	-2	17	29	9	13	3 PPP
CHITTAGONG	56.30	265.6	9	38	1					
UKIAH	56.48	67.3	9	40	2					
TROMSOE	57.18	343.3	9	43	0					
SODANKYLA	57.42	339.0	9	43K	-2				11	1
BERKELEY	57.86	67.8	9	48A	0	17	49	8	21	36 SS
TASHKENT	57.99	297.6	9	48	-1				11	57 PP
BUTTE	58.21	55.0	9	50	0					
KIRUNA	58.41	341.7	9	49	-3				13	28
CALCUTTA	58.44	268.5	9	50	-2	17	50	1	18	25 PPS
HONIARA	58.63	174.8	9	52	-1					
PORT MORESBY	58.92	189.6	9	54A	-1	17	57	2	10	45
BOKARO	59.21	271.5	9	58A	1	18	1	2	18	31 PPS
BOZEMAN	59.25	54.5	9	58	0					
DEHRA DUN	59.80	282.4	10	1	0	18	3	-4	12	11 PP
EUREKA	60.55	62.7	10	7	0	18	6	-10	10	23 12 34 PP
LAHORE	61.33	286.0	10	10	-2					
WARSAK DAM	61.42	289.8	10	11	-1					
NEW DELHI	61.52	281.6	10	14A	1	18	26	-3	10	24 PCP
PULKOVO	62.51	332.2	10	17	-3	18	41	0	12	37 PP
PASADENA	62.80	68.5	10	21A	-1	18	50	5	10	31 22 58 SS
MOSCOW	63.21	325.9	10	22A	-2	18	45	-5	14	22 PPP
FLAMING GRGE	63.31	57.6	10	24	-1	18	56	5		
NURMIJARVI	63.54	335.3	10	25	-2				11	2 PCP
BOULDER CITY	63.57	64.9	10	27	0					
HELSINKI	63.74	334.9	10	26	-2					
SKALSTUGAN	63.77	342.6	10	27	-1				11	5 PCP
LARAMIE	65.12	55.1	10	37	0					
DARWIN	65.16	206.7	10	38	1					
VISHAKHAPTNM	65.19	268.6	10	40K	3	19	21	7	13	10 PP
UPPSALA	65.93	338.2	10	41A	-1	19	24	1	14	57
MEDAN	66.14	245.9	10	43A	0					
ASHKABAD	66.49	301.2	10	46A	1	19	33	3	13	10 PP
QUETTA	66.87	289.7	10	48	0	19	32	-3		
SIDA	67.13	356.9	10	51	2					
PORT VILA	67.72	166.8	11	7A	14					
BERGEN	68.00	344.6	10	56	1					
TUCSON	68.54	65.3	10	58	0	20	4	9	39	10 PKPPKP
TUCSON TELE.	68.54	65.2	10	59	1					
HYDERABAD	68.57	272.0	10	59A	1	19	59	4	13	38 PP
ALBUQUERQUE	69.16	60.5	11	2	0				11	18 18 46
GOTEBORG	69.17	340.0	10	58	-4				11	23 PCP
AFIAMALU	69.28	145.8				19	37	-26		
CHARTERS TS.	69.58	189.2	11	3	-2	20	5	-2		

LEMBANG	69.72	231.7	11	5	-1	20	10	1					
KOUMAC	70.00	171.2	11	7A	0								
MADRAS	70.68	267.5	11	10A	-1	20	23	3			13	43	PP
POONA	70.77	276.2	11	12	0	20	25	4			11	36	PCS
TIFLIS	70.83	312.1	11	13A	1	20	25	3			11	39	PCP
COPENHAGEN	70.91	338.9	11	13	0	20	28	6			15	41	PPP
BOMBAY	71.18	277.2	11	13	-1	20	27	1			13	55	PP
MANHATTEN	71.38	51.3	11	14A	-2				11	28	25	26	SS
WARSAW	71.68	332.5	11	14	-3	20	31	0			11	37	PCP
DUBUQUE	71.73	45.4	11	18A	0	20	33	1	11	24	25	9	SS
GORIS	71.76	309.7	11	19A	1						13	55	PP
TEHERAN	71.93	303.9	11	20	1	20	27	-7					
NOUMEA	71.96	169.3	11	19A	0								
LWOW	72.81	329.5	11	24	0	20	48	4			15	57	PPP
SIMFEROPOL	73.10	320.7	11	25A	-1	20	49	1			14	15	PP
WICHITA MTS.	73.69	55.6	11	29A	0	20	55	1			14	19	PP
KRAKOW	73.92	332.0	11	30A	-1	20	56	-1			14	19	PP
CHORZOW	73.99	332.6	11	30	-1						11	50	PCP
RACIBORZ	74.42	333.0	11	34A	1						11	49	PCP
KODAIKANAL	74.50	267.7									20	50	
ROLLA	74.73	49.2	11	34	-1	21	6	0	11	45	26	14	SS
COLLMBERG	74.76	336.7	11	34A	-1	21	3	-3			14	24	PP
FLORISSANT	74.77	47.6	11	35A	0	20	29	-37			26	29	SS
HALLE	74.85	337.4	11	33	-3	21	5	-2					
WITTEVEEN	74.85	341.0	11	34	-2								
ST. LOUIS 1	74.97	47.7	11	36A	-1	21	12	4					
FAYETTEVILLE	74.97	51.8	11	36	-1	22	19	71			22	33	SCS
MUNSTER	75.44	340.1	11	40	1								
JENA	75.47	337.3	11	40	1	21	10	-4	12	4	14	40	PP
PRAGUE	75.50	335.3	11	40A	0						14	32	PP
PRUHONICE	75.55	335.2	11	40A	0						14	28	PP
SHAWINIGAN	75.73	32.1	11	40	-1								
DE BILT	75.84	341.6	11	44	2	21	32	14					
CHEB	76.04	336.5	11	43	0								
BREBEUF	76.34	33.2	11	44	0	21	24	1					
C. GIRARDEAU	76.34	48.0	11	44A	0	21	26	3					
BRISBANE	76.40	182.5	11	45	0	21	18	-6					
BENSBERG	76.49	340.0	11	45A	0						12	54	
KASPERSKE H.	76.59	335.4	11	45	-1						14	28	PP
VIENNA-H.	76.59	333.3	11	46A	0								
BUCHAREST	76.70	325.3	11	45A	-1	21	54	27			13	40	
FELDBERG	76.89	339.0	12	1	14								
LITTLE ROCK	76.93	51.5	11	47K	-1	21	35	5					
TIMISOARA	77.28	329.1	11	55	5								
KEW	77.48	344.8	12	0A	9	21	37	1			22	25	PPS
HEIDELBERG	77.59	338.5	11	52	1						12	18	
STUTTGART	78.03	337.9	11	54A	0	21	43	1			27	4	SS
TUBINGEN	78.31	337.9	11	56	1						12	22	
BELGRADE	78.36	329.1	11	56A	0	21	49	4			22	10	SKS
ISTANBUL KA.	78.39	321.6	11	56A	0	21	45	-1					
ISTANBUL UN.	78.45	321.6	11	57	1	21	50	4					
STRASBOURG	78.58	338.8	11	57	0	21	54	6			14	52	PP
EBINGEN	78.66	337.9	11	58	1								
PENNSYLVANIA	78.72	38.4	11	57	-1	21	53	4			22	14	
MORGANTOWN	78.84	40.4	11	59A	1						15	3	PP
RAVENSBURG	78.87	337.3	11	59A	1								
ZAGREB	78.90	332.4	12	1	2						20	4	
LJUBLJANA	79.12	333.5	12	0	0						14	57	PP
SOFIA	79.21	326.2	12	1	1	22	15	21					
PARIS	79.51	342.2	12	3	1	22	4	7					
BASLE	79.60	338.5	12	3A	1								
CHUR	79.76	337.0	11	57	-6				12	3			
PALISADES	80.10	35.7	12	5A	0	22	4	0			15	9	PP
FOLINIERE	80.11	344.1	12	5	0								
BESANCON	80.24	339.5	12	6	0						13	10	
NEUCHATEL	80.25	338.7	12	6	0								
HALIFAX	80.41	27.2	12	7K	0								
WASHINGTON	80.65	38.9	12	8	0	22	23	14					
TITOGRAD	80.88	328.7	12	10	1	22	17	5			15	16	PP
KSARA	81.38	312.9	12	13A	1	22	28	11	12	39	15	21	PP
PAVIA	81.40	336.6	12	12A	0	22	17	0			28	42	SS
ROSELEND	81.50	337.8	12	14A	2						13	48	
GUADALAJARA	81.58	68.2	12	26	13						14	34	
PRATO	82.09	334.8	12	28	13	24	2	98					
CHIAVARI	82.16	336.2									14	2	
CLERMONT-FD.	82.28	340.9	12	18A	2	22	38	12					
RIVERVIEW	82.87	183.6	12	20	1	22	41	9			23	3	
ATHENS	83.17	323.6	12	20A	-1						12	59	

MONACO	83.20	337.3	12 22	1						
TARANTO	83.30	329.2	12 33	11	22 53	17				
ROME	83.51	333.1	12 23A	0	22 38	0	12 32	16	3	PP
CANBERRA	84.46	185.3	12 28A	0	22 58	10		13	14	
TACUBAYA	85.04	66.0	12 31K	1	22 57	3				
ADELAIDE	85.23	193.7	12 31A	0						
BAGNERES	85.48	342.1	12 29	-4				13	29	
MESSINA	85.92	329.4	12 33A	-2	22 59	-3	12 43	15	55	PP
VERA CRUZ	87.02	63.9	12 53	13	23 30	17		24	33	PS
MUNDARING	88.16	212.6	12 45A	-1						
PERTH	88.27	212.9	12 52	6				24	49	
OAXACA	88.33	65.7	13 28	42				23	50	SCS
KARAPIRO	88.67	164.3	12 48	0						
MERIDA	89.36	58.0	12 54	3	23 41	7		24	6	SCS
TOLEDO	89.36	344.4	12 52	1	23 42	8		24	42	PS
COIMBRA	89.74	347.7	12 53A	0				13	6	PCP
TUAI	89.81	163.2	12 51	-2						
CHATEAU	89.91	164.5	12 52	-2						
ALICANTE	90.15	341.3	12 46	-9	23 46	4		23	24	SKS
SAVANNAH	90.95	186.2	13 0A	1						
TARRALEAH	91.58	186.7	13 3A	1						
MOORLANDS	91.67	186.1	13 4	2						
COMITAN	91.67	62.7						18	43	PPP
GRANADA	91.90	343.4	13 7A	4	23 37	-20		29	58	SS
ALMERIA	92.00	342.5	13 5	1	23 32	-26				
ROXBURGH	95.19	170.3			23 50	3		24	35	S
CARACAS	109.77	44.8			26 22	86		18	59	PP
CHINCHINA	110.14	55.7	19 4	39	25 7	9		26	36	SKKS
BANGUI	114.75	311.3	18 35	1				29	13	PS
MBOUR	116.23	351.8						19	5	PP
WILKES	120.33	199.3						20	6	PP
CAPE HALLETT	121.77	174.7	18 52	5	25 52	11		20	30	PP
BROKEN HILL	124.68	289.8	18 56A	3						
SCOTT BASE	127.09	177.0	18 58	0			19 11	21	1	PP
LUANDA	128.82	309.0						21	12	PP
BULAWAYO	128.88	285.1	19 3	2						
LA PAZ	131.91	62.8	19 9	2						
PRETORIA	133.18	280.3						22	41	
MAWSON	135.22	212.9	19 11	-2						
KIMBERLEY	137.43	280.2	19 7	-10						
WINDHOEK	137.79	294.0	19 13	-5						
HERMANUS	144.71	278.3	19 31	1	26 38	6		22	50	PP
ARGENTINE I.	153.86	142.3	19 52	8						

DECEMBER 8 9.H 36.M 25.S EPICENTRE -2.01 139.09 DEPTH= 39.KM

A=-0.75523 B= 0.65453 C=-0.03489 D= 0.6549 E= 0.7557
G= 0.0264 H=-0.0229 K=-0.9994 HT= 7.2

DEPTH OF FOCUS= 0.001R

SE= 2.34

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PORT MORESBY	10.87	132.8	2	36	0	4	45	8				
RABAUL	13.24	99.8	3	13	5							
GUAM	16.36	19.9	3	46	-2							
CHARTERS TS.	19.29	159.2	4	23	-1	8	1	7				
HONIARA	22.02	110.4	4	50	-2							
MANILA	24.35	313.5	5	17	2							
BRISBANE	28.44	153.8	5	56	3	11	26	50			9	37
KOUMAC	30.73	128.7	6	11	-2							
LEMBANG	31.72	260.3	6	21	-1							
PORT VILA	32.67	120.4	5	50K	-40							
ADELAIDE	32.79	180.6	6	30A	-1							
NOUMEA	33.37	129.3	6	35A	-1							
RIVERVIEW	33.60	161.7	6	43A	5						12	13
HONG KONG	34.29	316.2				11	32	-36				
CANBERRA	34.40	165.6	6	35K	-10						19	53
MELBOURNE	36.05	172.1	7	0	1	13	4	29				
MUNDARING	36.78	213.5	7	5A	0							
PERTH	36.97	213.9				13	11	22			18	17
ZO-SE	37.08	334.1	7	8	0	12	51	0				
MATUSIRO	38.36	358.9	7	17	-2	13	8	-2			9	33
NANKING	38.98	332.1	7	24A	0	13	24	4				
TARRALEAH	40.65	171.8	7	46	8							

MEDAN	40.77	277.8	7	36	-3						
MOORLANDS	40.90	170.8	7	48	8						
KUNMING	44.36	309.8	8	9A	1	14	45	6			
VLADIVOSTOK	45.39	352.6	8	17	1						
SIAN	45.88	324.6	8	18	-2						
CHENGTU	46.60	317.0	8	26A	0	15	14	3			
PEKING	46.81	335.8	8	27	0	15	13	-1			
CHANGCHUN	47.28	346.4	8	30	-1	15	23	2			
KARAPIRO	48.93	141.4	8	44	0						
CHATEAU	49.72	142.8	8	50	0						
AFIAMALU	49.96	106.4	8	53	1						
LANCHOW	50.14	322.5	8	54A	1	16	4	3			
CHITTAGONG	52.08	300.5	9	9	1	16	31	3			
SHILLONG	53.26	304.2	9	16A	-1						
LHASA	55.63	308.3	9	35A	1	17	22	6			
ULAN-BATOR	57.10	334.7	9	44	-1						
MADRAS	60.31	286.1	10	6	-1						
IRKUTSK	61.51	336.5	10	15	0						
YAKUTSK	64.26	355.1	10	33A	0	19	11	5			
DEHRA DUN	66.36	304.3	10	46	-1	19	39	7			
NEW DELHI	66.57	302.3	10	49A	1						
POONA	67.28	290.9	10	52	0						
WILKES	67.28	192.1				20	2	19			
BOMBAY	68.31	291.1	10	59	0	20	1	5			
ALMATA	71.50	317.1	11	19	1						
WARSAK DAM	72.67	306.5	11	26	1						
CAPE HALLETT	72.86	170.5	11	27A	1						
TIKSI	73.81	356.6	11	30	-2						
ANDIJAN	73.89	313.4	11	33	1						
QUETTA	75.64	301.7	11	44A	1	21	21	1			
DUZHANBE	75.98	310.5	11	47	3	21	32	9			
TASHKENT	76.30	313.3	11	47A	1	21	32	5			
SCOTT BASE	77.20	174.2	11	51	0						
SAMARKAND	77.59	311.2	11	54	0						
MAWSON	82.90	202.0	12	23A	1						
COLLEGE	84.69	24.2	12	31	0				12	46	
SVERDLOVSK	85.37	327.3	12	36	2						
BYRD STATION	90.00	170.2	12	56	0						
SODANKYLA	100.36	338.7	13	43	-1						
EUREKA	102.80	50.1	13	58	3						17 16
WICHITA MTS.	117.39	51.6	18	43	2						19 52 PP
FAYETTEVILLE	120.30	48.8	18	49A	2						
BANGUI	120.52	273.9	18	48	1						20 24 PP
SHAWINIGAN	127.67	27.4	19	2K	1						
BREBEUF	128.04	28.9	19	3	1						
CHINCHINA	145.24	84.2	19	38A	5						
BOGOTA	146.80	84.7	19	39	3						
LA PAZ	147.43	125.4	19	44	7						
SAN JUAN	150.41	55.0	19	49	7						
ANTIGUA	154.52	52.6	19	51	4						

DECEMBER 8 10.H 19.M 50.S EPICENTRE 30.92 87.20 DEPTH= 0.KM

A= 0.04198 B= 0.85835 C= 0.51135 D= 0.9988 E=-0.0488
G= 0.0250 H= 0.5107 K=-0.8594 HT= 1.5

SE= 3.02

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
LHASA	3.56	110.1	1	2A	5	1	52	11				
CHATRA	4.08	180.4	1	7A	2	1	59	5			1	14 PP
SHILLONG	6.74	141.2	1	39K	-3	2	58	-3			2	8 PPP
BOKARO	7.17	190.3	1	49K	1	3	10	-2			2	4 PPP
TOCKLAI	7.83	120.2	2	7	9							
DEHRA DUN	7.91	268.0	1	59	0	3	32	2			2	17 PP
CALCUTTA	8.42	172.6	2	9	3	3	40	-3				
NEW DELHI	9.00	257.5	2	14A	0	3	53	-4			2	53
CHITTAGONG	9.48	153.1	2	16	-4	4	2	-7				
SEHORE	11.87	231.8				4	59	-9			6	32
WARSAK DAM	13.57	287.2	3	14	-2	5	44	-4				
VISHAKHAPTNM	13.61	196.0	3	14K	-2	5	47	-3			6	3 SS
CHENGTU	14.45	86.7	3	23	-4							
ALMATA	14.77	329.4	3	39	7							
LANCHOW	14.78	65.3	3	28A	-4	6	30	13				
KUNMING	14.89	109.0	3	33	0	6	29	9				

ANDIJAN	15.50	313.3	3	40	-1	5	45	-49			
FRUNSE	15.55	323.3	3	43A	1	6	36	1			
NAMANGAN	16.07	312.9	3	47	-1	7	8	21			
DUZHANBE	16.94	301.7	3	58	-2						
POONA	17.28	227.5	4	4	0	7	23	8	7	42	SS
QUETTA	17.46	272.8	4	2	-4	7	12	-8			
BOMBAY	17.68	230.7	4	7	-2	7	14	-11			
TASHKENT	17.78	310.6	4	7	-3	7	36	9			
SIAN	18.60	74.0	4	16	-4	7	47	2			
SAMARKAND	18.64	303.4	4	17	-4						
MADRAS	18.98	201.5	4	27	2	7	58	4	4	44	PP
SEMIPALATNSK	20.14	347.0	4	39	1						
ULAN-BATOR	22.69	36.0	5	5	1	9	15	7			
PEKING	25.19	60.9	5	29	1	10	1	9			
HONG KONG	25.55	103.1				10	16	18	13	52	
MATUSIRO	42.39	68.2	7	57	0						
MOSCOW	42.53	320.4	8	1	3						
KSARA	43.08	287.9	8	2	-1						
SIMFEROPOL	43.40	304.3	8	11	6						
TIKSI	46.49	16.9	8	32	2						
NURMIJARVI	50.18	325.1	8	58	-1						
SODANKYLA	50.59	334.1	9	4	2						
KHEYS	51.13	354.1	9	7	1						
KIRUNA	53.01	334.1	9	21	1						
UPPSALA	53.64	324.0	9	23	-2						
SKALSTUGAN	56.13	328.7	9	44	1						
PRUHONICE	56.22	312.2	9	42A	-2						
GOTEBORG	56.69	321.6	9	42	-5						
COLLMBERG	56.98	313.9	9	53	4				10	53	PCP
KASPERSKE H.	56.99	311.3	9	45	-4						
HALLE	57.59	314.3	9	55	1						
STUTTGART	59.84	311.6	10	9	0						
STRASBOURG	60.86	311.6							10	53	
ROSELEND	61.78	308.3	10	26	4				10	53	
MUNDARING	68.33	153.7	11	1	-4						
BANGUI	69.41	262.6	11	8	-3				11	29	PCP
THULE	71.82	354.1	11	27	1						
BROKEN HILL	72.22	240.4	11	27	-1						
COLLEGE	75.40	21.2	11	47	0						
BULAWAYO	75.77	235.8	11	47	-2						
CHARTERS TS.	76.07	123.8	11	49	-2						
ADELAIDE	81.52	139.5	12	19A	-1						
CANBERRA	87.83	133.8	12	56	4						
BYRD STATION	129.60	174.2	19	11	0						

DECEMBER 9 2.H 15.M 20.S EPICENTRE 56.32-153.63 DEPTH= 0.KM

A=-0.49917 B=-0.24748 C= 0.83041 D=-0.4442 E= 0.8959
G=-0.7440 H=-0.3689 K=-0.5572 HT= -7.7

SE= 2.48

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
COLLEGE	9.04	16.0	2	14	-1							
VICTORIA	19.88	100.3	4	35	-1							
PENTICTON	21.54	94.6	4	52K	-1							
CORVALLIS	22.40	108.8	5	1K	-1							
BANFF	22.89	86.8	5	4	-3							
MOULD BAY	23.58	19.7	5	16A	3							
HUNGRY HORSE	25.17	91.6	5	28	-1							
SHASTA	25.63	114.3	5	32	-1							
MINERAL	26.29	113.8	5	38	-1							
CALISTOGA	27.10	117.5	5	48A	1							
BUTTE	27.33	94.6	5	47	-2							
PETROPAVLOVK	27.35	283.4	5	48	-1							
RENO	27.81	112.7	5	51K	-2							
BERKELEY	27.86	118.2	5	54A	1	10	34	-2				
BOZEMAN	28.39	93.8	6	3	5							
LICK	8.58	118.0	6	3K	3						9	20
RESOLUTE	28.67	28.3	6	0A	-1							
MAGADAN	28.95	299.8	6	5	2							
VINEYARD	29.17	118.4	6	15A	10							
LLANADA	29.49	118.0	6	6	-2							
EUREKA	29.86	108.3	6	10	-2	11	29	21	6	21	9	20 PCP
FRESNO	29.94	116.4	6	10	-2							

SALT LAKE C.	31.16	102.0	6	22	-1						
FLAMING GRGE	32.39	99.4	6	32	-2					9	28 PCP
PASADENA	32.82	117.4	6	36	-2	11	52	-3			
BOULDER CITY	33.08	111.4	6	39	-1						
GLEN CANYON	34.04	106.6	6	47	-1					9	38 PCP
LARAMIE	34.24	95.3	6	48	-2						
ALERT	34.75	13.4	6	54A	0						
THULE	35.15	24.1	7	1	3						
YAKUTSK	37.54	311.1	7	18	0					8	40 PP
TUCSON TELE.	38.04	110.7	7	21	-1						
TUCSON	38.06	111.0	7	20	-2					12	0
ALBUQUERQUE	38.31	103.6	8	23	59						
UGLEGORSK	38.32	287.2	7	25	1	13	14	-5			
Y.-SAKHLINSK	39.21	284.1	7	36	4						
MANHATTEN	40.69	90.0	7	42	-2	13	54	-1	7 50	17	20
LAWRENCE	41.60	89.2	7	50	-1						
DUBUQUE	41.72	81.7	7	51	-1	14	9	-1		17	17
WICHITA MTS.	42.79	96.4	8	0	-1	14	29	3	8 8	9	57 PCP
CHIHUAHUA	43.41	109.3	9	1	55					16	10
ROLLA	44.21	87.6	8	10K	-3	14	40	-7	8 15	18	14 SS
FAYETTEVILLE	44.24	91.3	8	11A	-2					10	3 PP
FLORISSANT	44.43	85.4	8	12A	-3	14	52	2		10	15 PCP
ST. LOUIS 1	44.62	85.5	8	13	-3	14	48	-5			
C. GIRARDEAU	45.95	86.2	8	26	-1	15	10	-2		18	2
LITTLE ROCK	46.22	91.0	8	26	-3						
BLOOMINGTON	46.30	82.1	8	28	-1	15	11	-6		18	59
VLADIVOSTOK	47.56	287.1	8	40	1					10	40 PP
TUKUBASAN	47.95	274.4	8	42	0						
SHAWINIGAN	48.55	65.4	8	53	6						
MATUSIRO	48.76	276.2	8	48A	-1	15	58	6			
BREBEUF	48.83	66.9	8	47A	-2	15	50	-3			
MORGANTOWN	49.57	76.8	9	0A	5						
PENNSYLVANIA	49.87	74.2	9	4	7						
CHANGCHUN	50.53	292.2	9	0	-2	16	19	3			
ABUYAMA	51.45	276.8	9	9A	0						
GEORGETOWN	51.66	75.4	9	12	1						
WASHINGTON	51.66	75.4	9	17	6						
PALISADES	51.82	71.3	9	15	3	16	39	5	9 40	10	31 PP
COLUMBIA	53.08	82.5	9	22	0						
TROMSOE	54.24	3.2	9	30	0						
IRKUTSK	54.29	312.3	9	30	0					11	28 PP
HALIFAX	54.47	61.3	9	33	1						
KIRUNA	56.09	2.7	9	42A	-1	17	28	-4		17	44 PS
APATITY	56.33	356.7	9	45	0	17	40	5			
ULAN-BATOR	56.44	307.2	9	45	-1	17	43	7			
SODANKYLA	56.63	359.9	9	46A	-1					10	12
PEKING	57.96	295.1	9	55A	-2	18	2	6			
SKALSTUGAN	59.94	7.2	10	9A	-2						
ZO-SE	62.17	284.9	10	26	0	18	55	5			
BERGEN	62.44	11.6	10	14	-13						
NANKING	62.71	287.3	10	29A	0	19	1	4			
NURMIJARVI	63.51	0.9	10	33K	-2					11	7 PCP
SVERDLOVSK	63.86	339.8	10	36A	-1					19	20 PS
UPPSALA	63.97	4.9	10	36A	-2	19	14	1		11	50
PULKOVO	64.22	357.8	10	38	-1					12	53 PP
GOTEBORG	65.75	8.4	10	44A	-5						
SIAN	66.09	296.0	10	50	-1						
DURHAM	66.95	17.2	10	48	-9						
LANCHOW	67.14	300.9	10	57	-1	19	53	1			
KARLSKRONA	67.54	6.5	10	55	-5						
COPENHAGEN	67.79	8.5	11	4	2	19	52	-8		20	9 PS
MOSCOW	67.93	353.2	11	2	-1					20	17 PS
KEW	70.33	17.4	11	19	1						
CHENGTU	71.42	297.4	11	24	0	20	48	6			
WARSAW	71.73	3.5	11	25	-1	20	43	-3		11	39 PCP
HALLE	71.89	9.4	11	26	-1					11	37 PCP
BENSBERG	71.91	12.6	11	28	1						
COLLMBERG	72.18	8.8	11	28	-1					14	16 PP
JENA	72.42	9.8	11	30	0	21	4	10		26	0 SS
FELDBERG	72.79	11.9	11	48	16						
FOLINIERE	72.91	18.2	11	33	0						
HONG KONG	72.93	284.5	11	34	1	21	6	6			
FRUNSE	73.17	325.0	11	35	0						
PARIS	73.36	16.2	11	35	-1					12	59
SAN JUAN	73.55	81.6	11	38	1						
CHORZOW	73.58	4.9	11	36	-1					11	49 PCP
PRUHONICE	73.61	7.9	11	37	0					14	20 PP
RACIBORZ	73.75	5.5	11	38	0					11	46 PCP

KRAKOW	73.86	4.3	11 39	0					12 18	
LWOW	74.21	1.6	11 42	1					14 37	PP
STUTTGART	74.31	11.7	11 41	0	21 15	0			21 35	
STRASBOURG	74.32	12.7	11 45	4					42 46	
KASPERSKE H.	74.38	8.7	11 41A	-1						
GARCHY	74.94	16.2	11 45	0						
ST. KITTS	76.25	79.5	11 55	3						
KUNMING	76.61	295.1	11 54	0	21 45	4				
ANTIGUA	76.90	78.9	12 0	4						
ROSELEND	77.34	13.4	11 59	1						
LJUBLJANA	77.52	8.4	12 0	1						
LHASA	78.40	306.6			22 5	5				
BAGNERES	78.54	19.3	12 7	2						
ISOLA	78.56	14.1	12 4	-1						
DOMINICA	78.65	79.6	12 14	8						
SIMFEROPOL	78.89	354.4	12 7	0	22 10	5			22 22	SCS
BELGRADE	79.11	4.3	12 11K	3	22 22	15			15 12	PP
FLORENCE X.	79.46	11.1	12 13	3	22 16	5				
CARACAS	79.52	86.9	12 11	1	22 6	-6				
TOLEDO	80.76	23.3	12 19	2	22 36	11			27 55	SS
TIFLIS	81.09	346.1	12 20	1	22 34	6				
ROME	81.45	10.4							21 40	
SHILLONG	81.50	303.8	12 17	-4						
PORT MORESBY	81.57	239.0	12 23	2	22 33	0	12 33		22 47	SCS
ASHKABAD	82.25	335.0	12 25	0					15 36	PP
TRINIDAD	82.46	82.2	12 22	-4						
CHATRA	82.54	308.1	12 27A	1	22 48	5				
GORIS	83.06	344.6	12 30	1	22 30	-18				
DEHRA DUN	83.20	316.9			22 53	3			16 42	
GRANADA	83.44	23.7	12 44K	13	23 3	11			15 55	PP
NEW DELHI	85.09	316.8	12 39A	0						
MESSINA	85.40	8.5							21 41	
CALCUTTA	85.73	305.1			23 9	-6				
TEHERAN	85.86	339.8	12 44	1	23 14	-2				
QUETTA	87.20	325.7	12 50	0					16 13	
KSARA	89.85	352.1							25 5	
CHARTERS TS.	91.29	234.6	13 11	2						
BOMBAY	95.51	316.4							17 21	
LA PAZ	101.10	102.9			24 31	-2			18 11	PP
RIVERVIEW	101.28	224.2	13 53	-1					27 21	
BANGUI	119.17	8.9	18 50	-1					20 23	PP
LWIRO	126.06	357.0	19 6	1						
CAPE HALLETT	130.78	193.8	21 16	122					22 38	SKP
SCOTT BASE	136.11	191.2	19 12	-12						
BROKEN HILL	138.18	357.0	19 26	-2						
BULAWAYO	143.84	356.4	19 35K	-2						
WINDHOEK	145.60	15.3	19 41	1						
KIMBERLEY	152.42	3.0	19 57A	6						
MAWSON	159.82	221.4	20 8	7						

DECEMBER 9 3.H 58.M 51.S EPICENTRE -15.03 -75.73 DEPTH= 0.KM

A= 0.23813 B=-0.93641 C=-0.25772 D=-0.9692 E=-0.2465
G=-0.0635 H= 0.2498 K=-0.9662 HT= 5.7

SE= 3.03

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
HUANCAYO	2.99	7.6	0	53	3							
AREQUIPA	4.32	109.7	1	8	-1							
LA PAZ	7.46	102.3	1	54	1	3	23	4				
ANTOFAGASTA	9.97	150.7	2	25	-3	5	41	79				
BOGOTA	19.59	4.9	4	36	4							
CHINCHINA	19.87	0.3	4	37	1	8	21	7	4	51		
GALERAZAMBA	25.65	1.0									11	32 SS
CARACAS	26.82	19.5	5	42	-2	10	15	-4				
TRINIDAD	29.20	29.9	6	13	8						13	56
GRENADA	30.27	28.0	6	12	-3							
ST. VINCENT	31.46	27.8	6	24	-2							
BARBADOS	32.21	30.5	6	37	5							
HOPE	32.84	358.2									7	28
BLACK RIVER	32.89	356.3	6	37	-1							
DOMINICA	33.30	25.8	6	42	0							
SAN JUAN	34.52	16.2	6	50	-2						8	21
ST. KITTS	34.63	22.2	7	3	10							
ANTIGUA	34.78	23.7	6	50	-4							

COLUMBIA	49.02	354.2	8	49	-2						
CHAPEL HILL	50.77	356.5	9	3	-1						
ARGENTINE I.	50.77	173.8	9	4	0						
LITTLE ROCK	51.99	342.6	9	11	-2						
C. GIRARDEAU	53.67	346.3	9	23A	-3				9	33	
FAYETTEVILLE	53.76	341.5	9	26A	0						
WICHITA MTS.	54.04	336.7	9	27	-1	17	3	-1			17 9 PS
MORGANTOWN	54.52	356.0	9	29	-3						
ROLLA	54.80	344.4	9	32A	-2	17	11	-3	9	41	
BLOOMINGTON	54.87	349.8	9	32A	-3	17	10	-5	9	40	23 40 SS
ST. LOUIS 1	55.09	346.2	9	34	-2						
FLORISSANT	55.27	346.1	9	35	-3				10	15	
PALISADES	55.78	1.7	9	39	-2	17	28	1			21 32 SS
LAWRENCE	56.74	341.9	9	46	-2						
M NHATTEN	57.36	340.8	9	51	-1						
ALBUQUERQUE	57.64	330.2	9	54	0						10 11
TUCSON	57.79	324.8	9	54	-1						
TUCSON TELE.	57.80	325.0	9	55	-1						
DUBUQUE	58.88	347.1	9	54K	-9				10	8	
BREBEUF	60.27	1.7	10	11A	-2						12 31 PP
HALIFAX	60.38	9.9	10	7	-6						
SHAWINIGAN	61.35	2.3	10	19	-1						
GLEN CANYON	61.78	327.8	10	24	1						
LARAMIE	62.49	335.0	10	27	-1						
BOULDER CITY	62.78	324.9	10	31	1						
PASADENA	63.43	321.3	10	34	0	19	9	3			
FLAMING GRGE	63.82	332.1	10	36	0						
SALT LAKE C.	64.84	330.4	10	43	0						
MBOUR	65.04	66.1	10	43	-1	19	27	1			
EUREKA	65.94	326.8	10	51	1						
FRESNO	66.18	322.4	10	52	0						
PRIEST	66.27	321.4	10	54K	2						
VINEYARD	67.11	321.4	11	11	13						
LICK	67.65	321.8	11	2A	1						11 51
BYRD STATION	67.95	187.5	11	4	1						
RENO	68.08	324.6	11	5A	1						
BOZEMAN	68.34	334.1	11	11	6						
BERKELEY	68.37	321.8	11	8	2						
CALISTOGA	69.07	322.3	11	12K	2						
MINERAL	69.64	324.2	11	15	2						11 41
SHASTA	70.32	324.0	11	16	-1						
HUNGRY HORSE	71.71	334.2	11	26	0						
CORVALLIS	73.40	326.6	11	39K	3						
PENTICTON	74.88	332.0	11	45	1						
SCOTT BASE	80.95	191.0	12	18	0						
COIMBRA	83.11	45.4	12	29K	0						12 38 PCP
SERRA PILAR	83.41	44.5	12	29A	-2				12	40	15 43 PP
GRANADA	85.31	49.7	12	44A	4	23	42	32			16 24
ALMERIA	86.03	50.4	12	43	-1						14 24
TOLEDO	86.04	47.1	12	43	-1	23	29	11			
REYKJAVIK	88.94	20.7	13	8A	10						
BAGNERES	90.15	45.3	13	8	4						
RESOLUTE	90.33	355.0	13	3A	-1						
THULE	91.38	1.8	13	11	2						
FOLINIERE	91.75	39.8	13	10	-1						
MAWSON	92.28	165.3	13	13A	0				13	22	13 27 *SP
CHATEAU	94.52	227.6	13	26	2						
MOULD BAY	94.74	350.5	13	24A	-1						
KARAPIRO	95.02	228.7	13	17	-9						
BANGUI	95.32	86.9	13	26	-1						17 10 PP
ROSELEND	96.00	44.6	13	29	-1						
COLLEGE	96.09	335.9	13	30	-1						
BULAWAYO	97.86	113.2	13	39K	0						
STUTTGART	97.91	41.7	13	38	-1						
FLORENCE X.	98.10	46.9	13	49	9						
KASPERSKE H.	100.76	42.0	14	1	9						15 8
COLLMBERG	100.79	39.7	13	52	0						
PRUHONICE	101.53	41.2	13	56	1						
RIVERVIEW	114.01	221.7	18	41	0						36 31
CHARTERS TS.	125.94	231.0	19	2	-2						
PORT MORESBY	131.06	242.9	19	18	4						
DARWIN	142.14	225.4	19	32	-2						
QUETTA	142.59	59.8	19	32	-3						
MATUSIRO	142.97	311.7	19	33	-3						
WARSAK DAM	144.97	51.5	19	38	-1						
CHANGCHUN	146.15	332.2	19	41A	0						
ULAN-BATOR	147.13	356.7	19	47	4						
BOMBAY	149.70	78.2	19	51	4						

POONA	150.69	78.9	19	56	7						
NEW DELHI	151.57	57.2	19	53A	3						
PEKING	153.01	339.6	19	54	2						
LANCHOW	159.07	1.0	20	3	3					24 17	PP
LHASA	161.02	37.8	20	7	5					24 28	PP
SHILLONG	164.36	46.0	20	6A	1						
CHENGTU	164.44	0.8	20	8	3					24 45	PP

DECEMBER 9 11.H 18.M 5.S EPICENTRE -43.72 -75.71 DEPTH= 0.KM

A= 0.17900 B=-0.70257 C=-0.68874 D=-0.9690 E=-0.2469
G=-0.1700 H= 0.6674 K=-0.7250 HT= -3.1

SE= 2.37

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
ANTOFAGASTA	20.44	14.0	4	38	-3	8	43	17					
LA PAZ	27.89	15.7	5	54	1	10	45	9					
BYRD STATION	39.70	190.9	7	35	0								
SOUTH POLE	46.47	180.0	8	29	-1								
BOGOTA	48.14	2.2	8	45	2								
CHINCHINA	48.47	0.1	8	50A	4	16	1	14			15	47	
SCOTT BASE	52.98	193.6	9	18	-2	16	50	1			11	29	PP
GALERAZAMBA	54.24	0.5									10	43	
CARACAS	54.55	10.6	9	33	1	17	14	4					
CAPE HALLETT	55.57	199.8	9	37	-2	17	29	5	9	45	11	41	PP
TRINIDAD	55.66	17.1	9	41	1								
GRENADA	56.95	16.4	9	47	-2								
ST. VINCENT	58.13	16.6	9	55	-2								
DOMINICA	60.18	16.0	10	14	3								
HOPE	61.42	358.9	10	19	-1								
BLACK RIVER	61.45	357.7	10	20	0								
COMITAN	61.55	342.0	10	43	22	19	3	21			19	39	
ANTIGUA	61.88	15.1	10	25	2								
ST. KITTS	61.92	14.1	10	25	2								
SAN JUAN	62.42	10.3	10	22	-5	19	1	8			12	55	PP
MAWSON	64.68	163.7	10	39K	-2	19	23	2	10	50	13	7	PP
MERIDA	65.61	345.7	10	57	10	19	31	-2			13	27	PP
TACUBAYA	66.41	335.8	10	56A	3	19	49	7			13	42	PP
WILKES	70.17	182.7	11	17K	1	20	31	4	11	28	13	53	PP
HERMANUS	70.37	119.0	11	19	2	20	30	1					
ROXBURGH	74.09	221.5	11	41	2	21	21	9			26	5	SS
WELLINGTON	74.33	227.5	11	42	1						21	55	SP
CHATEAU	75.38	229.5	11	45	-2								
COBB RIVER	75.56	226.6	11	49	1								
GRAHAMSTOWN	75.67	122.4	11	47	-1								
KARAPIRO	76.27	230.4	11	50	-2								
CHIHUAHUA	77.20	332.9	11	58	1	21	58	12			27	16	SS
COLUMBIA	77.50	355.5	12	0	1								
MBOUR	78.78	57.6	12	8	2	22	10	7					
CHAPEL HILL	79.33	357.2	12	7	-2								
LITTLE ROCK	79.59	346.1	12	7	-3						12	22	PCP
WICHITA MTS.	80.81	341.1	12	14	-3	22	16	-8			15	16	PP
FAYETTEVILLE	81.20	344.9	12	18	-1								
C. GIRARDEAU	81.63	348.9	12	17K	-4	22	41	8			12	33	PCP
PRETORIA	81.91	117.8	12	21	-1								
TUCSON	82.14	330.5	12	23	0						15	40	PP
TUCSON TELE.	82.18	330.6	12	24	0								
GEORGETOWN	82.25	358.9	12	22	-2								
WASHINGTON	82.25	358.9	12	23	-1								
ROLLA	82.56	347.1	12	24K	-2	22	43	1					
ST. LOUIS 1	83.03	348.6	12	26K	-2								
MORGANTOWN	83.06	356.7	12	30K	2								
BLOOMINGTON	83.11	351.6	12	25K	-3	22	56	8			12	38	PCP
ALBUQUERQUE	83.16	335.0	12	28	-1								
LUANDA	83.19	95.7	12	31K	2	22	55	6			15	45	PP
FLORISSANT	83.21	348.5	12	26	-3								
CHANGALANE	84.07	120.8	12	32	-1	23	37	39			12	44	
PENNSYLVANIA	84.16	358.3	12	36	2	23	10	11					
LAWRENCE	84.19	344.8	12	31	-3								
PALISADES	84.36	1.4	12	37	2	23	10	9			12	47	PCP
MANHATTEN	84.67	343.9	12	35A	-1	23	3	-1			19	42	PCP
LOME	84.83	76.5	12	43	6								
AFIAMALU	84.83	255.8	12	37	0	23	18	13			15	33	PP
CLEVELAND	84.98	355.6	12	40K	2								
FORT NELSON	85.51	210.2				23	24	12			28	53	SS

MOORLANDS	85.99	210.3	12	46K	3						
BULAWAYO	86.14	114.1	12	43K	-1						
TARRALEAH	86.38	209.9	12	47K	2						
SAVANNAH	86.62	210.7	12	47	1						
PASADENA	86.63	325.9	12	46A	0	23	31	8		24	36 PS
GLEN CANYON	86.67	332.0	12	47	1						
DUBUQUE	86.89	349.0	12	46	-1	23	49	24		12	50 PCP
SUVA	88.58	246.2	13	0	4	23	55	14		29	45 SS
HALIFAX	88.62	8.6	12	55	-1						
LARAMIE	88.81	338.0	12	55	-2					16	11
BREBEUF	88.86	1.5	12	57K	0	23	45	2			
PRIEST	89.37	325.1	13	1	2						
FLAMING GRGE	89.56	335.2	12	59	-1	23	58	8		15	55 PP
FRESNO	89.56	326.0	13	0	0						
SHAWINIGAN	89.92	2.0	13	0	-2						
BROKEN HILL	90.07	110.1	13	2K	-1						
SALT LAKE C.	90.19	333.4	13	0	-3						
VINEYARD	90.20	324.9	13	8A	5						
EUREKA	90.46	330.0	13	3	-1	23	46	-12		16	52 PP
RAPID CITY	90.80	340.6	13	3	-3						
LICK	90.81	325.1	13	7	1						
MELBOURNE	90.85	211.1	13	6	0					16	35
CANBERRA	91.43	215.1	13	8	-1					25	21 PS
BERKELEY	91.52	324.9	13	11A	2	23	55	-13	13 46	16	49 PP
RIVERVIEW	91.78	217.4	13	8A	-2	23	56	-14		16	48 PP
RENO	91.96	327.4	13	12K	1						
CALISTOGA	92.30	325.1	13	17A	4						
NOUMEA	93.08	235.1	13	17	1						
MINERAL	93.36	326.7	13	20	2						
SHASTA	93.97	326.3	13	19	-1						
BOZEMAN	94.38	336.0	13	21	-1						
BUTTE	95.15	335.2	13	25	-1						
ADELAIDE	95.63	207.8	13	29	1	24	11	7		26	10 PS
KOUMAC	95.70	234.6	13	30	2						
BANGUI	96.13	89.8	13	32	2					17	25 PP
BRISBANE	96.44	222.1	13	32	0	24	6	-2			
HUNGRY HORSE	97.68	335.3	13	38	1						
TANANARIVE	98.88	126.8	13	47	4					17	56 PP
LWIRO	98.89	101.7	13	46	3	24	31	10			
PENTICTON	100.31	332.5	13	52	3						
GRANADA	103.68	51.5				24	54	10		18	24 PP
SERRA PILAR	103.78	45.8	14	4K	-1				14 15	18	23 PP
MUNDARING	103.89	190.4	14	5	0					18	1 PP
PERTH	103.96	190.1	18	25K	259					20	40
ALMERIA	104.09	52.4	14	10	4	24	50	4		18	30 PP
TOLEDO	105.32	49.2	14	13	777	24	56	5		18	30 PP
CHARTERS TS.	105.75	220.8	14	10	777	26	3	70			
ALICANTE	106.27	52.4	14	19	777	26	15	79			
BAGNERES	109.80	49.0								19	10 PP
GARCHY	114.10	47.0	18	55	14					19	37 PP
MONACO	114.31	52.2								19	40 PP
ISOLA	114.37	51.6	18	56	15					19	39 PP
PORT MORESBY	114.37	227.5								19	38 PP
PARIS	114.75	45.4	18	58	16					20	5
KEW	115.02	41.9								35	25 SS
ROSELEND	115.49	50.7	18	50	6					19	45 PP
RABAUL	115.78	235.2								19	47
MESSINA	115.89	61.1	18	41	-3					19	50 PP
ROME	116.17	56.2								19	53 PP
DURHAM	116.51	38.5								19	50 PP
FLORENCE X.	116.55	54.0								36	7 SS
STRASBOURG	117.40	48.0								20	5 PP
PADOVA	117.86	52.8	19	25	37					29	35
TARANTO	118.28	59.9	19	7	18					28	17
STUTTGART	118.33	48.5	18	50	1					20	11 PP
BENSBERG	118.47	45.5								20	10 PP
RESOLUTE	118.81	354.3	19	3	13					36	12 SS
LJUBLJANA	119.75	53.3	19	7	15					20	20 PP
THULE	119.96	2.0	19	9	17						
ZAGREB	120.48	54.2								20	22
JENA	120.77	47.4	19	9	15					20	38 PP
KASPERSKE H.	120.89	49.9	18	55	1						
HALLE	121.27	46.9	18	58	3					20	19 PP
COLLEGE	121.85	331.4	18	52	-4					19	25
PRUHONICE	121.88	49.5	19	12	16					30	34 SKSP
VIENNA-H.	122.00	52.0	18	56	0					20	36 PP
BRATISLAVA	122.37	52.3								20	27 PP
BELGRADE	122.63	57.2				26	29	31		21	1 PP
MOULD BAY	122.89	348.6	18	56	-2						

COPENHAGEN	123.67	42.9								21	18 PP
GOTEBORG	124.42	40.6	19	0	-1						
CHORZOW	124.50	50.9	19	3	2					20	56 PP
KRAKOW	124.92	51.5	19	6	4					19	26
KARLSKRONA	125.45	43.4	19	0A	-3						
ALERT	126.14	2.2	19	2	-2						
ISTANBUL KA.	126.20	65.0				26	11	2		21	0 PP
WARSAW	126.53	49.5	19	10	5	26	20	10		21	3 PP
KSARA	127.13	76.2	19	6	0					21	10 PP
LWOW	127.17	53.2	19	5	-1					21	10 PP
SKALSTUGAN	127.20	34.1	19	4	-2						
UPPSALA	128.01	39.8	19	8A	0					22	27 PKS
LEMBANG	129.59	184.3	19	23	12					21	19 PP
SIMFEROPOL	131.27	62.7	19	17	3					22	52 PKS
NURMIJARVI	131.53	40.6	19	15	1					22	42 PKS
HELSINKI	131.58	41.1	19	19	4						
TROMSOE	131.73	27.9	19	14	-1						
KIRUNA	131.81	30.4	19	13A	-2					21	38 PP
SODANKYLA	134.03	31.7	19	19	0					22	56 PKS
PULKOVO	134.05	42.6	19	21	2					21	49 PP
GUAM	134.11	241.5	19	23	4						
APATITY	136.65	31.9	19	24K	0						
MOSCOW	136.92	49.5	19	24	0					22	9 PP
GORIS	137.21	74.9	19	29	4					22	16 PP
TEHERAN	139.14	82.7	19	21	-7					22	22 PP
MEDAN	139.72	171.3	19	27	-3					22	27
MADRAS	143.03	138.5	19	37	2					22	44 PP
PETROPAVLOVK	143.52	304.3	19	33	-3	26	26	-18		22	53 SKP
BOMBAY	143.82	123.1	19	37	0					22	39 PP
POONA	144.16	124.8	19	34	-3					22	39 PP
ASHKABAD	145.12	83.4	19	39	0					22	58 PP
HYDERABAD	145.89	132.1	19	42	2	27	12	24		23	4 PP
QUETTA	147.52	102.0	19	44	1						
MAGADAN	147.87	316.0	19	45	1					23	19 SKP
VISHAKHAPTNM	148.60	139.1	19	55A	10					23	30 PP
SVERDLOVSK	149.73	48.8	19	47	1					30	16 SKKS
TUKUBASAN	151.72	267.0	19	49	-1					23	37 PP
WARSAK DAM	152.87	99.8	19	55	4						
Y.-SAKHLINSK	152.99	290.6	19	49	-2					23	47 PP
MATUSIRO	153.23	266.1	19	52	0					23	45 PP
LAHORE	153.49	107.2	19	54	2						
NEW DELHI	153.57	115.9	19	54A	2					23	54 PP
CALCUTTA	155.09	143.0	19	59	5					24	4 PP
DEHRA DUN	155.26	114.0	20	14	20					25	0 PP
YAKUTSK	156.37	329.7	19	57	1					24	6 PP
HONG KONG	157.12	204.1	20	1	4					23	38 PP
CHATRA	158.17	135.0	19	58	0					24	14 PP
FRUNSE	158.42	82.0	20	1	2					27	53 PPP
SHILLONG	159.25	146.7	19	58A	-2					24	18 PP
VLADIVOSTOK	159.97	277.9	20	0	0					24	15 PP
KUNMING	161.40	175.6	20	4	2					24	33 PP
ZO-SE	161.64	232.3	20	3K	1						
LHASA	162.41	138.7	20	6K	3					24	36 PP
NANKING	163.71	229.2	20	4K	0					24	35 PP
CHANGCHUN	164.82	277.7	20	2K	-3						
CHENGTU	166.96	178.9	20	9K	2					25	2 PP
SIAN	169.88	202.4	20	9	0						
PEKING	170.40	251.4	20	10K	1					25	18 PP
IRKUTSK	171.45	359.9	20	9	-1					25	20 PP
LANCHOW	172.33	177.2	20	11K	1					25	26 PP
ULAN-BATOR	175.42	337.5	20	13A	2						

DECEMBER 9 19.H 49.M 43.S EPICENTRE -21.89 179.93 DEPTH= 590.KM

A=-0.92876 B= 0.00113 C=-0.37067 D= 0.0012 E= 1.0000
G= 0.3707 H=-0.0005 K=-0.9288 HT= 4.2

DEPTH OF FOCUS= 0.088R

SE= 1.81

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
SUVA	3.98	339.0	1	26	1	2	26	-7				
RAOUL ISLAND	7.58	165.6	1	46	-10	3	17	-11				
AFIAMALU	11.19	46.2	2	54A	23	4	27	-5				

PORT VILA	11.68	288.7	2	35A	-1	4	55	14				
NOUMEA	12.50	265.6	2	44A	0	5	11	16				
KOUMAC	14.65	272.3	3	5A	0	5	45	11				
ONERAHI	14.66	198.1	3	8	3	5	43	9				
KARAPIRO	16.43	192.4	3	22	0							
WELLINGTON	19.82	191.5	3	56	2	7	5	3				
COBB RIVER	20.08	196.0	3	56	0	7	3	-3				
GEBBIES PASS	22.57	193.9	4	17	-2	7	45	-1				
HONIARA	22.85	299.7	4	18	-3							
BRISBANE	25.25	252.0	4	40	-2	8	27	-2				
RIVERVIEW	27.99	238.6	5	8A	2	9	13	2			14	47 SCS
CANBERRA	30.13	236.8	5	25A	0	9	45	1			7	0 PP
CHARTERS TS.	31.45	267.0	5	35A	-1	10	2	-3				
RABAUL	32.15	299.2	5	41	-1						8	13
PORT MORESBY	33.83	286.4	5	55A	-1	10	39	-2	7	27	13	47 *SS
MELBOURNE	33.99	234.2	5	57	0							
MOORLANDS	34.16	225.5	5	59A	0						11	11 SCP
FORT NELSON	34.27	224.6	6	1K	2							
TARRALEAH	34.58	226.1	5	59A	-3						11	13 SCP
ADELAIDE	38.25	240.9	6	32A	0	11	44	-2			8	21 PP
HAWAII V.OB.	47.69	32.4	7	44	-2							
GUAM	49.25	312.3	7	58	0							
SCOTT BASE	56.37	183.3	8	47	-1				10	47	9	37 PCP
MUNDARING	56.99	245.3	8	51A	-1							
SOUTH POLE	68.24	180.0	10	5	1				12	7		
MATUSIRO	70.21	325.3	10	15K	-1						18	45 PCP
LEMBANG	71.09	270.1	10	20	-1	18	52	1			13	20
Y.-SAKHLINSK	76.36	334.8	10	50	-1							
ZO-SE	77.13	311.2	10	56	1	20	0	3				
HONG KONG	77.68	300.2	10	59	1	20	7	4				
VLADIVOSTOK	78.33	326.2	11	2K	1							
CANTON	78.74	300.5	11	5	2	20	18	5				
NANKING	79.36	310.8	11	6	-1	20	23	3				
PARAISO	79.51	44.0	11	11K	4							
MAWSON	79.60	200.3	11	7A	-1	20	20	-2	13	10		
SAN FRANCSCO	80.32	42.8	11	12	0							
ARGENTINE I.	80.44	157.4	11	12	0							
BERKELEY	80.50	42.8	11	12K	-1							
LICK	80.58	43.5	11	13K	0							
UKIAH	80.67	41.3	11	16	3							
CALISTOGA	80.77	42.0	11	14	0							
PASADENA	81.04	47.8	11	15	0	20	43	6			13	46
ARCATA	81.24	39.5	11	17A	1							
FRESNO	81.44	44.8	11	17K	0							
SHASTA	82.14	40.4	11	21K	0							
CHANGCHUN	82.33	323.5	11	22K	0	20	54	5				
MINERAL	82.41	41.1	11	21K	-1						13	32
RENO	83.04	42.6	11	25K	0							
CORVALLIS	84.00	36.9	11	31K	1							
MAGADAN	84.59	345.6	11	29	-4							
TUCSON	85.29	52.7	11	37	1							
TUCSON TELE.	85.42	52.6	11	37	0							
EUREKA	85.45	44.3	11	37	0						15	7 PP
PEKING	85.54	316.3	11	38	0	21	26	6			21	12 SKS
ALBERNI	86.18	32.6	11	40K	-1							
VICTORIA	86.41	33.8	11	41K	-1							
SIAN	87.55	308.4	11	49K	2	21	48	9				
KUNMING	88.27	297.8	11	54A	4	21	52	7				
SALT LAKE C.	88.82	44.9	11	52	-1							
PENTICTON	88.89	34.7	11	52K	-1							
CHENGTU	89.62	303.3	11	58	1	22	5	8				
ALBUQUERQUE	89.78	52.0	11	57	0							
PAOTOW	89.83	314.3	11	56	-2	22	3	4				
FLAMING GRGE	90.52	45.6	12	1	0				14	12	12	27
BUTTE	91.04	40.1	12	2	-1							
HUNGRY HORSE	91.41	37.6	12	3	-2							
BOZEMAN	91.8	40.9	12	6	-1							
LANCHOW	92.08	308.1	12	9K	1	22	29	11				
BANFF	92.09	34.7	12	9K	1							
YAKUTSK	92.67	338.7	12	10K	-1							
LARAMIE	93.25	46.6	12	13	0						16	4
WICHITA MTS.	95.56	54.9	12	23	-1				14	35	16	22 PP
SHILLONG	97.51	294.4	12	32	-1							
MANHATTEN	98.71	51.4	12	38	0							
FAYETTEVILLE	99.40	55.0	12	40K	-1						16	52 PP
LHASA	99.60	298.0				22	25	1			23	28 S
ROLLA	101.73	53.9	12	51K	0							
CHATRA	101.91	294.2	12	53	1							

MOULD BAY	104.54	12.5	12 58	-6			
RESOLUTE	109.67	16.3	17 23	777			
NEW DELHI	110.88	293.3	17 28A	1			
ALERT	115.10	7.4	17 33A	-2			
PALISADES	115.97	54.0				21 53	PKS
THULE	116.20	14.2	17 37	0			
KHEYS	116.49	351.0	17 37	0			
BREBEUF	116.65	49.0	17 37K	-1			
WARSAK DAM	116.72	298.0	17 38	0			
GRAHAMSTOWN	119.50	205.6	17 44A	1			
QUETTA	119.96	293.1	17 46	2			
TRINIDAD	120.40	90.3	17 46	1			
SVERDLOVSK	124.02	324.7	17 52	0			
KIMBERLEY	124.24	206.5	17 55K	2			
BULAWAYO	129.70	215.9	17 52	-11		20 24	
APATITY	129.77	344.0	18 2	-1			
TROMSOE	130.90	351.3	17 58	-7			
SODANKYLA	131.52	346.6	17 53	-13	20 25	20 39	SKP
KIRUNA	132.31	349.6	17 57K	-11			
KAJAANI	133.96	343.5	18 12	1		21 41	PKS
BROKEN HILL	134.31	220.3	18 2	-10		20 50	
MOSCOW	136.17	330.0	18 24	9			
PULKOVO	136.48	338.2	18 15	-1			
SKALSTUGAN	137.51	351.9	18 7K	-11			
NURMIJARVI	137.69	342.1	18 8	-10	20 35	20 59	SKP
HELSINKI	137.88	341.6	18 9	-9		21 0	SKP
UPPSALA	140.05	346.2	18 15K	-7		21 25	PP
BERGEN	141.34	355.7	18 21	-5			
LWIRO	142.96	233.2	18 28	0			
GOTEBORG	143.17	349.2	18 19K	-9			
SIMFEROPOL	143.77	317.6				18 52	
KARLSKRONA	143.86	345.2	18 22	-7			
COPENHAGEN	144.99	347.6	18 32A	1			
KISHINEV	145.76	324.0	18 33A	1			
LWOW	146.26	331.6	18 34	1		20 54	
DURHAM	147.15	1.6	18 37A	3			
KRAKOW	147.78	335.6				18 36	PKP2
CHORZOW	147.94	336.8	18 39	3		18 44	PKP2
RACIBORZ	148.40	337.3	18 41	5		18 47	PKP2
WITTEVEEN	148.69	352.1	18 42	5			
HALLE	149.00	345.4	18 37	0		18 48	PKP2
JENA	149.62	345.4	18 38	0	20 55	22 20	PP
PRAGUE	149.64	341.4	18 46	8			
PRUHONICE	149.69	341.2	18 44	6	20 59	21 49	*SPKP
CHEB	150.20	343.8	18 45	6	20 52		
BRATISLAVA	150.39	336.4	18 40	1	21 1		
BENSBERG	150.44	350.7	18 41	2	21 5		
KEW	150.47	0.3	18 46	7			
VIENNA-H.	150.59	337.3	18 36	-3		18 49	PKP2
KASPERSKE H.	150.73	341.5	18 39	-1	21 4		
FELDBERG	150.94	348.7	18 43	3		19 11	
SOFIA	151.50	322.2	18 42	1			
BELGRADE	151.58	328.4	18 49K	8			
HEIDELBERG	151.68	347.9	18 43	2			
KARLSRUHE	152.11	348.0	18 43	1			
STUTTGART	152.16	346.7	18 42	0	21 9	19 2	
TUBINGEN	152.43	346.8	18 43	1			
STRASBOURG	152.64	348.6	18 43	1	21 10	19 33	
EBINGEN	152.79	346.7	18 43	0			
RAVENSBURG	153.02	345.5	18 45	2			
PARIS	153.06	356.3	18 51	8	21 23	19 7	PKP2
LJUBLJANA	153.12	337.2	18 44K	1	21 11	22 13	
FOLINIERE	153.18	0.6	18 44	1			
BASLE	153.69	348.3	18 45	1		19 10	
ATHENS	154.00	313.4	18 53A	9			
BESANCON	154.23	350.5	18 59	14		21 23	
GARCHY	154.54	355.0	18 55	10	21 37	19 12	PKP2
BANGUI	154.87	228.8	18 47	2		19 32	PKP2
ROSELEND	155.63	346.8	18 49	3		19 21	
CLERMONT-FD.	156.04	354.5	18 50	3		19 20	
FLORENCE X.	156.23	339.3	19 1	14		21 29	
ISOLA	157.00	346.8	18 49	1		19 24	*PPKP2
MONACO	157.35	345.8	18 50	1			
BAGNERES	158.88	359.6	18 52	1		19 39	
TOLEDO	161.75	9.8	18 55	1	21 10	23 26	PP
GRANADA	164.46	10.6	19 1A	5		23 49	PP

DECEMBER 10 8.H 39.M 7.S EPICENTRE 34.20 25.59 DEPTH= 56.KM

A= 0.74755 B= 0.35798 C= 0.55948 D= 0.4319 E=-0.9019
G= 0.5046 H= 0.2416 K=-0.8288 HT= 0.4

DEPTH OF FOCUS= 0.004R

SE= 3.82

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	4.06	338.6	0	58	-4						1	55	S*
ISTANBUL UN.	7.34	20.6	1	53	6						3	53	
ISTANBUL KA.	7.39	20.9				3	7	-4					
KSARA	8.55	89.7	1	59	-5	3	23	-17					
MESSINA	9.04	299.1	2	7	-4	3	0	-52					
BELGRADE	11.32	341.1	2	46	4						6	9	
SIMFEROPOL	12.58	28.9	3	4	5								
KISHINEV	13.04	9.9	3	4	-1								
ZAGREB	13.73	330.5									5	27	
LJUBLJANA	14.53	327.8	3	21	-3	6	8	4			3	48	
VIENNA-H.	15.64	336.6	3	39	1								
NIEDZIKA	15.70	347.2	3	36	-3								
RACIBORZ	16.77	343.3	4	4	11								
TIFLIS	16.89	58.0	3	55	1								
MONACO	17.00	309.4	4	4	8								
KASPERSKE H.	17.37	332.8	3	58	-2						7	12	PP
ISOLA	17.45	310.3	4	0	-1								
PRUHONICE	17.74	336.1	4	2	-3						5	7	
ROSELEND	17.77	314.7	4	12	7						7	46	
PRAGUE	17.85	336.0	3	59	-7								
RAVENSBURG	18.10	323.3	4	7	-2						4	34	
EBINGEN	18.69	323.3	4	14	-2						4	59	
STUTTGART	18.95	325.1	4	18	-1						8	0	
BASLE	18.99	319.9	4	20A	0						8	0	
NEUCHATEL	19.01	317.8	4	17	-3								
MAKHACH-KALA	19.20	56.4	4	21	-1	7	58	8					
JENA	19.59	332.8	4	17	-9	7	20	-39					
HEIDELBERG	19.65	325.7	4	25	-2						5	5	
BESANCON	19.70	317.3	4	25	-3								
HALLE	19.92	334.4									4	39	PP
CLERMONT-FD.	20.66	310.7	3	47	-51						6	1	
TEHERAN	21.19	78.5	4	44	1								
GARCHY	21.40	314.4	4	43	-2						5	18	
BENSBERG	21.45	326.9	4	44	-2						6	8	
BAGNERES	21.69	301.6	4	47	-1								
PARIS	22.51	317.4	4	57	1								
ALMERIA	22.97	284.5	5	3	2	9	9	5			5	26	
KARLSKRONA	23.02	345.6	5	9	8						5	30	
MOSCOW	23.09	17.5	4	58	-4								
GRANADA	23.85	285.6	5	39A	30	9	19	1			6	34	PP
TOLEDO	24.26	292.2	5	15	2						5	59	
PULKOVO	25.77	5.5	5	23	-5								
HELSINKI	25.99	359.3	5	29	-1								
UPPSALA	26.19	350.9	5	29	-2	9	56	-1			6	18	
NURMIJARVI	26.33	359.0	5	30	-3								
BANGUI	30.37	193.8	6	10	1						7	25	PP
SKALSTUGAN	30.55	348.3									6	4	PP
SVERDLOVSK	32.82	35.6	6	28	-3								
SODANKYLA	33.22	0.7	6	36	2								
APATITY	33.70	5.4	6	35A	-3								
KIRUNA	33.81	356.5	6	37	-2								
DUZHANBE	34.80	70.0	6	50	2								
NEW DELHI	44.03	82.7	7	57K	-7								
SHILLONG	57.23	79.5	9	42K	-2								
THULE	57.97	343.9	9	54	5								
RESOLUTE	64.69	345.3	10	33	-2								
MOULD BAY	67.62	351.4	10	50	-3								
SHAWINIGAN	71.23	313.8	11	17	2								
COLLEGE	81.12	357.2	12	11	0								
MATUSIRO	85.70	48.2	12	33	-1								
ST. LOUIS 1	86.26	315.1	12	52	15								
ROLLA	87.73	315.4	12	45	1								
MANHATTEN	89.47	318.9	12	55	3								
HUNGRY HORSE	90.25	334.4	12	58	2								
LARAMIE	92.47	325.4	13	8	2								
WICHITA MTS.	93.80	316.9	13	13	1						13	59	
SOUTH POLE	124.02	180.0	18	54	1								

BYRD STATION 132.03 187.7 19 11 3

DECEMBER 11 16.H 53.M 10.S EPICENTRE 36.40 23.37 DEPTH= 69.KM

A= 0.74063 B= 0.31999 C= 0.59082 D= 0.3966 E=-0.9180
G= 0.5424 H= 0.2343 K=-0.8068 HT= -0.4

DEPTH OF FOCUS= 0.006R

SE= 2.88

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ATHENS	1.59	10.1	0 30A	2	0 49	1		
TARANTO	6.29	312.1						1 5 PG
ISTANBUL UN.	6.39	41.8	1 36K	2				2 46
MESSINA	6.48	288.4	1 34A	-1	2 42	-7		1 59
TITOGRAD	6.81	333.4	1 37	-3	2 53	-4		2 4 PG
BELGRADE	8.70	346.1	2 4K	-2	3 44	1		
KSARA	10.57	100.4	2 29	-2	4 14	-15		5 19
ZAGREB	10.93	331.7	2 35	-1				
LJUBLJANA	11.71	328.1	2 43K	-4	4 50	-6		
TRIESTE	11.74	324.8	2 44	-3	4 46	-11		
SIMFEROPOL	11.81	40.4	2 49	1				
FLORENCE X.	11.84	312.2	2 40	-8				4 44
PADOVA	12.50	319.6	3 3	6	5 49	34		5 6
VIENNA-H.	12.92	338.6	3 0	-3				3 4 PP
NIEDZIKA	13.20	351.3	3 12	6				3 54
LWOW	13.42	1.9	3 19	10				6 36
KRAKOW	13.87	350.7	3 16	1				
RACIBORZ	14.18	346.3						3 25 PP
MONACO	14.22	305.9	3 21	1	6 4	8		
KASPERSKE H.	14.59	333.7	3 21	-3	5 59	-6		
ISOLA	14.66	307.0	3 27	2				4 15
CHUR	14.68	319.6	3 29	3	6 2	-5		
ROSELEND	14.94	312.3	3 37	8	6 21	8		
PRUHONICE	15.00	337.5	3 28	-2				6 25
RAVENSBURG	15.25	322.5	3 32	-1				
CHEB	15.82	333.2	3 44	4				4 40
EBINGEN	15.84	322.4	3 40	0				
TUBINGEN	16.04	323.5	3 42	-1				4 13
STUTTGART	16.10	324.5	3 43	-1	6 32	-8		
BASLE	16.14	318.4	3 40	-4	6 28	-13		
NEUCHATEL	16.17	316.0	3 45	0				
COLLMBERG	16.64	336.8	3 50	0	6 50	-2		4 4 PP
KARLSRUHE	16.68	323.7	3 15	-36	6 18	-35		
STRASBOURG	16.71	321.6	3 52	1	7 15	21		7 34
JENA	16.81	333.4	3 54	1	6 55	-1		4 10 PP
HEIDELBERG	16.81	325.2	3 53	0				6 44
BESANCON	16.86	315.4	3 52	-1				4 19
HALLE	17.15	335.2	3 58	1	7 11	7		
TIFLIS	17.46	65.8	4 1A	0				
FELDBERG	17.52	326.7	3 44	-17				
CLERMONT-FD.	17.86	307.8	4 5	-1				4 32
BENSBERG	18.62	326.5	4 16A	1				
BAGNERES	19.03	297.6	4 18	-1				
MUNSTER	19.16	329.2	4 21	0				5 24
WITTEVEEN	20.19	329.6	4 32	0				
KARLSKRONA	20.46	347.5	4 29	-6				
COPENHAGEN	20.67	342.3	4 35	-2				
ALMERIA	20.73	279.0	4 38A	1				
GRANADA	21.59	280.2	4 54A	8				
MOSCOW	21.64	22.2	4 48	2	8 38	1		
KEW	22.61	319.2	4 57	1				
GOTEBORG	22.62	344.0	4 54A	-2				
TEHERAN	22.63	83.3	4 58	2	9 1	6		
UPPSALA	23.76	352.8	5 7A	0	9 15	1		9 35
HELSINKI	23.81	2.0	5 8	0				
PULKOVO	23.82	8.7	5 16	8				
NURMIJARVI	24.14	1.6	5 11	0	9 23	2		8 50 PCP
BERGEN	26.66	339.9	6 5	30				
SKALSTUGAN	28.04	349.5	5 46A	-1	10 27	2		11 54 SS
SODANKYLA	31.07	2.4	6 12A	-2				
KIRUNA	31.52	357.9	6 17A	-1				12 50 SS
APATITY	31.72	7.3	6 18K	-2				
BANGUI	32.16	188.9	6 23	-1	11 27	-3		
SVERDLOVSK	32.17	38.7	6 23	-1	11 27	-3		

SAMARKAND	34.26	71.0	6	42	0						
DUZHANBE	35.82	72.5	6	55	0						
QUETTA	36.72	86.8	7	3	0						
LWIRO	38.78	171.3	7	21K	1						
WARSAK DAM	39.13	78.9	7	21	-2						
LAHORE	42.14	81.2	7	46	-2						
NEW DELHI	45.58	83.8	8	16A	1						
ALERT	53.59	350.6	9	15	-2						
CHATRA	54.30	80.9	9	20A	-2						
SHILLONG	58.63	79.8	9	51	-2						
RESOLUTE	62.10	344.6	10	15	-1						
MOULD BAY	65.17	350.8	10	35	-1						
SHAWINIGAN	68.41	312.4	10	59	2						
BLOOMINGTON	80.87	312.2	12	9K	1					12	29 PCP
FLORISSANT	83.40	313.9	12	23	2						
ROLLA	84.89	314.1	12	31	2					12	52 PCP
MATUSIRO	85.57	47.1	12	32A	0					13	4
LAWRENCE	86.05	316.7	12	54	19					13	21
MANHATTEN	86.62	317.6	12	39K	2	23	9	2		13	4 PCP
HUNGRY HORSE	87.48	333.1	12	43	1						
LEMBANG	89.40	98.9	12	49K	-2						
WICHITA MTS.	90.96	315.7	12	59	1					13	34
EUREKA	95.71	329.5	13	21	1						
CHARTERS TS.	127.85	88.1	19	1	3						
BYRD STATION	133.95	188.4	19	12	2						
NOUMEA	145.11	76.5	19	32A	2						
KARAPIRO	157.80	102.3	20	24	35						

DECEMBER 12 17.H 23.M 2.S EPICENTRE 21.52 145.93 DEPTH= 0.KM

A=-0.77128 B= 0.52166 C= 0.36468 D= 0.5602 E= 0.8283
G=-0.3021 H= 0.2043 K=-0.9311 HT= 4.3

SE= 2.73

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
GUAM	8.09	188.2	2	0	-2	3	40	5				
TUKUBASAN	15.51	342.1	3	42	1	6	24	-11				
MATUSIRO	16.41	337.5	3	53	0	7	2	6				
ZO-SE	24.10	298.4	5	18A	0	9	41	7				
VLADIVOSTOK	24.52	334.7	5	25	3	9	53	12				
MANILA	24.56	258.1	5	24	2	9	24	-17				
Y.-SAKHLINSK	25.57	354.9	5	23	-9							
NANKING	26.34	299.2	5	39A	0							
CHANGCHUN	28.07	327.2	5	57A	2	10	26	-13				
HONG KONG	29.45	277.5	6	10	3	11	0	-1			7	7
PORT MORESBY	30.75	177.6	6	15	-4	11	12	-10				
PEKING	31.32	312.8	6	23	-1	11	17	-14				
SIAN	34.89	299.4	6	56A	1							
PAOTOW	35.82	310.3	7	4A	1							
MAGADAN	38.15	4.0				13	19	3				
CHENGTU	38.55	292.5	7	25A	-1							
LANCHOW	39.32	301.0	7	34	2	13	20	-14				
KUNMING	39.70	283.8	7	34	-1							
ULAN-BATOR	40.85	319.6	7	45	0	14	1	4				
CHARTERS TS.	41.35	179.5	7	49	0							
YAKUTSK	41.99	348.7	7	54A	0							
IRKUTSK	44.31	324.3	8	14A	1							
LEMBANG	46.96	237.4	8	35A	1						9	8
BRISBANE	49.07	171.9	8	51	0	15	48	-8				
SHILLONG	49.45	285.8	8	43	-11							
LHASA	49.78	291.2	8	57A	1							
CHITTAGONG	49.96	281.6	8	51	-7							
TIKSI	51.09	353.1	9	7	1	16	25	1				
CHATRA	53.47	288.1	9	24A	0	16	59	3				
RIVERVIEW	55.26	174.7	9	40	3	17	17	-3			19	31
ADELAIDE	56.59	187.1	9	52K	5							
CANBERRA	56.60	177.0	9	47	0	17	34	-4			10	24
COLLEGE	60.67	26.6	10	14	-1							
DEHRA DUN	60.90	293.5	10	14	-3						18	45
LAHORE	63.84	295.5	10	35	-1							
ANDIJAN	64.06	305.9	10	39	1	19	24	10				
KARAPIRO	65.36	154.5	10	44	-2							
WARSAK DAM	65.71	298.6	10	49	1							
TASHKENT	66.31	306.8	10	52A	0	19	46	5				

CHATEAU	66.46	155.2	10 51	-2			
DUZHANBE	67.13	304.0	10 59	2	19 57	6	
POONA	67.23	281.7	10 57	-1			
BOMBAY	68.06	282.4	11 6	3	20 7	4	
SAMARKAND	68.31	305.4	11 5	0			
SVERDLOVSK	69.72	324.3	11 15	1	20 22	0	
QUETTA	70.33	295.5	11 18A	1	20 40	11	
ALERT	75.31	3.7	11 41	-6			
RESOLUTE	76.65	13.8	11 53	-1			
PENTICTON	76.79	42.1	11 55	0			
SHASTA	77.52	51.1	11 59A	0			
CALISTOGA	78.01	53.2	12 6A	4			
APATITY	78.47	338.8	12 4A	0			
BERKELEY	78.49	53.8	12 3K	-1			
LICK	79.12	54.2	12 8A	0			
LLANADA	79.88	54.7	12 12K	0			
THULE	80.07	7.8	12 4	-9			
HUNGRY HORSE	80.60	41.7	12 16	0			
SODANKYLA	80.80	340.0	12 16	-1			
MOSCOW	82.22	327.2	12 26	2			
KAJAANI	82.29	337.0	12 25	0			
KIRUNA	82.40	341.8	12 25	0			
BUTTE	82.40	43.5	12 29	4			
EUREKA	82.57	50.6	12 26	0			15 35 PP
PASADENA	82.86	56.2	12 31	3			13 46
GORIS	83.63	309.9	12 32	0			
TIFLIS	83.84	312.4	12 34	1			
NURMIJARVI	85.54	334.9	12 41K	0			
HELSINKI	85.62	334.5	12 41	0			
FLAMING GRGE	86.61	47.2	12 46	0			
GLEN CANYON	86.72	51.6	12 47	0			
SKALSTUGAN	87.79	341.1	12 52	0			
UPPSALA	88.65	336.7	12 54	-2			
LARAMIE	89.01	45.6	13 0	2			
WICHITA MTS.	97.08	48.5	13 35	0			
PALISADES	107.62	30.6					34 13 SS
LA PAZ	147.46	87.1	19 49	6			

DECEMBER 12 23.H 6.M 20.S EPICENTRE 43.25 146.58 DEPTH= 62.KM
A=-0.60983 B= 0.40244 C= 0.68275 D= 0.5508 E= 0.8346
G=-0.5699 H= 0.3761 K=-0.7306 HT= -2.9

DEPTH OF FOCUS= 0.005R

SE= 3.15

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
NEMURO	0.73	276.4	0	16K	0	0	25	-4				
KUSIRO	1.62	261.1	0	27K	0	0	45	-3				
ABASHIRI	1.84	295.5	0	32	2	0	53	0				
OBIHIRO	2.50	263.5	0	39	-1	1	8	-1				
HIROO	2.59	249.1	0	41	0	1	8	-4				
URAKAWA	3.01	249.8	0	49A	2	1	17	-5				
ASAHIGAWA	3.11	281.2	0	50	2	1	31	7				
RUMOE	3.67	282.7	0	56	0	1	37	-2				
TOMAKOMAI	3.72	262.1	0	58	1	1	40	0				
SAPPORO	3.83	269.1	0	59K	1	1	41	-2				
MURORAN	4.22	259.2	1	4	0	1	49	-3				
HAKODATE	4.53	253.5	1	8	0	1	56	-4				
MORI	4.58	257.5	1	14	5	2	4	3				
HATINOHE	4.65	235.9	1	7	-3	1	58	-5				
Y.-SAKHLINSK	4.65	325.4	1	20	10						11	56
SUTTSU	4.68	266.6	1	20	10	2	19	15				
AOMORI	4.95	242.6	1	13	-1	2	5	-6				
MIYAKO	4.99	225.4	1	11	-4	2	4	-8				
MORIOKA	5.39	230.7	1	18	-2	2	13	-9				
MIZUSAWA	5.82	226.8	1	25	-1	2	25	-7				
AKITA	6.01	236.2	1	19	-10	2	27	-10				
ISINOMAKI	6.25	221.4	1	29A	-3	2	34	-9				
SENDAI	6.58	222.8	1	33	-4	2	42	-9				
UGLEGORSK	6.62	333.3	1	39	2	2	54	2				
SAKATA	6.70	231.8	1	38	0	2	50	-4				
YAMAGATA	6.88	225.5	1	37A	-4	2	49	-9				
HUKUSIMA	7.20	222.3	1	42	-3	2	57	-9				

NIIGATA	7.82	229.6	2	0	6	3	17	-5			
SHIRAKAWA	7.82	220.6	1	51	-3	3	13	-9			
AIKAWA	8.21	233.3	1	58	-1	3	28	-3			
MITO	8.32	216.4	1	57	-4				2	23	
UTUNOMIYA	8.45	219.8	2	1	-1				2	26	
KAKIOKA	8.57	217.2	2	0	-4	3	27	-13			
TUKUBASAN	8.61	217.5	1	59	-6	3	29	-12			
TYOSI	8.73	212.4	2	3	-3	3	31	-13			
TAKADA	8.85	228.8	2	0	-8	3	39	-8			
MAEBASI	8.95	222.7	2	6A	-3	3	41	-9			
KUMAGAYA	9.00	220.4	2	6	-4	3	44	-7			
HONGO	9.18	217.2				3	44	-10			
NAGANO	9.19	227.2	2	14	1	3	58	2			
TOKYO C.M.O.	9.22	217.2	2	6	-7	3	47	-9			
OIWAKE	9.27	224.5	2	20	6	3	56	-1			
TITIBU	9.28	221.0	2	13	-1	3	49	-9			
MATUSIRO	9.29	226.6	2	11A	-3	3	48	-10			
WAZIMA	9.43	234.8	2	14	-2	3	55	-6	4	10	
YOKOHAMA	9.47	216.8	2	20	4	3	54	-8			
MATUMOTO	9.63	226.3	2	26	7						
TOYAMA	9.72	230.8	2	18	-2	4	3	-5			
KOHU	9.78	222.0	2	18	-3	4	3	-7			
HUNATU	9.82	220.6	2	54	33	4	4	-7			
MERA	9.83	214.4	2	40	19						
AJIRO	10.04	217.8	2	20	-4	4	5	-11			
MISIMA	10.04	218.6	2	29	5	4	2	-14			
TAKAYAMA	10.09	228.5	2	21	-4						
OSIMA	10.15	215.8							5	5	
IIDA	10.26	224.1	2	30	3	4	12	-10			
SHIZUOKA	10.42	220.2	2	3	-26				4	19	
OKHA	10.59	348.1	2	32	0				4	43	
HUKUI	10.74	231.4	2	50	16				4	26	
OMAESAKI	10.81	219.7	2	52	17						
GIHU	10.91	227.3	2	34	-2						
NAGOYA	10.98	225.9	2	43	6	4	48	9			
TSURUGA	11.11	230.4	2	46	7						
HIKONE	11.29	228.5	2	41	0						
HATIDYOZIMA	11.45	210.0							4	34	
KAMEYAMA	11.49	226.5	2	52	8	4	59	8			
KYOTO	11.76	229.3	2	44	-3	4	47	-11			
TOYOOKA	11.92	233.6	2	46	-3	4	53	-9			
NARA	11.96	227.9	1	59	-51						
ABUYAMA	11.96	229.3	2	44A	-6						
OSAKA	12.14	228.7	3	3	11						
TOTTORI	12.31	235.2	3	5	10						
PETROPAVLOVK	12.65	35.2	2	56	-3				4	24	
KOTI	14.07	230.8	3	28	10	5	44	-9			
CHANGCHUN	15.43	279.5	3	39	4	6	31	6			
KLYUCHI	15.96	30.0	3	39	-3						
MAGADAN	16.53	7.6	3	49	0						
YAKUTSK	21.28	337.9							5	9	PP
PEKING	22.89	272.4	4	57A	-2	8	59	-1	5	17	*SP
NANKING	24.57	252.2	5	21	6	9	32	3	5	40	*SP
PAOTOW	27.19	277.0	5	40A	0	10	12	0	5	53	5 59 *SP
ULAN-BATOR	27.94	293.5	5	55	8	10	20	-4			
SIAN	30.50	265.7	6	9A	-1	11	5	0	6	29	*SP
LANCHOW	33.40	272.3	6	34A	-1	11	48	-2	6	48	6 54 *SP
CANTON	34.01	244.5	6	55	15						
HONG KONG	34.02	242.5	6	56	16	12	2	2			
CHENGTU	35.89	263.9	6	55A	-1	12	18	-11	7	9	7 16 *SP
MANILA	35.90	225.3	6	58	2				12	38	
KUNMING	40.01	257.6	7	30A	0	13	31	0	7	46	7 51 *SP
COLLEGE	41.73	35.7	7	46	1						
NHATRANG	44.66	237.6	8	26	18						
LHASA	45.90	271.8	8	19A	1	14	57	0			
SHILLONG	47.60	266.7	8	30	-2						
MOULD BAY	49.43	18.3	8	45	-1						
CHITTAGONG	49.57	263.3	8	45	-2	15	47	-2			
CHATRA	50.30	271.3	8	51A	-1	15	55	-4			
FRUNSE	51.03	295.9	8	58	0	16	10	1			
PORT MORESBY	52.40	179.3	9	9K	1						
SVERDLOVSK	53.22	316.8	9	14	0	16	37	-2			
ALERT	53.66	4.5	9	14	-4						
DEHRA DUN	54.96	280.6	9	43	16				17	2	
TASHKENT	55.24	296.6	9	29	0	17	7	1	11	27	PP
RESOLUTE	55.57	16.5	9	29	-3				10	52	
LAHORE	56.93	284.0	9	39	-2	17	27	-2			
WARSAK DAM	57.53	288.0	9	42	-4	17	35	-2			

MEDAN	57.91	240.9	10	4	16					12	22	
ALBERNI	58.16	50.4	9	50A	0							
THULE	58.55	9.1	9	39	-14							
APATITY	58.66	335.6	9	51K	-2							
VICTORIA	59.34	50.6	9	58A	0							
SODANKYLA	60.76	337.4	10	5	-3							
PENTICTON	61.01	48.3	10	9A	-1							
LEMBANG	61.08	225.5	10	9K	-1					10	36	
CORVALLIS	61.54	54.4	10	14A	1							
KIRUNA	62.09	339.7	10	15K	-2							
BANFF	62.14	44.9	10	17A	0							
KAJAANI	62.73	334.3	10	21A	0							
QUETTA	62.91	286.9	10	21A	-1	18	45	-1				
ARCATA	63.16	58.2	10	25	1							
ASHKABAD	64.15	298.6	10	30	0							
SHASTA	64.31	57.5	10	32A	1							
HUNGRY HORSE	64.59	46.8	10	34	1				10	51		
MOSCOW	64.61	323.7	10	31A	-2							
UKIAH	64.71	59.3	10	34	0							
PULKOVO	64.83	329.9				19	9	0		10	4	
POONA	65.07	272.4	10	34	-2							
CALISTOGA	65.41	59.4	10	39A	1							
SAN FRANCSCO	66.01	60.1	10	44	2							
KARACHI	66.07	282.2	10	42	-1							
BERKELEY	66.07	60.0	10	44A	1							
NURMIJARVI	66.29	332.7	10	42A	-2	19	25	-2		13	59	
HELSINKI	66.43	332.3	10	44	-1							
RENO	66.59	57.2	10	48A	2							
LICK	66.78	60.1	10	48A	1							
BUTTE	66.81	48.1	10	48	1							
SKALSTUGAN	67.52	339.7	10	50	-2							
LLANADA	67.66	60.3	10	55A	2							
BOZEMAN	67.85	47.7	10	59	5				11	14		
EUREKA	68.96	55.3	11	1	0				11	18	13	41 PP
UPPSALA	69.05	335.1	11	0A	-1						13	32 PP
TEHERAN	69.92	300.4	11	8	1							
TIFLIS	70.06	308.8	11	8A	0	20	14	2			11	23 PCP
BRISBANE	70.52	174.2	11	12	2							
GORIS	70.61	306.2	11	12	1	20	21	3			11	34 PCP
PASADENA	70.97	60.9	11	13A	0							
FLAMING GRGE	71.86	50.7	11	19	1				11	37		
BERGEN	71.96	340.9	11	18	-1							
GOTEBORG	72.51	336.4	11	23A	1							
REYKJAVIK	72.58	354.7	11	23A	0							
SIDA	72.62	352.9	11	25K	2							
KARLSKRONA	72.68	333.7	11	22A	-1							
GLEN CANYON	73.21	55.0	11	27	1				11	45		
SIMFEROPOL	73.59	316.8	11	28A	0	20	54	2			11	43 PCP
LARAMIE	73.72	48.3	11	30	1							
COPENHAGEN	74.07	335.0	11	31	0							
LWOW	74.60	325.5	11	34	0	21	4	0			12	5
KRAKOW	76.07	327.8	11	43	0						11	55 PCP
CHORZOW	76.24	328.4	11	42	-2						11	52 PCP
RACIBORZ	76.71	328.7	11	46	0				11	52	12	6 PCP
COLLMBERG	77.57	332.2	11	50	-1						14	44 PP
ALBUQUERQUE	77.63	53.6	11	58	7							
HALLE	77.76	332.9	11	52	0				12	6		
PRUHONICE	78.14	330.7	11	54A	0							
ADELAIDE	78.18	186.6	11	55K	1						12	13 *SP
CANBERRA	78.23	178.0	11	57	2				12	10	12	16 *SP
WITTEVEEN	78.26	336.5	11	56	1							
JENA	78.36	332.8	11	55	0						15	1 PP
DURHAM	78.65	341.8	11	56K	-1							
BRATISLAVA	78.68	328.2	11	58	1						12	14 PCP
MUNSTER	78.73	335.5	11	58	1							
CHEB	78.81	331.9	11	59	1						12	32
VIENNA-H.	78.90	328.7	11	59A	1							
ISTANBUL UN.	79.01	316.9	11	22	-37						12	15
KASPERSKE H.	79.19	330.7	12	0A	0							
BENSBERG	79.75	335.3	12	3A	0	22	0	1	12	18	12	32 *SP
FELDBERG	79.99	334.2	12	16	12							
MANHATTEN	80.01	44.7	12	1A	-3				12	21		
BELGRADE	80.04	324.3	12	4	-1						22	50 PS
DUBUQUE	80.36	39.1	12	7A	1				12	24		
SOFIA	80.44	321.3	12	9	2							
KSARA	80.60	307.9	12	9	1							
HEIDELBERG	80.62	333.6	12	7	-1							
MELBOURNE	80.72	181.3									19	3
LAWRENCE	80.87	44.1	12	8	-1							

STUTTGART	80.98	333.0	12 10A	0							
TUBINGEN	81.26	333.0	12 12	1							
KEW	81.38	339.8	12 12A	0					12 35		
LJUBLJANA	81.43	328.5	12 11A	-1					15 11	PP	
STRASBOURG	81.64	333.8	12 14	1					13 4		
RAVENSBURG	81.73	332.3	12 14	1							
TRIESTE	82.06	328.7	12 15	0							
WICHITA MTS.	82.28	49.0	12 17A	1	22 30	5	12 34		27 55	SS	
BASLE	82.62	333.4	12 18A	0							
NEUCHATEL	83.29	333.5	12 21	0							
BESANCON	83.39	334.2	12 20	-2					13 49		
FAYETTEVILLE	83.60	45.3	12 24	1							
ST. LOUIS 1	83.61	41.3	12 22	-1	23 32	53	12 40		22 33	SKS	
ATHENS	83.97	318.1	12 24K	-1							
SHAWINIGAN	84.02	26.1	12 25A	0							
GARCHY	84.26	336.0	12 26	0					12 49		
ROSELEND	84.39	332.3	12 28	1					12 45		
FLORENCE X.	84.59	329.2	12 26A	-2					12 44		
BREBEUF	84.67	27.1	12 29K	1			12 45				
BLOOMINGTON	84.92	38.6	12 30K	0			12 47				
KARAPIRO	84.97	157.4	12 32	2			12 53				
C. GIRARDEAU	84.99	41.6	12 30A	0							
TARRALEAH	85.17	180.1	12 33	2							
MOORLANDS	85.31	179.5	12 33	1							
CLERMONT-FD.	85.60	335.3	12 33A	0							
ISOLA	85.74	332.1	12 33A	-1					13 7		
MONACO	86.01	331.6	12 36	1							
PENNSYLVANIA	87.22	32.2	12 42	1							
MORGANTOWN	87.39	34.1	12 43K	1			13 0				
HALIFAX	88.46	21.0	12 49K	2							
BAGNERES	88.94	336.1	12 49	0							
CHAPEL HILL	90.92	35.5	12 59	1							
COLUMBIA	91.67	37.9	13 3	1							
TACUBAYA	93.30	59.6							23 7		
BANGUI	113.35	301.1	18 33	2					19 23	PP	
BROKEN HILL	120.18	278.7	18 46	2							
BULAWAYO	123.76	273.5	18 52	1							
MAWSON	126.86	208.4	19 3	6			19 18				
KIMBERLEY	131.66	267.4	19 2	-4							
LA PAZ	140.26	58.7	19 34	12							
ANTOFAGASTA	143.88	69.4	19 30	2							

DECEMBER 14 7.H 10.M 25.S EPICENTRE -3.45 141.05 DEPTH= 44.KM

A=-0.77632 B= 0.62751 C=-0.05973 D= 0.6286 E= 0.7777
G= 0.0465 H=-0.0375 K=-0.9982 HT= 7.1

DEPTH OF FOCUS= 0.002R

SE= 2.44

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT MORESBY	8.47	134.6	2	6A	3	4	5	26					
RABAUL	11.12	94.2	2	39	-1						6	16	
DARWIN	13.46	228.2	3	11	0	5	43	3					
GUAM	17.19	12.2	3	58	-1	7	23	16					
HONIARA	19.69	108.5	4	28	-1								
BRISBANE	26.31	155.9	5	38A	4	10	14	13					
BAGUIO CITY	28.27	314.9	5	52	0	10	30	-3					
PORT VILA	30.26	119.9	6	11	2								
NOUMEA	30.95	129.4	6	15	0								
ADELAIDE	31.44	183.7	6	20	0	11	33	10			7	11	PP
RIVERVIEW	31.66	163.9	6	24A	2	11	37	10			7	33	PP
CANBERRA	32.56	167.9	6	32A	2	11	51	10			7	43	PP
LEMBANG	33.46	262.9	6	36	-1	11	55	0					
DJAKARTA	34.20	264.1	6	43	-1						9	27	
MELBOURNE	34.41	174.5				12	20	11			15	36	
NHATRANG	35.27	296.7	6	55	2								
HONG KONG	36.68	315.5	7	3	-2	12	45	1					
MUNDARING	36.74	216.7	7	6A	1								
PERTH	36.95	217.1	7	9	2	13	2	13			8	27	PP
CANTON	37.77	315.6	7	18K	4	13	5	4					
TARRALEAH	38.98	173.6	7	31	7								
ZO-SE	39.23	332.5	7	26	0	13	22	-1			9	15	PP
TUKUBASAN	39.47	358.8	7	24K	-4	13	18	-9			9	11	PP

FORT NELSON	39.71	172.8	7	33A	3	13	42	12				
MATUSIRO	39.87	356.4	7	29K	-2	13	29	-4			9	45 PCP
NANKING	41.17	330.7	7	43	1	13	48	-4				
MIZUSAWA	42.37	0.1	7	55	3	14	10	0				
MEDAN	42.92	279.0	7	56	0	14	14	-4				
KARAPIRO	46.59	142.0	8	29K	3						10	4
KUNMING	46.78	309.5	8	27A	0	15	11	-2			9	58 PP
VLADIVOSTOK	47.08	350.9	8	33	3							
CHATEAU	47.40	143.3	8	35A	3							
AFIAMALU	47.68	105.6	8	37	3	15	30	4				
SIAN	48.18	323.8	8	38A	0	15	34	1				
WELLINGTON	48.31	145.9	8	40	1							
ROXBURGH	48.62	153.6				15	53	14				
GEBBIES PASS	48.87	149.7	8	45	1							
PEKING	48.92	334.6	8	43	-1	15	44	0				
CHENGTU	48.98	316.5	8	43	-1	15	46	2			10	1 PP
CHANGCHUN	49.15	345.0	8	49K	3	15	49	2				
Y.-SAKHLINSK	50.27	1.5	8	52	-2	16	2	0				
PAOTOW	52.20	330.2	9	12K	3	16	33	4				
LANCHOW	52.47	321.8	9	12	1	16	37	4				
TOCKLAI	53.83	306.8	9	30	9							
CHITTAGONG	54.49	300.5	9	26	0	16	58	-2				
SHILLONG	55.69	304.2	9	32A	-3	17	14	-2				
LHASA	58.06	308.2	9	51A	0	17	51	4				
ULAN-BATOR	59.24	333.9	10	3A	3	18	8	5				
CHATRA	60.07	303.6	10	4A	-1	18	16	3				
BOKARO	60.20	299.9	10	5A	-1	18	18	3				
VISHAKHAPTNM	60.68	292.4	10	14K	4	18	30	9			12	30 PP
MADRAS	62.60	286.5	10	22K	0	18	48	3			10	58 PCP
IRKUTSK	63.61	335.8	10	33K	4	19	4	6				
YAKUTSK	65.86	354.2	10	47	3							
WILKES	66.32	192.9	10	46A	0	19	40	9				
DEHRA DUN	68.79	304.3	11	4	2	20	4	3				
NEW DELHI	68.99	302.3	11	1A	-2	20	3	0				
POONA	69.63	291.1	11	6	-1	20	13	2			20	47 PS
BOMBAY	70.65	291.3	11	10	-3	20	22	-1			13	50 PP
CAPE HALLETT	71.13	170.9	11	18	2	20	41	13				
MIRNY	71.23	198.3	10	58	-19							
LAHORE	72.20	304.5	11	22	-1							
ALMATA	73.88	316.8	11	32	0							
WARSAK DAM	75.10	306.4	11	40	1							
TIKSI	75.36	356.0	11	43K	2	21	17	1				
SCOTT BASE	75.59	174.6	11	45	3	21	31	12			22	12 PS
ANDIJAN	76.30	313.2	11	48	2	21	33	7				
KARACHI	77.00	296.3	11	51	1							
QUETTA	78.06	301.7	11	57A	1	21	50	5				
DUZHANBE	78.40	310.3	11	58A	0	21	52	3				
TASHKENT	78.70	313.1	12	0A	0							
SAMARKAND	80.01	311.1	12	7A	0	22	10	4				
MAWSON	82.32	202.2	12	20A	1						15	36 PP
COLLEGE	85.19	23.9	12	31	-2				12	38	15	39 PP
SVERDLOVSK	87.63	327.1				23	25	3				
BYRD STATION	88.26	170.1	12	50	2						30	34
TEHERAN	91.72	305.5	13	5	1	24	7	8				
TANANARIVE	92.20	251.0	13	10	3							
GORIS	95.82	309.2	13	22	-1							
TIFLIS	96.95	311.4	13	28	0							
SHASTA	97.21	49.6	13	35	6							
PARAISO	97.33	54.0	13	42A	12							
BERKELEY	97.38	52.4	13	27	-3							
MINERAL	97.82	49.9	13	33K	1							
LICK	97.89	52.9	13	37A	4							
LLANADA	98.47	53.7	13	29A	-6							
PENTICTON	98.69	40.8	13	37	1						17	29
RENO	99.23	50.7	13	35	-4							
MOSCOW	100.39	326.0	13	49	5							
PASADENA	100.85	56.0	13	55	9	24	28	8			17	49 PP
RESOLUTE	101.90	13.0	13	50	-1						34	53
EUREKA	102.20	50.5	13	54	2	24	39	13	14	0	18	20 PP
SODANKYLA	102.40	338.9	13	55	2							
KIRUNA	104.37	340.3				24	45	9				
FLAMING GRGE	106.99	48.3	14	20	777							
TUCSON	107.14	57.4	18	26	777							
TUCSON TELE.	107.23	57.3	18	23	777							
LARAMIE	109.73	47.3	19	1	777							
LWOW	109.83	322.2	19	9	777						32	54
ALBUQUERQUE	110.35	54.0	18	32	5						14	35
LWIRO	112.05	266.2									19	18 PP

VIENNA-H.	115.09	322.6	18	41	4					19	37 PP
COLLMBERG	115.64	326.7	18	41	3					33	42
KASPERSKE H.	116.36	324.4								19	57 PP
JENA	116.60	326.9	18	52	12						
WICHITA MTS.	116.71	52.7	18	43	3	25	35	8	18 57	19	53 PP
MANHATTEN	116.93	47.4	18	46	6	25	35	7			
TRIESTE	117.83	320.9								19	57 PP
LAWRENCE	117.98	47.3	18	45	3						
STUTTGART	118.99	325.7	18	48	4					20	15 PP
MESSINA	119.57	312.5								20	17
FAYETTEVILLE	119.74	50.0	18	48	2						
DUBUQUE	119.83	42.0	18	51	5	25	40	2			
FLORENCE X.	120.27	319.9	18	59	12						
ROME	120.29	317.5								30	35
ROLLA	120.82	47.3	18	52	4	25	47	6		30	11 PS
FLORISSANT	121.58	45.8	18	53	4	25	57	13		30	19 PS
LITTLE ROCK	121.59	50.9	18	52	3						
ROSELEND	121.67	323.1								20	20
ST. LOUIS 1	121.74	45.9								20	25 PP
BANGUI	122.57	273.0	18	55	4					20	45 *PPP
GARCHY	123.27	327.0	18	56	4						
BLOOMINGTON	124.14	43.9	18	57	3	25	52	0		35	40
SHAWINIGAN	127.99	29.2	19	12	10						
BREBEUF	128.31	30.7	19	6	4						
COLUMBIA	130.45	47.0	19	15	9						
GEORGETOWN	130.55	39.3	19	6	-1						
PALISADES	131.16	35.2								22	35 PKS
ALMERIA	132.80	319.5	19	13K	2					21	39 PP
GRANADA	133.33	320.6	19	20K	8					22	9 PP
AREQUIPA	142.24	122.5	19	28	0						
CHINCHINA	143.40	86.3	19	31K	1					23	20 PKS
BOGOTA	144.95	86.9	19	35	2					29	20 SKKS
LA PAZ	145.01	125.3	19	39A	6					23	23 PKS
SAN JUAN	149.55	58.8	19	45	5					20	58
CARACAS	151.37	74.4	19	51	8					42	57 SS
ST. KITTS	152.89	57.7								19	56 PKP2
ANTIGUA	153.74	57.2								19	58 PKP2
MBOUR	155.75	298.0	19	57	8					43	21 SS
TRINIDAD	156.61	71.0	19	55	5						

DECEMBER 17 21.H 32.M 2.S EPICENTRE -14.34 -75.49 DEPTH= 69.KM

A= 0.24282 B=-0.93833 C=-0.24610 D=-0.9681 E=-0.2505
G=-0.0617 H= 0.2382 K=-0.9692 HT= 5.9

DEPTH OF FOCUS= 0.006R

SE= 1.36

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LA PAZ	7.42	107.8	1	50A	2	3	19	8					
ANTOFAGASTA	10.47	153.5	2	26	-3	4	43	17					
BOGOTA	18.89	4.4	4	20	3	7	50	8			8	5	*SS
CHINCHINA	19.18	359.6	4	22K	2	7	59	11	4	37	8	34	SS
FUQUENE	19.76	5.2	4	25	-2								
GALERAZAMBA	24.96	0.5	5	36	18						10	40	SS
CARACAS	26.10	19.4	5	29A	0	10	16	23					
TRINIDAD	28.49	30.1	6	10	19								
GRENADA	29.55	28.2	5	59	-1								
SAN JUAN	33.80	16.1	6	37	0						9	10	PCP
COLUMBIA	48.36	353.8	8	36	0								
CHAPEL HILL	50.10	356.2									8	50	
LITTLE ROCK	51.41	342.2	8	59K	-1								
GEORGETOWN	52.98	358.5	9	11	-1								
C. GIRARDEAU	53.05	346.0	9	10K	-2								
FAYETTEVILLE	53.18	341.1	9	13A	0								
WICHITA MTS.	53.50	336.3	9	14	-1	16	45	4			11	19	PP
ROLLA	54.20	344.0	9	20K	0				9	36			
BLOOMINGTON	54.23	349.5	9	18K	-3				9	24			
ST. LOUIS 1	54.48	345.8	9	20	-2								
FLORISSANT	54.66	345.8	9	22K	-2								
PALISADES	55.08	1.5	9	27	0	17	10	8			21	54	SS
LAWRENCE	56.16	341.5	9	33	-2								
MANHATTEN	56.79	340.5	9	38	-1				9	42			
ALBUQUERQUE	57.16	329.8	9	41	-1								

TUCSON	57.37	324.4	9 44	1							
DUBUQUE	58.27	346.8	9 48A	-2			10 14				
BREBEUF	59.58	1.5	9 59A	0					12 13	PP	
SHAWINIGAN	60.65	2.2	10 6	0							
GLEN CANYON	61.32	327.5	10 12	2							
PASADENA	63.04	320.9	10 23	1					11 47		
FLAMING GRGE	63.32	331.8	10 24	0			10 44				
RAPID CITY	63.40	338.0	10 23	-1							
EUREKA	65.50	326.5	10 39	1					11 9	PCP	
PRIEST	65.88	321.0	10 42A	2							
LLANADA	66.37	321.3	10 45K	2							
LICK	67.26	321.4	10 51A	2							
RENO	67.65	324.3	10 52A	1							
BOZEMAN	67.83	333.9	10 53	0							
BERKELEY	67.98	321.5	10 55A	1							
BYRD STATION	68.66	187.5	10 58	0							
CALISTOGA	68.67	322.0	10 59A	1							
BUTTE	68.76	333.2	10 58	0							
MINERAL	69.22	323.9	11 0A	-1							
HUNGRY HORSE	71.19	334.0	11 14	1							
PENTICTON	74.39	331.8	11 33A	1							
LISBON	81.32	46.5	12 12K	2							
SCOTT BASE	81.67	190.9	12 12	0							
SERRA PILAR	82.76	44.5	12 16A	-2			12 23				
RESOLUTE	89.67	354.9	12 51	0							
THULE	90.68	1.7	12 57	1							
KIMBERLEY	91.95	120.2	13 3K	1							
GARCHY	92.83	41.9	13 6	0							
MAWSON	92.89	165.2	13 7	1			13 28				
COLLEGE	95.56	335.9	13 18	0					17 7	PP	
STUTTGART	97.24	41.6	13 27	1							
KASPERSKE H.	100.09	41.8	13 38	-1					14 2		
COLLMBERG	100.11	39.6	13 40	1							
CHARTERS TS.	126.56	231.2	18 58	3					19 21		
QUETTA	142.04	59.1	19 22	-2							
MATUSIRO	142.68	312.5	19 23	-2							
ULAN-BATOR	146.46	357.1	19 35	3							
CHATRA	159.59	49.8	19 53	3					20 30		
SHILLONG	163.71	44.8	19 57	3							
CHITTAGONG	165.56	54.6	19 59	3							

DECEMBER 17 22.H 12.M 26.S EPICENTRE -54.51 143.79 DEPTH= 0.KM

A=-0.47051 B= 0.34449 C=-0.81237 D= 0.5907 E= 0.8069
G= 0.6555 H=-0.4799 K=-0.5831 HT= -7.0

SE= 2.83

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MACQUARIE I.	8.82	96.1	2 9	-3				
FORT NELSON	11.82	12.9	2 55A	2				
MOORLANDS	12.29	11.9	3 2	2				3 12 PP
TARRALEAH	12.35	9.3	3 2A	2				
CANBERRA	19.53	12.8	4 31K	-1	8 4	-3	4 41	4 44 *SP
ADELAIDE	19.86	347.7	4 35	-1				8 36
WILKES	19.94	220.5	4 35A	-2	8 22	6		4 56 PP
CAPE HALLETT	21.07	157.8	4 48	-1	8 19	-20		
RIVERVIEW	21.32	17.1	4 51K	0	8 53	9		9 32
KAIMATA	21.72	67.9	5 2	7				
WELLINGTON	24.39	69.9	5 21	0				
SCOTT BASE	24.81	168.6	5 26A	1	9 42	-4		6 9 PP
CHATEAU	26.28	67.5	5 37	-2				
MIRNY	26.87	223.3	5 46	1	10 29	9		
BRISBANE	27.89	17.3	5 53	-1	10 35	-2		
MUNDARING	29.85	307.8	6 10K	-2				
PERTH	30.04	307.2			11 22	11		13 38
CHARTERS TS.	34.41	4.1	6 49	-3	12 15	-5		
NOUMEA	36.41	37.0	7 12	4				
KOUMAC	37.30	32.8	7 15K	-1				
BYRD STATION	37.99	163.7						15 17
MAWSON	38.22	217.7	7 24	0			7 36	
PORT MORESBY	45.07	4.7	8 21K	1	15 4	5		9 28 PCP
AFIAMALU	53.24	58.0	9 13	-10				
LEMBANG	55.71	314.8	9 37A	-4	17 16	-11		
TANANARIVE	78.36	253.9	12 4	0				20 10

HONG KONG	80.62	332.4	12	17	1	22	27	4		27	24	SS
KIMBERLEY	81.93	230.9	12	25	2							
BULAWAYO	87.42	238.3	12	53	2							
TUKUBASAN	90.42	357.0				23	42	-17				
WINDHOEK	90.69	227.8	12	40	-26							
MATUSIRO	90.81	355.5	13	6K	-1	24	10	8		30	16	SS
SHILLONG	91.37	314.7	13	9	0							
BROKEN HILL	92.30	241.2	13	18	4							
CHATRA	94.47	311.5	13	22	-2							
EUREKA	126.49	71.3	19	5	-1							
COLLEGE	130.01	31.2	19	10	-2							
WICHITA MTS.	133.10	88.4	19	18	0	26	22	-6		27	18	PCPPKP
FAYETTEVILLE	136.62	90.6	19	14	-11							
LITTLE ROCK	136.78	93.5	19	26	1							
MANHATTEN	137.34	85.3	20	10K	44							
BLOOMINGTON	143.21	93.5	19	32	-5							
MOULD BAY	143.65	23.7	19	33	-4							
KRAKOW	146.15	286.0	19	43	1					27	46	
CHORZOW	146.79	285.9	19	45	2					20	7	
RACIBORZ	147.14	285.1	19	33	-10					19	47	
LJUBLJANA	147.14	276.4	19	51	8							
KAJAANI	147.39	312.9	19	48	4							
HELSINKI	147.58	305.2	19	46	2							
FLORENCE X.	147.74	270.5	19	54	10							
NURMIJARVI	147.82	305.7	19	45	1							
SODANKYLA	148.44	318.9	19	52	7							
GEORGETOWN	148.45	102.7	19	48	3							
PRUHONICE	149.15	282.8	19	51K	4							
KASPERSKE H.	149.30	280.7	19	50K	3							
RESOLUTE	149.74	26.8	19	50	3							
COLLMBERG	150.63	284.2	19	53	4					21	4	
KIRUNA	150.84	319.4	19	46	-3							
ALERT	150.95	6.9	19	54	5							
UPPSALA	151.04	302.7	20	3K	14							
JENA	151.28	282.8	19	55	5					20	54	
HALLE	151.31	284.0	19	56	6					27	57	PKKP
ROSELEND	151.54	269.8	19	57	7							
STUTTGART	151.60	277.3	19	56	6							
PALISADES	151.67	102.8								43	4	SS
STRASBOURG	152.38	275.9	20	4	13							
BREBEUF	154.59	95.3	20	6	12							
THULE	154.97	17.3	20	2	7							
SHAWINIGAN	155.66	93.9	20	0	4							

DECEMBER 20 13.H 25.M 33.S EPICENTRE 4.65 -75.52 DEPTH= 160.KM

A= 0.24920 B=-0.96510 C= 0.08057 D=-0.9682 E=-0.2500
G= 0.0201 H=-0.0780 K=-0.9967 HT= 7.0

DEPTH OF FOCUS= 0.020R

SE= 2.29

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
CHINCHINA	0.33	342.8	0	24K	1								
BOGOTA	1.45	91.2	0	31	0	0	55	1					
FUQUENE	1.96	65.5	0	36	0								
GALERAZAMBA	6.09	2.3	1	28	-1	2	36	-2					
CARACAS	10.31	55.2	2	24A	-1	4	10	-8					
HOPE	13.32	354.9	3	7	3	5	29	0					
TRINIDAD	15.21	66.1	3	28K	0								
GRENADA	15.49	60.8	3	26K	-5						6	28	
SAN SALVADOR	16.20	304.5	3	40	0	6	52	18					
ST. VINCENT	16.42	58.0	3	42	-1	6	32	-7					
SAN JUAN	16.45	33.2	3	43K	0	6	46	6			4	27	
DOMINICA	17.46	51.7	3	57	2	7	20	18					
ST. KITTS	17.78	43.8	3	58	-1								
BARBADOS	17.83	60.8	4	0	0								
COMITAN	19.97	306.5	4	30	8	8	7	15	4	55	8	29	PCP
MERIDA	21.21	321.0	4	36	2	8	21	6			5	21	*SP
LA PAZ	22.25	161.0	4	43A	-2	8	31	-3					
OAXACA	24.18	302.2	5	3	0	9	15	8			5	58	*SP
PUEBLA	26.34	304.7	5	30	7						7	38	
TACUBAYA	27.35	304.4	5	33K	1	9	59	0	6	10	6	25	PP
MANZANILLO	31.54	299.4	6	11	1						12	23	*SS

GEORGETOWN	34.12	357.8	6	32	0						
DALLAS	34.37	327.3	6	32	-2						
C. GIRARDEAU	34.95	340.3	6	37A	-2	12	33	35		7	31 PP
FAYETTEVILLE	35.70	333.6	6	44	-1						
BLOOMINGTON	35.79	345.3	6	46	0	13	4	53		7	38 PP
PENNSYLVANIA	36.05	357.0	6	48	0	12	17	2	7 45	13	20 *SS
FORDHAM	36.07	2.1	6	50	2	12	17	2			
PALISADES	36.23	2.1	6	51K	1	12	21	4	7 24	7	43 PP
ROLLA	36.31	337.9	6	49K	-1	12	17	-2		7	43 PP
ST. LOUIS 1	36.38	340.4	6	50K	-1				7 31		
FLORISSANT	36.57	340.4	6	51K	-1					13	40
WICHITA MTS.	36.77	327.4	6	53K	-1	12	27	2	7 37	8	37 PP
CLEVELAND	37.06	352.5	6	57	0	12	55	25			
SANTIAGO	38.15	173.4	7	5	-1	12	23	-23			
MANHATTEN	39.33	333.9	7	13K	-2	13	5	1		8	6 PP
DUBUQUE	40.04	342.5	7	21	0	13	14	-1		8	20 PP
BREBEUF	40.72	2.1	7	28K	1	13	29	4			
HALIFAX	41.16	13.0	7	31K	1						
ALBUQUERQUE	41.56	320.5	7	54	20						
SHAWINIGAN	41.80	2.8	7	37K	1						
TUCSON TELE.	42.91	314.2	7	46	1						
TUCSON	42.94	314.0	7	46K	1					9	38 PCP
LARAMIE	45.34	328.0	7	35	-29						
GLEN CANYON	46.09	319.1	9	24	74					18	3 *SS
RAPID CITY	46.21	332.4	8	9	-2					15	47 *SS
FLAMING GRGE	47.18	324.9	9	18	59				9 56	14	27 PCS
BOULDER CITY	47.73	316.0	8	22K	-1						
SALT LAKE C.	48.52	323.1	8	28	-1						
PASADENA	49.23	312.1	8	34K	0	15	35	9	9 6	10	36 PP
EUREKA	50.35	319.3	9	0K	17	16	8	26	9 38	17	56 SCS
BOZEMAN	51.23	328.5	8	48K	-1					10	16 PCP
FRESNO	51.61	314.3	9	13K	21						
PRIEST	51.94	313.2	8	55K	0					13	47 SCP
BUTTE	52.26	327.9	8	56K	-1					17	17 *SS
LLANADA	52.36	313.6	8	57A	-1					13	49 SCP
VINEYARD TE.	52.74	313.6	9	1K	0						
RENO	52.93	317.4	9	2	0						
LICK	53.18	314.1	9	4K	0				9 46	13	53 SCP
PARAISO	53.27	312.7	8	58K	-7					13	50 SCP
STA. CRUZ C.	53.29	313.6	9	5K	0						
CONCORD	53.76	314.7	9	9A	1					13	55 SCP
BERKELEY	53.85	314.5	9	9K	0	16	1	-28	9 49	10	59 PP
SAN FRANCSCO	53.94	314.3	9	9K	-1						
CALISTOGA	54.42	315.2	9	13K	0					13	57 SCP
HUNGRY HORSE	54.53	329.3	9	12K	-2					9	31
UKIAH	55.08	315.4	9	16K	-2						
SHASTA	55.22	317.5	9	16K	-3						
ARCATA	56.44	317.0	9	27K	-1						
BANFF	57.10	331.2	9	30K	-2						
CORVALLIS	57.65	321.2	9	24K	-12	17	14	-6			
PENTICTON	58.04	327.5	9	38K	-1						
MBOUR	58.41	76.1	9	41	0	17	28	-2			
VICTORIA	59.70	325.2	9	49K	-1						
ALBERNI	60.88	325.4	9	58K	0						
LISBON	68.73	50.3	10	49K	0	19	41	4	11 28	24	15 SS
COIMBRA	69.58	48.8	10	55K	1	19	49	2	11 34	13	35 PP
SERRA PILAR	69.64	47.8	10	53A	-1	19	50	2	11 34	13	35 PP
ARGENTINE I.	70.22	175.0	10	55	-3						
REYKJAVIK	70.62	22.0	11	0K	0	20	11	12	11 40		
RESOLUTE	70.87	354.6	11	0	-2						
GRANADA	72.81	52.6	11	12A	-1	20	25	1	11 24	13	52 PP
TOLEDO	72.83	49.8	11	14K	1	20	30	5	11 57	13	58 PP
ALMERIA	73.67	53.1	11	21A	3	20	38	4	12 4	21	21 PS
ALICANTE	75.40	51.7	11	27	-1	20	54	1		14	16 PP
MOULD BAY	75.49	350.1	11	27K	-2						
JERSEY	75.68	40.5	11	32	2	20	54	-2			
LOME	76.36	84.9	11	35	2	21	7	3			
BAGNERES	76.37	46.9	11	35	2	20	45	-19	12 13	11	43 PCP
TORTOSA	76.40	49.3	11	36	2	21	6	2			
FOLINIERE	76.67	41.1	11	36	1						
DURHAM	76.97	34.9	11	37A	0	21	12	2	12 35	21	42 SKS
ABERDEEN	77.15	32.4	11	50A	12	21	44	32		22	25 PS
KEW	77.17	38.3	11	37K	-1	21	12	0	12 17	21	38 SCS
ALERT	78.01	1.8	11	41K	-2						
COLLEGE	78.33	335.5	11	43K	-1	21	21	-4		22	29 *SS
PARIS	78.62	41.3	11	40	-6	21	30	2	12 25	22	23 SP
CLERMONT-FD.	78.76	44.4	11	46K	-1	21	33	4			
HAWAII V.OB.	78.81	288.8	11	47	0					12	33
GARCHY	78.86	42.9	11	47	0	21	31	1	12 30	12	48 *SP

DE BILT	80.63	38.1	12	0	3	21	52	3	12	42	22	54	*SS
BESANCON	80.83	43.0	11	58	0								
KIPAPA	81.34	290.9	12	1K	1								
HONOLULU	81.42	290.7	12	1K	0				12	41	22	59	*SS
ISOLA	81.45	46.2	12	1	0	22	3	6					
NEUCHATEL	81.48	43.3	12	1	0						22	0	
WITTEVEEN	81.59	37.4	12	3	1				12	45			
MONACO	81.71	46.6	12	4	2	22	8	8					
BENSBERG	81.80	39.3	12	3K	0	22	4	3	12	45	15	7	PP
ROSELEND	81.90	44.9	12	1	-2	22	0	-2	12	40	13	30	
BASLE	81.93	42.8	12	4K	1	22	5	3	12	49			
STRASBOURG	82.09	41.7	12	5K	1	22	7	3	12	44	15	51	*SPP
MUNSTER	82.13	38.3	12	5	1								
KARLSRUHE	82.53	41.3	12	8	2	22	11	3					
FELDBERG	82.59	40.1	12	2	-5	22	13	4					
HEIDELBERG	82.74	40.9	12	9	1	22	13	3					
EBINGEN	82.88	42.2	12	8	0	22	19	7					
TUBINGEN	82.96	41.8	12	9	0						12	50	
PAVIA	82.98	45.2				22	3	-10	12	53	14	43	
STUTTGART	83.10	41.6	12	9	0	22	15	1	12	48	12	16	PCP
CHUR	83.25	43.5	12	10	0				12	50	23	18	*SS
RAVENSBURG	83.31	42.6	12	11	1	22	19	3					
FLORENCE X.	84.48	46.6	12	7	-9	22	34	7					
JENA	84.59	39.4	12	17	0	22	27	-2	13	3	15	36	PP
GOTEBORG	84.76	32.6	12	16K	-2				12	59	13	25	*SP
HALLE	84.82	38.8	12	19	1	22	34	3					
SKALSTUGAN	84.88	26.7	12	19K	1						12	49	
PADOVA	84.89	45.0	12	20	2	22	34	3	13	2	15	34	PP
COPENHAGEN	85.04	34.6	12	19	0	22	39	6	13	4	15	27	PP
CHEB	85.12	40.3				22	38	4	13	8	15	53	PP
ROME	85.44	48.5	12	21K	0	22	43	6	13	3	15	55	PP
COLLMBERG	85.48	39.0	12	22K	1	22	39	2	13	4	15	38	PP
KASPERSKE H.	85.93	41.2	12	24K	1				13	6			
TRIESTE	86.20	44.7	12	13	-12	22	34	-10	12	55	16	12	*PPP
PRAGUE	86.44	40.2	12	28	2	22	50	4	13	10	15	53	PP
PRUHONICE	86.52	40.3	12	27K	1	22	54	7	13	8	15	51	PP
LJUBLJANA	86.71	44.2	12	28K	1	23	2	13	13	12	15	48	PP
KARLSKRONA	86.79	34.1	12	25K	-3								
TROMSOE	87.23	20.5	12	30	0								
BYRD STATION	87.38	187.0	12	31	1						13	13	
UPPSALA	87.60	30.3	12	31K	0	22	58	1	13	12	17	1	*PPP
ZAGREB	87.75	44.4	12	35A	3	22	44	-15					
VIENNA-H.	87.83	42.0	12	33K	0	22	52	-7	13	15	16	24	*PPP
KIRUNA	87.98	22.2	12	33K	0	23	4	3	13	15	24	3	SP
MESSINA	88.00	52.0	12	34	1	23	2	1	13	14	24	29	PS
BRATISLAVA	88.32	42.0	12	27	-8	23	5	1	13	17			
RACIBORZ	88.86	40.0	12	40	3				13	22	14	4	
HURBANOVO	89.08	42.2	12	43	5	23	9	-2	13	33			
TARANTO	89.12	49.6				22	44	-27					
LUANDA	89.48	98.9	12	43A	3				13	24	24	24	*SS
KRAKOW	89.97	39.9	12	44	1	23	25	6	13	28	24	35	*SS
WARSAW	90.36	37.7	12	44	0	23	21	-2	13	27	16	21	PP
SODANKYLA	90.40	22.2	12	43K	-2	23	27	4	13	27	16	26	PP
TITOGRAD	90.42	47.5	13	1	16	23	48	25			16	23	PP
NURMIJARVI	90.98	29.1	12	47K	0	23	31	3	13	29	16	29	PP
BELGRADE	90.99	45.1	12	48K	1	23	37	9			17	5	
HELSINKI	91.20	29.5	12	49	1				13	31	16	27	PP
TIMISOARA	91.40	44.1	12	52	3						23	33	SKKS
KAJAANI	91.60	25.3	12	49	-1	23	42	8	13	36			
LWOW	92.62	39.7	12	57	2	23	49	7			30	3	SS
APATITY	92.86	21.3	12	55	-1				13	41			
SOFIA	93.36	46.9	13	2	4	23	54	5					
PULKOVO	93.91	29.2	12	59	-2	23	12	-42	13	42			
WINDHOEK	94.18	112.2	13	1A	-1								
HERMANUS	96.52	124.0				23	31	-2			17	10	PP
AFIAMALU	97.17	256.6	13	22	6						26	33	SP
MOSCOW	98.93	31.8	13	25	1	24	39	54	14	7	25	50	*SS
SCOTT BASE	100.19	191.0	13	33	4	23	53	2			17	33	PP
SIMFEROPOL	100.44	42.8				23	51	-2			17	52	PP
KIMBERLEY	101.25	118.3	13	36	2								
CAPE HALLETT	101.65	196.5	13	36A	0	24	3	5	14	21	17	47	PP
GRAHAMSTOWN	102.64	123.0									18	5	PP
PRETORIA	104.34	115.3									15	31	
LWIRO	104.45	91.1	13	51	3	25	33	82					
BROKEN HILL	104.68	103.6	13	50	1						17	54	PP
BULAWAYO	104.85	109.5	13	52	2						18	10	PP
KSARA	104.96	53.4	13	57	7	25	6	52			18	5	PP
CHATEAU	107.58	230.4									29	28	PKKP

KARAPIRO	107.77	231.8								29 26	PKKP
SVERDLOVSK	109.14	23.8								18 45	PP
ROXBURGH	110.82	222.9								29 21	PS
GORIS	110.85	44.7	18 5	-9						18 49	PP
MAWSON	111.11	164.2	18 11	-4						18 55	PP
TEHERAN	116.11	46.4	18 28	4							
WILKES	118.28	182.8			25 7	0				20 14	PP
Y.-SAKHLINSK	118.48	331.2	18 28	-1						19 50	PP
ASHKABAD	119.79	41.0	18 32	1				19 21		19 45	*SPKP
TANANARIVE	122.74	109.4	19 30	53						20 21	PP
IRKUTSK	123.30	0.1	18 30	-8						20 16	PP
TASHKENT	124.09	31.6	18 40	0				19 30		20 31	PP
FORT NELSON	126.24	218.3	18 45A	1							
VLADIVOSTOK	126.37	335.2	18 44	0						20 42	PP
MOORLANDS	126.61	218.7	18 46A	1						21 48	
TARRALEAH	127.14	218.5	18 47K	1							
TUKUBASAN	127.43	323.6	18 47	1						20 51	PP
CHANGCHUN	128.22	340.9	18 48	0						20 50	PP
MATUSIRO	128.30	325.3	18 48K	0						20 47	PP
BRISBANE	128.79	238.4	18 46	-3						21 37	PP
CANBERRA	128.87	227.4	18 50K	1				19 37		38 7	SS
QUETTA	130.10	43.6	18 41	-10						21 58	
ABUYAMA	130.99	325.8	18 54A	1							
RABAUL	132.46	268.6	18 50	-6						19 45	
LAHORE	133.94	36.5	18 45	-14							
PEKING	134.25	347.5	18 59	0				19 45		21 22	PP
PAOTOW	134.70	354.0	19 1	1				19 48		21 29	PP
GUAM	136.17	294.8	19 3A	0				19 50		22 19	PP
ADELAIDE	136.28	222.0	19 4K	1						21 49	PP
CHARTERS TS.	136.56	245.6	18 52	-11						26 3	
DEHRA DUN	137.00	34.4								19 57	
PORT MORESBY	137.41	261.2	18 58	-7						22 25	PP
NEW DELHI	137.80	36.9	19 4	-2						30 50	PS
LANCHOW	139.51	0.8	19 1	-8							
BOMBAY	141.02	52.2	19 11	-1						23 13	
ZO-SE	141.04	336.9	19 4	-8				19 44			
NANKING	141.04	340.5	19 4	-8				19 46		21 58	PP
SIAN	141.08	354.1	19 7	-5				19 47		22 3	PP
POONA	142.03	51.8	19 8	-6						22 36	
LHASA	143.55	19.9	19 15	-1				19 55		22 34	PP
CHATRA	144.51	27.2	19 17K	-1						19 58	
CHENGTU	144.89	0.7	19 18K	0				19 59		22 40	PP
HYDERABAD	146.21	48.9	19 29	8						20 5	
BOKARO	146.34	31.9	19 25	4							
TOCKLAI	147.40	16.3	19 32	9							
SHILLONG	147.56	21.6	19 23K	0						20 11	
CALCUTTA	148.73	29.6	19 44	19						20 22	
KODAIKANAL	149.31	61.1								20 28	
VISHAKHAPTNM	149.49	42.7								20 30	
MADRAS	150.17	53.7	19 34	7						23 32	
KUNMING	150.36	3.2	19 29	2				20 18		23 10	PP
MUNDARING	150.68	200.7	19 29K	1							
PERTH	150.83	200.1	19 34	6						22 20	
CANTON	151.10	342.9	19 30	2				20 18		23 12	PP
HONG KONG	151.58	340.9	19 31	2				20 20		23 11	PP
MANILA	154.71	319.7	19 50	17							
PORT BLAIR	160.01	35.7	19 39	-1							
NHATRANG	162.59	344.4	19 45	3							

DECEMBER 22 22.H 46.M 24.S EPICENTRE 18.58 145.72 DEPTH= 145.KM
A=-0.78380 B= 0.53419 C= 0.31670 D= 0.5632 E= 0.8263
G=-0.2617 H= 0.1784 K=-0.9485 HT= 5.0

DEPTH OF FOCUS= 0.018R

SE= 2.22

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
GUAM	5.18	190.7	1	17	0	2	18	2				
TUKUBASAN	18.26	345.4	4	3	-2	7	26	5				
MATUSIRO	19.08	341.2	4	12A	-2						7	36
RABAUL	23.51	163.7	4	59	1							
ZO-SE	25.46	304.0	5	19	3	9	36	6				
VLADIVOSTOK	27.11	337.4	5	32	0							

NANKING	27.72	304.2	5 40	3	10 11	4			6 10		
PORT MORESBY	27.84	177.0	5 38A	0	10 7	-2					
HONG KONG	29.77	282.6			10 46	6					
DARWIN	34.09	206.6	6 33	0							
NHATRANG	35.72	265.1	6 48	1							
PETROPAVLOVK	35.82	13.4	6 48	0							
CHARTERS TS.	38.43	179.2	7 10	1							
CHENGTU	39.57	295.8	7 19	0	13 9	-1					
KUNMING	40.30	287.1	7 27	2	13 23	2					
LANCHOW	40.73	304.0	7 28	0							
YAKUTSK	44.82	349.4	8 1	0							
LEMBANG	45.27	239.6	8 5A	0							
BRISBANE	46.21	171.3	8 13	1	14 44	-3					
SHILLONG	50.11	288.1	8 42A	-1							
LHASA	50.71	293.4	8 51	4							
KIPAPA	52.71	76.9	9 3	1							
ADELAIDE	53.67	187.1	9 11K	2							
CANBERRA	53.69	176.7	9 9A	0				9 45			
CHATRA	54.24	290.0	9 14	1							
HAWAII V.OB.	55.55	78.8	9 24	1							
MELBOURNE	56.11	180.7	9 24	-3							
MUNDARING	57.68	209.7	9 37A	-1							
FORT NELSON	61.22	178.6	10 1	-1				10 38			
KARAPIRO	62.81	153.8	10 12	-1				10 50			
NEW DELHI	62.86	293.1	10 8K	-5							
COLLEGE	63.37	26.0	10 16	0				10 55			
CHATEAU	63.89	154.5	10 19	-1				10 56			
COBB RIVER	64.43	157.6	10 25	2							
WELLINGTON	65.36	156.3	10 27	-2				11 0			
GEBBIES PASS	66.71	159.0	10 37	-1							
TASHKENT	67.93	307.8	11 25	40							
KHEYS	71.41	350.0	11 6	-1							
QUETTA	71.44	296.4	11 4	-3							
MOULD BAY	73.27	14.4	11 16	-1							
ALERT	78.24	3.6	10 45	-60							
PENTICTON	79.10	41.6	11 51	1							
RESOLUTE	79.54	13.6	11 52	0							
CALISTOGA	79.92	52.7	12 34A	39							
MINERAL	80.19	50.8	12 35A	39							
BERKELEY	80.38	53.3	12 36	39							
PARAISO	80.72	54.9	12 44A	45							
LICK	81.00	53.7	12 39K	39							
APATITY	81.13	338.9	12 0A	-1							
PRIEST	82.10	54.6	12 46A	40							
HUNGRY HORSE	82.91	41.4	12 12	2							
THULE	82.99	7.7	12 9	-2							
SODANKYLA	83.48	340.1	12 12	-1							
WOODY	83.62	54.6	12 14	0					12 52		
EUREKA	84.58	50.3	12 19	1				12 58	13 21	*SP	
PASADENA	84.65	55.9	12 59	40							
BUTTE	84.66	43.3	12 18	-1							
KAJAANI	84.91	337.1	12 18	-2							
KIRUNA	85.12	341.9	12 20	-1							
BOULDER CITY	86.62	53.3	12 29	1							
GLEN CANYON	88.69	51.4	12 41	3							
FLAMING GRGE	88.74	47.1	12 36	-3				13 11			
LARAMIE	91.19	45.5	12 53	3					13 26		
ALBUQUERQUE	93.31	51.6	12 49	-11							
WICHITA MTS.	99.15	48.8	13 28	2				14 7			
SAN JUAN	131.75	42.2							22 9	PP	
LA PAZ	147.68	91.7	19 31	6							

DECEMBER 23 19.H 11.M 54.S EPICENTRE 34.61 138.31 DEPTH= 244.KM

A=-0.61593 B= 0.54867 C= 0.56533 D= 0.6652 E= 0.7467
G=-0.4221 H= 0.3760 K=-0.8249 HT= 0.3

DEPTH OF FOCUS= 0.033R

SE= 1.78

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
OMAESAKI	0.07	265.7	0 34	2	0 59	2		
MISIMA	0.74	45.7	0 34K	0	1 0	0		
AJIRO	0.79	55.6	0 34K	0	1 0	-1		
HUNATU	0.97	23.0	0 36	1	1 2	0		

KOHU	1.08	11.0	0	36	0	1	3	0			
NAGOYA	1.23	297.5	0	37A	0	1	6	1			
MERA	1.29	75.5	0	36K	-1	1	4	-2			
YOKOHAMA	1.38	52.9	0	37	-1	1	5	-2			
TU	1.47	274.2	0	40A	1						
GIHU	1.49	302.6	0	38	-1						
KAMEYAMA	1.53	279.7	0	39	0	1	9	0			
TOKYO C.M.O.	1.60	47.4	0	39K	-1	1	8	-2			
HONGO	1.63	47.0	0	41	1	1	9	-1			
MATUMOTO	1.66	350.6	0	40	0	1	12	1			
OIWAKE	1.73	6.6	0	40	-1	1	12	0			
HIKONE	1.81	292.0	0	42A	1	1	14	1			
OWASE	1.82	253.5	0	42	1	1	12	-1			
MAEBASI	1.90	19.0	0	41K	-1	1	12	-2			
MATUSIRO	1.93	357.7	0	42A	0	1	14	-1			
HATIDYOZIMA	1.94	140.1	0	43	1	1	13	-2			
NARA	2.04	272.8	0	45A	2						
NAGANO	2.06	357.6	0	44	1	1	16	-1			
TSURUGA	2.11	300.3	0	44A	0						
KYOTO	2.16	281.8	0	46	2	1	20	2			
TUKUBASAN	2.18	41.8	0	43	-2	1	14	-5			
HUKUI	2.23	310.9	0	45A	0	1	21	1			
KAKIOKA	2.23	42.8	0	44K	-1	1	16	-4			
ABUYAMA	2.27	277.5	0	45A	0						
TOYAMA	2.28	337.0	0	46	0	1	22	1			
OSAKA	2.29	271.9	0	45	-1	1	22	1			
UTUNOMIYA	2.32	32.9	0	47K	1	1	19	-2			
TYOSI	2.36	61.2	0	45K	-1	1	21	-1			
SIOMISAKI	2.40	242.0	0	46	-1	1	22	-1			
MITO	2.50	44.3	0	47K	-1	1	22	-3			
MAIZURU	2.54	290.7	0	49	1						
WAKAYAMA	2.62	262.7	0	49	0						
SUMOTO	2.82	265.6	0	51A	0	1	30	0			
SHIRAKAWA	2.95	31.2	0	53	1	1	30	-3			
WAZIMA	2.99	338.0	0	57	4	1	35	1			
TOYOOKA	3.00	288.9	0	53A	0	1	35	1			
ONAHAMA	3.15	41.3	0	53K	-2	1	33	-4			
NIIGATA	3.36	10.1				1	41	0			
AIKAWA	3.41	359.3	0	59	1	1	41	-1			
TOTTORI	3.50	286.1	0	56	-3	1	42	-2			
TAKAMATU	3.53	266.6	0	58	-1	1	44	-1			
HUKUSIMA	3.59	28.5	0	59K	-1	1	45	-1			
MUROTO	3.69	249.6	1	1	0	1	10	-38			
YAMAGATA	3.99	23.8	1	4K	0	1	52	-2			
KOTI	4.10	256.5	1	6	0	1	55	-2			
YONAGO	4.15	282.8	1	10	4	2	1	3			
SENDAI	4.21	29.0	1	6	-1	1	55	-4			
ISINOMAKI	4.52	31.6	1	9K	-2	2	0	-6			
MATUYAMA	4.64	262.1	1	11	-1	2	8	0			
HIROSIMA	4.86	268.9	1	13	-2	2	14	1			
MIZUSAWA	5.05	25.8	1	16	-1	2	12	-5			
AKITA	5.30	15.2				2	22	-1			
MORIOKA	5.58	23.4	1	23	-1	2	25	-4		1	39
MIYAKO	5.82	29.1				2	26	-9			
HAKODATE	7.45	14.3				2	46	-27			
URAKAWA	8.31	23.7				3	28	-3		3	17
OBIHIRO	9.14	23.2								3	43
KUSIRO	9.62	27.8				3	52	-9			
NEMURO	10.39	30.8								4	11
SHILLONG	40.88	270.2	7	17	-3						
CHATRA	44.25	274.4	7	46	-1						
NEW DELHI	51.71	281.2	8	42	-3						
COLLEGE	52.48	31.1	8	51	1						
QUETTA	59.26	287.3	9	37K	-1						
SODANKYLA	66.21	336.9	10	24	0						
KAJAANI	67.65	333.6	10	32	-1						
PENTICTON	71.66	42.4	10	57	0						
UPPSALA	74.00	333.2	11	9	-2						
SHASTA	74.58	51.1	11	14	0						
HUNGRY HORSE	75.27	41.1	11	19	1						
BERKELEY	76.20	53.5	11	24	1						
RENO	76.87	51.0	11	28	1						
EUREKA	79.34	49.3	11	51	11					14	41
PASADENA	81.03	54.7	11	49	0						
FLAMING GRGE	82.43	45.0	11	57	0						
WICHITA MTS.	92.90	43.7	12	47	0						
BYRD STATION	125.94	167.8	18	34	1						

DECEMBER 24 2.H 40.M 13.S EPICENTRE -3.58 140.08 DEPTH= 68.KM

A=-0.76551 B= 0.64044 C=-0.06197 D= 0.6417 E= 0.7670
G= 0.0475 H=-0.0398 K=-0.9981 HT= 7.1

DEPTH OF FOCUS= 0.006R

SE= 2.47

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT MORESBY	9.10	129.8	2	7A	-4	4	2	10					
RABAUL	12.07	93.3	2	53	2								
CHARTERS TS.	17.48	160.3	3	59	-1	7	19	8					
GUAM	17.55	15.2	4	5	4								
BRISBANE	26.61	154.1	5	35	1	10	9	8					
BAGUIO CITY	27.69	316.4	5	42	-1						12	8	
PORT VILA	31.04	119.0	6	11	-2								
ADELAIDE	31.26	182.2	6	17K	2				6	26	16	49	SCS
RIVERVIEW	31.82	162.4	6	14	-6	11	34	10					
LEMBANG	32.48	262.9	6	35	9	11	42	7					
CANBERRA	32.65	166.4	6	29	2	11	49	12			9	18	PCP
MELBOURNE	34.38	173.1	6	45	3	12	11	7					
MUNDARING	36.06	215.8	6	57	0								
HONG KONG	36.10	316.6				12	51	20					
PERTH	36.27	216.2				12	48	15			15	13	
ZO-SE	38.91	333.7	7	21A	1	13	22	9					
MOORLANDS	39.21	171.7	7	26	3						9	6	PP
FORT NELSON	39.72	171.6	7	29	2						17	1	SSS
MATUSIRO	39.95	357.6	7	27K	-2	13	27	-2			9	31	
NANKING	40.82	331.8	7	36A	0	13	52	10					
KUNMING	46.12	310.3	8	19	0	15	8	9					
KARAPIRO	47.09	141.2	8	26	-1						10	10	PCP
CHATEAU	47.88	142.6	8	33	0								
CHENGTU	48.42	317.3	8	36A	-1	15	38	7					
PEKING	48.63	335.5	8	38A	-1	15	41	7					
CHANGCHUN	49.03	345.9	8	41A	-1	15	49	9					
GEBBIES PASS	49.25	149.0	8	43	0								
PAOTOW	51.84	331.0	9	2A	-1	16	24	5					
LANCHOW	51.98	322.5	9	3A	-1								
SHILLONG	54.96	304.7	9	25	-1								
LHASA	57.38	308.7	9	44A	1								
ULAN-BATOR	58.93	334.5	9	53A	-1								
CHATRA	59.34	304.0	9	54	-3								
VISHAKHAPTNM	59.84	292.7	10	1	0						14	32	
IRKUTSK	63.33	336.3	10	23A	-1	19	2	13					
HONOLULU	65.34	64.7	10	37	0								
KIPAPA	65.44	64.6	10	36	-2								
YAKUTSK	65.90	354.7	10	20A	-21								
NEW DELHI	68.25	302.6	10	54K	-1								
BOMBAY	69.80	291.5									13	52	
MIRNY	70.80	198.1									16	51	
CAPE HALLETT	71.16	170.7				20	35	12					
WARSAK DAM	74.40	306.6	11	34	2								
QUETTA	77.31	301.8	11	50	1	21	40	8					
SAMARKAND	79.37	311.3	12	1	1	22	4	10					
MAWSON	81.84	202.2	12	14	1				12	24			
COLLEGE	85.70	24.0	12	31	-1								
SVERDLOVSK	87.21	327.2	12	45	5								
TANANARIVE	91.25	251.1	13	11	12								
MOULD BAY	95.97	13.7	13	19	-1								
SHASTA	98.03	49.6	13	30	0								
MINERAL	98.64	49.9	13	32K	-1								
LICK	98.74	52.9	13	32K	-1								
PENTICTON	99.42	40.7	13	36	0								
MOSCOW	99.95	325.9	13	40	2								
WOODY	101.06	54.5	13	43	0								
PULKOVO	102.96	330.7									18	3	PP
EUREKA	103.03	50.4	13	53	1						18	8	PP
HUNGRY HORSE	103.20	41.2	13	53	0								
BOULDER CITY	104.30	53.9									18	17	PP
WICHITA MTS.	117.55	52.5									19	55	PP
PALISADES	131.82	34.6									21	17	PP
CHINCHINA	144.37	86.5	19	27A	-1								
LA PAZ	145.71	126.4	19	33	2								
BOGOTA	145.92	87.1	19	35	4								

FUQUENE	146.24	85.5	19	37	6								
SAN JUAN	150.44	58.2	19	44	6							23	25 PP
CARACAS	152.34	74.2	20	0	19							23	43

DECEMBER 24 6.H 50.M 56.S EPICENTRE 43.59 144.32 DEPTH= 126.KM

A=-0.59022 B= 0.42377 C= 0.68706 D= 0.5832 E= 0.8123
G=-0.5581 H= 0.4007 K=-0.7266 HT= -3.0

DEPTH OF FOCUS= 0.015R

SE= 3.61

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ABASHIRI	0.43	356.0	0	20	1	0	34	0				
KUSIRO	0.61	174.6	0	15A	-5	0	27	-9				
NEMURO	0.95	105.5	0	19K	-3	0	33	-7				
OBIHIRO	1.06	231.1	0	20A	-3	0	36	-5				
ASAHIGAWA	1.43	278.3	0	28	1	0	54	5				
HIROO	1.50	209.7	0	23A	-5	0	41	-9				
URAKAWA	1.83	218.7	0	28A	-4	0	49	-8				
RUMOE	1.99	281.3	0	34K	0	1	3	3				
TOMAKOMAI	2.23	245.4	0	37	0	1	4	-1				
SAPPORO	2.23	257.5	0	36K	-1	1	2	-3				
WAKKANAI	2.63	315.0	0	47	5	1	21	6				
MURORAN	2.76	243.8	0	42	-2	1	12	-6				
SUTTSU	3.09	256.6	0	47	-1	1	21	-4				
MORI	3.14	242.9	0	46	-3	1	21	-5				
HAKODATE	3.17	237.1	0	46K	-3	1	20	-7				
Y.-SAKHLINSK	3.61	342.3	0	57	2	1	43	5				
HATINOHE	3.70	215.1	0	50	-6	1	28	-12				
AOMORI	3.82	224.7	0	53K	-5	1	33	-10				
MIYAKO	4.31	204.9	0	58	-7	1	40	-15				
MORIOKA	4.55	212.3	1	1K	-7	1	46	-14				
AKITA	5.00	220.7	1	11	-3	2	1	-10				
MIZUSAWA	5.06	209.4	1	9	-6	1	58	-15				
ISINOMAKI	5.63	204.8	1	15A	-7	2	12	-14				
UGLEGORSK	5.71	344.9	1	26	3	2	38	10				
SAKATA	5.78	217.4	1	20K	-4	2	21	-9				
SENDAI	5.91	207.1	1	19A	-7	2	18	-15				
YAMAGATA	6.12	210.7	1	23K	-6	2	25	-13				
HUKUSIMA	6.53	207.9	1	28K	-6	2	34	-14				
NIIGATA	6.93	217.0				2	42	-16				
ONAHAMA	7.13	202.7	1	14	-29	2	45	-18				
SHIRAKAWA	7.18	207.2	1	37	-6	2	50	-14				
AIKAWA	7.22	221.6	1	39	-5	2	53	-12				
MITO	7.78	203.6	1	44	-7	3	2	-17				
UTUNOMIYA	7.82	207.4	1	39	-13						2	6
TAKADA	7.97	217.6				3	11	-12				
KAKIOKA	8.01	204.8	1	46	-9	3	7	-17				
TUKUBASAN	8.04	205.2									3	46
MAEBASI	8.23	211.0	1	53	-5	3	18	-11				
TYOSI	8.30	200.0	1	50	-8	3	13	-18				
NAGANO	8.35	216.2	1	56	-3	3	20	-12				
WAZIMA	8.39	224.8				3	25	-9				
MATUSIRO	8.46	215.7	1	54K	-6	3	21	-14				
OIWAKE	8.50	213.3	2	5	4	3	32	-4				
HONGO	8.62	205.5				3	24	-15				
TOKYO C.M.O.	8.65	205.6	1	58	-5	3	23	-16				
TOYAMA	8.78	220.8	2	26	21	3	29	-13				
MATUMOTO	8.80	215.8	1	59	-6	3	33	-10				
YOKOHAMA	8.91	205.4				3	32	-14				
KOHU	9.07	211.2	2	11	2	3	35	-15				
HUNATU	9.14	209.8	2	16	6	3	34	-17				
MISIMA	9.42	208.0	2	22	9	3	41	-17				
AJIRO	9.44	207.1	2	6	-8	3	43	-15				
IIDA	9.49	214.0	2	14	0	3	47	-12				
SHIZUOKA	9.75	210.0	2	49	31	3	51	-15				
GIHU	10.04	218.0	2	17	-5							
NAGOYA	10.15	216.5	2	17	-6	4	8	-7				
OMAESAKI	10.15	209.8									3	34
HIKONE	10.39	219.6	2	23	-3	4	12	-9				
KAMEYAMA	10.64	217.5	3	23	53	5	20	53				
KYOTO	10.84	220.7	2	28	-4	4	22	-10				
ABUYAMA	11.03	220.8	2	29	-6							

PETROPAVLOVK	13.39	40.2								4	49
CHANGCHUN	13.76	277.6	3	8K	-2	6	31	51			
MAGADAN	16.47	11.7	3	48	4						
YAKUTSK	20.37	340.0	4	27	-1	8	9	5			
PEKING	21.24	270.1	4	35K	-2	8	23	3			
ZO-SE	22.14	243.4	4	45	-1	8	39	3			
NANKING	23.13	248.7	4	53	-2	8	52	-2			
PAOTOW	25.52	275.1	5	18	0	9	38	4			
ULAN-BATOR	26.29	292.7	5	25	0	9	48	2			
IRKUTSK	27.86	302.3								12	4 SSS
LANCHOW	31.75	270.2	6	11	-3	11	16	3			
HONG KONG	32.75	239.3				11	30	1			
CHENGTU	34.30	261.6	6	32	-4	11	49	-4			
KUNMING	38.49	255.2	7	9	-2	12	55	-2			
COLLEGE	42.42	35.9	7	44	1				8	13	
SHILLONG	45.98	264.7	8	10	-2						
MOULD BAY	49.62	18.2	8	40	0						
SVERDLOVSK	51.84	316.0	8	57	0						
ALERT	53.45	4.2	9	7	-2						
TASHKENT	53.62	295.3	9	10	0	16	34	2			
NEW DELHI	54.87	277.8	9	17	-2						
LAHORE	55.25	282.5	8	29	-53						
RESOLUTE	55.70	16.1	9	24A	-1					9	55
APATITY	57.67	334.9	9	38A	-1						
THULE	58.47	8.6	9	41	-4						
SODANKYLA	59.81	336.6	9	50A	-4						
TROMSOE	60.25	340.8	9	56	-1						
KIRUNA	61.19	338.9	10	4	1						
KAJAANI	61.70	333.5	10	6	-1						
PENTICTON	62.01	47.5	10	8A	-1						
MOSCOW	63.35	322.7	10	17A	-1						
NURMIJARVI	65.22	331.7	10	28	-2					10	58 PCP
HELSINKI	65.36	331.4	10	30	-1						
SHASTA	65.51	56.5	10	31	-1						
HUNGRY HORSE	65.54	45.9	10	33	1						
SKALSTUGAN	66.62	338.8	10	38	-1						
BERKELEY	67.31	58.9	10	42	-1						
RENO	67.78	56.2	10	46	0						
BUTTE	67.79	47.1	10	45	-1						
UPPSALA	68.04	334.1	10	47	0					11	11
BOZEMAN	68.83	46.7	10	53	1						
GORIS	69.08	304.9	10	55	1						
FRESNO	69.53	58.5	10	57	0						
EUREKA	70.11	54.2	11	0	0				11	30	13 51 PP
BERGEN	71.09	339.9	11	8	2						
GOTEBORG	71.53	335.3	11	7	-2						
KARLSKRONA	71.63	332.6	11	7	-2						
SALT LAKE C.	71.64	51.0	11	10	1						
SIDA	72.07	351.9	11	15	3						
REYKJAVIK	72.07	353.7	11	13	1						
PASADENA	72.23	59.7	11	22	9						
FLAMING GRGE	72.90	49.5	11	17	0						
COPENHAGEN	73.05	333.8	11	18A	0					12	30
LWOW	73.38	324.3	11	21	2						
RAPID CITY	73.97	43.9	11	24	1						
GLEN CANYON	74.35	53.8	11	16	-9						
LARAMIE	74.71	47.2	11	27	0						
KRAKOW	74.89	326.6	11	28	0					11	34 PCP
RACIBORZ	75.55	327.5	11	34	2					11	41 PCP
HALLE	76.69	331.7	11	39	1						
JENA	77.30	331.5	11	42	0					14	10
MUNSTER	77.72	334.3	11	45	1						
TUCSON	78.05	56.8	11	46	0						
TUCSON TELE.	78.05	56.7	11	47	1						
ALBUQUERQUE	78.74	52.3	11	47	-3						
STUTTGART	79.92	331.7	11	56	0					12	27
KEW	80.48	338.5	11	59	0						
MANHATTEN	80.91	43.4	12	2	1						
DUBUQUE	81.12	37.8	12	3K	1						
FOLINIERE	82.97	337.4	12	13	1						
WICHITA MTS.	83.28	47.6	12	14	1					13	31
ROLLA	84.22	41.4	12	18A	0				12	49	
FLORISSANT	84.23	39.9	12	16	-2						
ST. LOUIS 1	84.42	39.9	12	19	0						
FAYETTEVILLE	84.52	43.9	12	20A	0				12	50	
BREBEUF	85.10	25.7	12	23	1						
BLOOMINGTON	85.66	37.2	12	26	1						
BYRD STATION	133.64	166.1	19	2	1					19	32

DECEMBER 24 7.H 13.M 30.S EPICENTRE 29.43 80.83 DEPTH= 59.KM

A= 0.13899 B= 0.86124 C= 0.48882 D= 0.9872 E=-0.1593
G= 0.0779 H= 0.4826 K=-0.8724 HT= 2.0

DEPTH OF FOCUS= 0.004R

SE= 2.28

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DEHRA DUN	2.57	290.9	0	45	4								
NEW DELHI	3.29	256.0	0	52K	1	1	31	2			0	58	PP
CHATRA	6.17	113.3	1	31A	0	2	38	-3			1	39	PP
BOKARO	7.13	140.3	1	48	4	3	9	4			3	21	SS
LHASA	8.90	86.1	2	9A	0	3	43	-5					
WARSAK DAM	9.12	302.3	2	11	-1	3	51	-3					
CALCUTTA	9.65	133.7	2	20	1	4	4	-3					
SHILLONG	10.52	108.8	2	27A	-4	4	19	-9					
VISHAKHAPTNM	11.87	168.5	2	50K	1	4	56	-5			3	1	PP
QUETTA	12.08	277.0	2	46	-6	4	54	-12					
HYDERABAD	12.14	190.9	2	51K	-2	5	0	-7					
POONA	12.58	212.0	2	57	-1	5	14	-4			3	19	PPP
TOCKLAI	12.59	98.9	2	56	-3								
BOMBAY	12.77	216.6	2	59	-2	5	23	1			3	12	PP
KARACHI	13.11	252.8	3	2	-3	5	28	-2					
TASHKENT	15.13	324.7	3	37	5	6	13	-5					
SAMARKAND	15.30	315.5	3	33	-1								
MADRAS	16.36	182.3	3	47	0	6	42	-4			3	58	PP
KUNMING	19.93	97.2	4	30	0	8	12	6					
CHENGTU	20.10	80.7	4	31A	0	8	14	5					
LANCHOW	20.42	65.2	4	33A	-2	8	19	4					
SEMIPALATNSK	20.95	359.0	4	38A	-2								
TEHERAN	25.54	291.9	5	19	-6	9	51	5					
PAOTOW	26.26	57.1	5	33	1	10	10	12					
ULAN-BATOR	27.27	40.2	5	43	2								
PEKING	30.73	60.4	6	13	1	11	24	15					
HONG KONG	30.75	95.5	6	28	16	11	22	12					
SVERDLOVSK	30.86	338.3	6	13	0								
ZO-SE	34.76	76.9	6	47	0	12	21	9					
CHANGCHUN	38.02	55.4	7	15	1								
MOSCOW	40.29	323.2	7	33K	0								
PULKOVO	45.39	326.7	8	15	0								
YAKUTSK	45.45	29.9	8	15	0								
LWOW	47.01	312.2	8	29	2								
APATITY	47.30	337.4	8	30K	0								
KAJAANI	48.00	331.8	8	36	1						9	40	
MATUSIRO	48.05	65.8	8	34	-1								
HELSINKI	48.08	326.2	8	37	1								
NURMIJARVI	48.31	326.6	8	38	0						10	30	PP
SODANKYLA	49.59	335.7	8	46	-1						10	41	PP
UPPSALA	51.65	324.9	9	3K	0						9	25	
KIRUNA	51.99	335.2	9	5K	-1								
KHEYS	52.11	355.4	9	7	1								
KARLSKRONA	52.44	320.1	9	7K	-2								
TROMSOE	53.01	337.2	9	13	0								
KASPERSKE H.	53.83	311.4	9	17	-2								
COLLMBERG	54.05	314.1	9	20	-1								
GOTEBORG	54.45	322.0	9	24K	0								
SKALSTUGAN	54.56	329.3	9	25K	0								
JENA	54.97	313.7	9	28	0						10	28	
STUTTGART	56.69	311.3	9	42	2								
LWIRO	58.85	247.0	9	59	4								
FOLINIERE	63.02	312.8	10	22	-1								
BANGUI	63.73	259.7	10	30	2						12	49	PP
BROKEN HILL	66.74	236.6	10	51	4								
BULAWAYO	70.44	232.0	11	14	4								
THULE	72.66	352.7	11	21	-2								
MOULD BAY	73.83	4.9	11	30	0								
RESOLUTE	76.12	358.8	11	43	0								
COLLEGE	78.70	19.1	11	58	0								
CHARTERS TS.	79.98	119.8	12	4	-1								
ADELAIDE	84.15	135.6	12	30	4						13	27	
CANBERRA	90.92	130.6	12	53	-6								
EUREKA	109.68	13.7	18	30	777						19	6	PP
WICHITA MTS.	116.20	359.5	18	41	4						19	48	PP

SOUTH POLE	119.26	180.0	18	46	3						
BYRD STATION	128.61	175.5	19	6	5					22	23

DECEMBER 24 14.H 25.M 41.S EPICENTRE -5.72 -80.74 DEPTH= 131.KM

A= 0.16011 B=-0.98213 C=-0.09893 D=-0.9870 E=-0.1609
G=-0.0159 H= 0.0976 K=-0.9951 HT= 7.0

DEPTH OF FOCUS= 0.015R

SE= 2.85

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
CHINCHINA	11.78	25.8	2	57	12	5	46	52				
BOGOTA	12.24	33.1	2	55	4	5	33	28			5	43 *SS
FUQUENE	13.13	32.3	2	59	-4							
LA PAZ	16.36	131.9	3	41A	-2	6	59	19				
GALERAZAMBA	17.27	18.4	3	54	0	7	27	27				
TRINIDAD	25.20	49.9	5	15	0							
GRENADA	25.86	46.9	5	20	-1							
SAN JUAN	27.95	30.8	5	40	0							
ST. KITTS	29.01	37.5	5	50	0							
FAYETTEVILLE	43.46	344.1	7	51A	-1						8	15 *SP
WICHITA MTS.	43.60	338.5	7	52	-1	14	23	11			9	42 PP
ROLLA	44.62	347.4	8	0	-1	14	29	3				
BLOOMINGTON	45.00	353.7	8	2A	-2	14	43	11				
ST. LOUIS 1	45.00	349.5	7	23	-41	14	40	8				
FLORISSANT	45.18	349.4	8	4	-2							
PALISADES	46.92	7.1	8	15	-4	15	9	10			10	9 PP
MANHATTEN	47.03	343.2	8	21	1	15	11	10			21	23 SSS
ALBUQUERQUE	47.15	330.9	8	19	-2							
TUCSON	47.39	324.7	8	22	-1							
TUCSON TELE.	47.39	324.9	8	22	-1							
DUBUQUE	48.84	350.2	8	32A	-2	15	34	8				
GLEN CANYON	51.32	328.3	8	53	0							
BREBEUF	51.38	6.4	8	52K	-1							
LARAMIE	52.03	336.3	8	57	-1							
BOULDER CITY	52.37	325.0	9	2	1							
SHAWINIGAN	52.51	6.9	9	8	6							
PASADENA	53.13	320.9	9	13	7	16	41	16			20	33 SS
FLAMING GRGE	53.34	333.1	9	7	-1							
RAPID CITY	53.54	340.0	9	9	-1							
SALT LAKE C.	54.36	331.1	9	15	0							
EUREKA	55.50	327.2	9	23	-1						9	45
VINEYARD TE.	56.81	321.3	9	36A	3							
LICK	57.33	321.7	9	39K	2							
BOZEMAN	57.87	335.3	9	40	-1							
BERKELEY	58.05	321.8				17	43	13				
CALISTOGA	58.73	322.3	9	46	-1							
BUTTE	58.79	334.6	9	45	-2							
MINERAL	59.24	324.4	9	56K	6							
SHASTA	59.93	324.3	9	54	-1							
HUNGRY HORSE	61.24	335.3	10	3	-1							
MBOUR	66.31	71.7	10	40	3	19	42	28				
BYRD STATION	76.54	186.5	11	38	0							
RESOLUTE	80.73	356.2	12	0	0							
THULE	82.33	2.9	12	7	-2							
SIDA	83.44	23.4	12	17	3							
SOUTH POLE	84.32	180.0	12	19	0						13	10
MOULD BAY	84.82	351.4	12	22	1							
COLLEGE	85.64	336.8	12	25	0							
ALERT	88.49	2.4	12	39	0							
CAPE HALLETT	90.29	196.8				22	25	-63			29	16 SS
COLLMBERG	96.76	39.1	13	9	-8							
LWIRO	109.19	94.4	18	47	777							
KSARA	115.21	55.4									29	28
RIVERVIEW	117.16	227.4									29	41 PS
CHARTERS TS.	127.16	239.6	18	52	3							
PORT MORESBY	129.97	252.8	18	58	3						22	20 SKP
MATUSIRO	132.99	316.2									39	39 SS
NEW DELHI	149.11	40.1	19	31A	2							
SHILLONG	159.03	18.9	20	21K	39							

DECEMBER 24 23.H 43.M 15.S EPICENTRE -38.25 -73.86 DEPTH= 0.KM

A= 0.21890 B=-0.75628 C=-0.61653 D=-0.9606 E=-0.2780
G=-0.1714 H= 0.5922 K=-0.7873 HT= -1.0

SE= 3.20

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LA PLATA	13.23	80.2	3	10	-2	5	51	10					
ANTOFAGASTA	14.80	12.4	3	29	-3						7	5	
LA PAZ	22.25	14.6	5	2	2	9	10	9					
BOGOTA	42.65	359.7	8	3	3	14	23	-1					
CHINCHINA	43.03	357.4	8	3	0	14	29	0					
BYRD STATION	45.33	190.1	8	22	1	14	15	-48					
GALERAZAMBA	48.79	358.2				15	51	-1					
CARACAS	48.93	9.1	8	47	-3	15	49	-5					
GRENADA	51.31	15.3	9	7	-1								
SOUTH POLE	51.94	180.0	9	11	-2						9	48	
FORT FRANCE	54.03	15.2	9	27	-1								
SAN JUAN	56.80	8.8	9	52	4								
SCOTT BASE	58.62	192.5	9	57	-4	17	51	-14			18	9	PS
CAPE HALLETT	61.20	198.3				18	45	7			22	51	SS
MAWSON	69.53	163.7	11	11	-1				11	30	11	34	PCP
MBOUR	74.65	57.3	11	44	1	21	23	4					
WILKES	75.68	181.8	11	52K	3	21	36	6					
WICHITA MTS.	76.14	339.2	11	49	-2	21	33	-2	12	4	26	0	SS
FAYETTEVILLE	76.33	343.2	11	50A	-2								
ROLLA	77.58	345.5	11	57	-2	21	47	-4	12	5			
BLOOMINGTON	77.93	350.0	11	59	-2	21	49	-6					
ST. LOUIS 1	77.98	347.0	11	54	-8	21	52	-3					
TUCSON	78.14	328.6	12	5	3								
FLORISSANT	78.16	346.9	12	0	-3				12	6			
TUCSON TELE.	78.17	328.7	12	4	1								
ALBUQUERQUE	78.86	333.2	12	5	-1								
PALISADES	78.88	360.0	12	13	6	22	7	2			15	54	PP
KIMBERLEY	78.98	117.8	12	8	1								
MANHATTEN	79.85	342.2	12	9	-3	22	13	-2	12	17			
DUBUQUE	81.83	347.5	12	24	2	22	32	-3	12	40	34	26	
LUANDA	82.31	95.2	12	29K	4				12	43			
PASADENA	82.95	324.3	12	38	10	22	55	8			28	15	SS
BOULDER CITY	83.02	327.6	12	35	7								
LARAMIE	84.31	336.5	12	36	1								
SHAWINIGAN	84.43	0.8	12	35	-1								
FLAMING GRGE	85.23	333.8	12	39	-1								
EUREKA	86.47	328.7	12	45	-1				12	52			
BULAWAYO	87.06	113.3	12	48	-1								
BROKEN HILL	90.57	108.8	13	6	1								
BUTTE	90.81	334.2	13	6	0								
HUNGRY HORSE	93.32	334.5	13	18	0								
BANGUI	94.63	88.1	13	24	0				13	34			
RIVERVIEW	96.99	216.4									16	14	
LWIRO	98.53	99.6	13	46	4						17	45	
SODANKYLA	128.61	29.1	19	5	-4								
TIFLIS	133.74	65.4									21	48	PP
GORIS	134.18	68.8	19	17	-3								
TEHERAN	136.73	75.8	19	26	2						22	7	PP
KARACHI	144.35	100.5	19	38	0								
SVERDLOVSK	144.92	43.0	19	38	-1								
POONA	145.71	115.9	19	42	2								
MADRAS	145.87	130.5	19	42	1						20	4	
QUETTA	146.80	92.1	19	43	1								
SAMARKAND	149.68	74.9	19	50	3								
TASHKENT	151.64	72.1	19	54	4								
WARSAK DAM	151.84	88.0	19	59	9								
LAHORE	153.15	94.7	19	55	3								
NEW DELHI	154.08	103.2	19	55A	2								
SHILLONG	162.52	132.2	20	4	1								

DECEMBER 25 13.H 55.M 30.S EPICENTRE -20.53-173.39 DEPTH= 0.KM

A=-0.93105 B=-0.10793 C=-0.34856 D=-0.1152 E= 0.9933
G= 0.3462 H= 0.0401 K=-0.9373 HT= 4.5

SE= 2.86

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	

AFIAMALU	6.76	13.4	1	40	-3	2	50	-12				
SUVA	8.08	285.6	2	6	5	3	55	20				
RAOUL ISLAND	9.61	204.4	2	20	-3	4	3	-10				
PORT VILA	17.51	276.1	4	10	3	7	45	24				
ONERAHI	18.60	212.7	4	23	2							
NOUMEA	18.86	261.0	4	24K	0	8	4	12				
KARAPIRO	19.82	206.6	4	36	1							
CHATEAU	20.91	204.7	4	46	-1	8	34	-2				
KOUMAC	20.91	266.0	4	38	-9	8	48	12				
WELLINGTON	23.00	203.3	5	9	1	8	9	-66				
COBB RIVER	23.65	206.9	5	21	7							
KAIMATA	25.39	206.9	5	38	7							
GEBBIES PASS	25.88	203.6	5	47	12	10	20	16				
BRISBANE	31.59	250.9	6	19	-8	11	29	-6				
CANBERRA	36.12	237.9	7	6K	0						7	24
RABAUL	37.22	291.2	7	35	20							
CHARTERS TS.	37.78	263.4	7	18K	-2	13	5	-6				
SAVANNAH	39.36	228.6	7	35	2							
PORT MORESBY	39.59	280.3	7	33K	-2	13	34	-4				
MOORLANDS	39.62	227.5	7	37K	2							
FORT NELSON	39.69	226.7	7	37A	1							
MELBOURNE	39.87	235.2	7	37	0							
TARRALEAH	40.07	228.0	7	40	1							
KIPAPA	44.31	20.7	8	16	3							
ADELAIDE	44.36	240.6	8	13	-1						10	10
CAPE HALLETT	52.64	186.2	9	20	2	17	0	15			19	18 SCS
GUAM	53.25	305.9	9	23	0							
DARWIN	53.90	269.4	9	27	0							
SCOTT BASE	58.17	184.9	9	59A	1							
MUNDARING	63.20	243.8	10	32	0							
BYRD STATION	63.92	171.0	10	37	0							
WILKES	65.81	205.4	10	50K	1	19	38	2				
MIRNY	72.79	204.7	11	33	1						11	57
MATUSIRO	72.87	320.9	11	32K	-1						21	52 SCS
PARAISO	74.30	40.7	11	44K	3							
PRIEST	75.24	41.8	11	46K	0							
BERKELEY	75.38	39.6	11	48A	1						37	14
LICK	75.40	40.3	11	47K	0							
PASADENA	75.60	44.7	11	48K	-1							
CALISTOGA	75.69	38.8	11	48K	-1							
FRESNO	76.17	41.7	11	52	0							
SHASTA	77.17	37.3	11	57K	0							
LEMBANG	77.36	267.4	11	59K	1	21	47	-1				
RENO	77.92	39.5	12	2	1							
BOULDER CITY	78.89	44.8	12	8	1							
TUCSON	79.58	49.9	12	11	0				12	27		
TUCSON TELE.	79.70	49.8	12	12	1				12	29		
EUREKA	80.22	41.4	12	14	0				12	29		
ZO-SE	81.08	307.8	12	20	1	22	42	14				
GLEN CANYON	81.60	45.5	12	23	2							
HONG KONG	82.51	297.1	12	28	2	22	50	7			28	2 SS
MAWSON	82.97	198.7	12	29	1				12	44		
NANKING	83.33	307.7	12	31K	1	22	59	8				
SALT LAKE C.	83.54	42.2	12	31	0							
CANTON	83.54	297.4	12	33K	2	22	57	4				
ALBUQUERQUE	84.09	49.4	11	35	-59							
PENTICTON	84.32	32.0	12	35	0							
CHANGCHUN	85.11	320.4	12	35K	-4							
FLAMING GRGE	85.19	43.1	12	40	0							
BUTTE	86.07	37.6	12	43	-1							
HUNGRY HORSE	86.62	35.1	12	46	-1							
BOZEMAN	86.75	38.5	12	48	1							
COLLEGE	87.37	10.6	12	49	-1						13	21
LARAMIE	87.85	44.3	12	53	0							
PEKING	88.99	313.6	12	59K	1	23	55	10				
WICHITA MTS.	89.72	52.6	12	55	-7	23	55	3			16	32 PP
SIAN	91.71	305.9	13	12K	1	24	20	10				
MANHATTEN	93.05	49.3	13	17K	0				13	21	37	4
KUNMING	93.24	295.5	13	20K	2							
PAOTOW	93.45	312.1	13	19	0							
FAYETTEVILLE	93.56	52.9	13	18K	-1							
CHENGTU	94.18	301.0	13	24	2							
ROLLA	95.94	51.9	13	30A	0							
LANCHOW	96.25	306.0	13	33	1							
QUETTA	125.17	293.0	19	5	2							
KIMBERLEY	127.97	200.3	19	8	0							
BULAWAYO	134.21	209.4	19	22	2							
KAJAANI	134.22	347.2	19	21	1							

NURMIJARVI	138.06	346.7	19 21	-6			
BROKEN HILL	139.14	213.5	19 22	-7			
DURHAM	145.25	8.3	20 7	27			
WITTEVEEN	147.77	359.9	19 48	4			
MUNSTER	148.61	358.8	19 51	6			
LWIRO	148.61	226.4	19 48	3	20 51		
KEW	148.64	8.3	19 50	5			
KRAKOW	148.70	343.4	19 49	4			
CHORZOW	148.72	344.6	19 49	4	20 23		
HALLE	148.81	353.6	19 47	1	20 5	PKP2	
COLLMBERG	148.88	352.2	19 47A	1	19 54	PKP2	
RACIBORZ	149.11	345.4	19 52	6			
BENSBERG	149.63	359.3	19 52K	5			
PRUHONICE	149.94	349.7	19 54	7	20 42		
KSARA	150.90	303.2	19 49	0	23 41	PP	
KASPERSKE H.	150.92	350.6	19 48	-1	20 10		
FOLINIERE	151.25	9.8	19 51	2			
PARIS	151.59	5.7	20 2	12	20 13	PKP2	
STUTTGART	151.74	356.3	19 51	1			
STRASBOURG	152.00	358.4	19 43	-7	20 0	PKP2	
ROSELEND	155.09	358.3			20 10	PKP2	
FLORENCE X.	156.49	351.6	19 43	-14	19 59	PKP2	
GRANADA	161.17	26.0	19 52K	-10			

DECEMBER 26 4.H 25.M 0.S EPICENTRE -5.58 110.82 DEPTH= 569.KM

A=-0.35385 B= 0.93029 C=-0.09666 D= 0.9347 E= 0.3555
G= 0.0344 H=-0.0904 K=-0.9953 HT= 7.0

DEPTH OF FOCUS= 0.085R

SE= 2.47

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LEMBANG	3.42	248.6									4	14	
DJAKARTA	4.02	261.3	1	18	-5								
MEDAN	15.17	306.6	3	10	0	5	48	5					
NHATRANG	17.76	354.8	3	36	1	6	34	6					
DARWIN	20.87	110.2	4	3	-1	7	18	-2					
BAGUIO CITY	23.90	23.7	4	30	-1	8	8	-1					
PERTH	26.64	170.5				8	52	0			7	23	
MUNDARING	26.73	169.8	4	53	-3	8	51	-2					
HONG KONG	27.90	6.6	5	6A	0	9	11	0			11	43	PCS
CANTON	28.60	4.8	5	13A	1	9	25	3	6	41	14	54	SCS
KUNMING	31.52	345.9	5	40A	3	10	12	5	9	10			
CHITTAGONG	33.43	326.8	5	54	1	10	37	1					
CALCUTTA	35.54	322.6	6	33	22	11	11	3					
MADRAS	35.61	301.4	6	11K	0	11	7	-2			7	2	PP
VISHAKHAPTNM	35.70	311.0	6	11K	-1	11	7	-3			7	45	PP
SHILLONG	36.03	330.1	6	15K	0	11	15	0	7	55			
PORT MORESBY	36.20	98.2	6	17A	1	11	18	0	7	49	8	28	PCP
CHENGTU	36.62	350.1	6	20A	0	11	25	1	8	1			
CHARTERS TS.	37.32	116.0	6	25	0	11	33	-1					
ZO-SE	37.80	14.6	6	30A	1	11	45	4	8	6	8	19	PP
BOKARO	38.09	321.1	6	31	-1	11	45	-1			14	50	*SS
NANKING	38.19	11.0	6	34A	2	11	51	4	8	9	8	18	PP
GUAM	38.63	60.4	6	36	0								
ADELAIDE	38.96	142.3	6	38K	-1	11	56	-2	8	18	15	44	SCS
HYDERABAD	39.31	306.2	6	53K	12						10	58	
CHATRA	39.53	325.7	6	44	1	12	7	0			8	38	
SIAN	39.66	357.5	6	45A	1	12	10	1			8	30	PP
LHASA	39.84	332.6	6	47A	1	12	14	3	8	24			
LANCHOW	41.93	351.5	7	4A	2	12	45	4			8	57	PP
POONA	43.62	304.2	7	14	-2	13	4	-1					
BOMBAY	44.65	304.0	7	21	-3	13	17	-2	9	0	9	22	PPP
MELBOURNE	44.66	140.8	7	24	0						8	55	
BRISBANE	45.38	123.4	7	31	2	13	34	4					
PEKING	45.65	5.7	7	31A	0	13	34	1	9	9	16	27	SCS
CANBERRA	45.93	135.3	7	23K	-10				9	20	8	59	PCP
PAOTOW	45.94	359.2	7	34A	0	13	40	3	9	19	16	30	SCS
ABUYAMA	46.51	28.3	7	38A	0								
RIVERVIEW	46.75	132.3	7	40	0	13	50	1			16	42	*SS
NEW DELHI	46.93	318.2	7	39K	-2	13	48	-3	9	19	10	15	*SP
DEHRA DUN	47.54	320.6	7	48	2	13	59	0	9	25	17	34	SS
TARRALEAH	48.32	144.6	7	52	0						9	8	PCP

MOORLANDS	48.83	144.3	7	55K	0					9	2	
MATUSIRO	49.12	29.3	7	56A	-2	14	20	-1	9 38	16	55	SCS
FORT NELSON	49.23	144.7	7	57K	-1	14	28	6				
LAHORE	50.74	319.0	8	7	-2	14	38	-5				
CHANGCHUN	50.90	13.5	8	8A	-3	14	45	0	9 51	10	12	PP
VLADIVOSTOK	52.11	19.5	8	18	-1	15	1	0				
ULAN-BATOR	53.39	356.7	8	28	0	15	20	2				
KOUMAC	53.91	111.3	8	36	4							
WARSAK DAM	54.10	319.5	8	32	-1	15	26	-1				
QUETTA	55.05	312.9	8	38K	-2							
NOUMEA	56.16	113.0	8	47	-1							
IRKUTSK	57.90	355.3	8	59	0	16	21	5	10 45	12	53	PPP
Y.-SAKHLINSK	59.49	24.8	9	9	-1				10 56			
TASHKENT	60.16	324.8	9	13	-2	16	43	-2	10 59	13	4	PPP
WILKES	60.65	180.1	9	15K	-3	16	48	-3		11	50	*SP
MACQUARIE I.	62.22	150.6	9	28	0							
TANANARIVE	62.94	251.7	9	33K	0				11 23	12	16	PP
KAIMATA	64.76	134.6	9	46	2							
ASHKABAD	65.16	316.3	9	46	-1	17	46	0	11 33	12	16	PP
COBB RIVER	65.32	132.8	9	46	-2							
GEBBIES PASS	65.96	135.6	9	51	-1							
KARAPIRO	66.71	128.9	9	56A	0				11 42			
WELLINGTON	66.86	132.6	9	55	-2							
CHATEAU	66.97	130.2	9	57A	-1	18	9	2		20	16	
YAKUTSK	68.97	9.4	10	9	-1	18	29	-1	11 59	12	52	PP
TEHERAN	69.17	311.5	10	11	0	18	25	-7				
MAWSON	69.83	197.6	10	13	-2	18	40	0		13	8	*SP
PETROPAVLOVK	70.93	28.3	10	22	1				12 13	21	22	
GORIS	74.31	313.5	10	39	-2	19	29	0	12 32	11	6	
SVERDLOVSK	74.36	334.0	10	40	-1	19	30	0	12 34	22	53	*SS
CAPE HALLETT	75.70	164.2	10	48	0	19	52	8	12 43	13	42	PP
TIFLIS	76.19	315.2	10	52A	1	19	51	2	12 45	23	15	*SS
AFIAMALU	76.47	102.9	10	54	2							
SCOTT BASE	77.73	169.7	10	59A	0	20	6	1	12 57	23	34	*SS
KSARA	80.70	305.4	11	16K	1				13 8	14	19	PP
BULAWAYO	80.81	250.6	11	16K	1							
BROKEN HILL	81.24	256.3	11	28K	10							
LWIRO	81.85	268.5	11	21K	0							
KIMBERLEY	83.88	241.8	11	30	-1							
SOUTH POLE	84.45	180.0	11	34	0							
SIMFEROPOL	84.58	316.0				21	15	1	13 29	24	40	*SS
MOSCOW	85.23	327.1	11	37K	0	21	19	-1	13 32	15	5	PP
ISTANBUL KA.	87.44	311.5	11	50K	2	21	44	4	13 44	15	22	PP
ISTANBUL UN.	87.49	311.5	11	48K	0	21	45	4	13 45			
BYRD STATION	90.89	172.3	12	5	1							
KAJAANI	91.97	334.1	12	8	-1				14 9			
LWOW	92.15	319.7	12	10	0				14 8	15	59	PP
HELSINKI	92.74	330.1	12	11	-1							
SODANKYLA	92.88	337.3	12	12	-1							
NURMIJARVI	92.93	330.4	12	13	0	22	29	1		16	4	PP
KIRUNA	95.28	337.6	12	22A	-2							
UPPSALA	96.40	329.5	12	29A	0							
VIENNA-H.	97.10	317.8								16	33	PP
PRUHONICE	98.28	319.6	12	39	2				14 36	16	45	PP
SKALSTUGAN	98.78	333.4	12	40	0							
KASPERSKE H.	98.94	318.7								16	51	PP
COLLMBERG	99.23	320.9							14 50	16	52	PP
COLLEGE	99.85	25.1	12	53	8				14 41	16	57	PP
STUTTGART	101.79	318.5								17	9	PP
STRASBOURG	102.80	318.4								17	46	
ROSELEND	103.21	315.3								17	23	PP
RESOLUTE	109.37	7.0	17	26	777							
PENTICTON	119.20	35.3	17	47A	3					28	1	
ARCATA	119.80	45.6	17	48	3							
CALISTOGA	121.65	47.6	17	52A	3							
MINERAL	121.75	45.4	17	51A	2							
BERKELEY	122.15	48.4	17	53A	3					28	32	
PARAISO	122.58	50.1	17	56A	5							
LICK	122.80	48.8	17	55A	4							
RENO	123.33	45.7	17	56A	4							
PRIEST	123.95	49.8	17	57K	4							
BUTTE	124.98	35.8	17	57	2							
EUREKA	126.06	44.3	18	0	3				20 24	20	3	PP
BOZEMAN	126.06	35.4	18	0	3				20 2			
PASADENA	126.56	51.2	18	2	4					20	6	
MBOUR	127.95	283.8	18	3	2				20 14			
SALT LAKE C.	128.22	40.9	18	5	3				20 10			
BOULDER CITY	128.38	47.7	18	6	4							
FLAMING GRGE	129.72	39.5	18	7	2							

GLEN CANYON	130.27	45.1	18	10	4						
RAPID CITY	131.42	32.5	18	9	1	20	14	20	46	PP	
LARAMIE	131.84	36.9						20	14	PP	
TUCSON	132.96	50.3	18	16	5	20	19	20	58	PP	
TUCSON TELE.	133.00	50.1	18	16	5	20	19	20	58	PP	
MANHATTEN	138.37	32.6	18	16	-5			20	31	PP	
DUBUQUE	138.57	24.2	18	26	5			20	30	PP	
SHAWINIGAN	139.07	3.8	18	20	-2						
BREBEUF	140.05	4.9	18	22	-2						
WICHITA MTS.	140.26	39.3	18	21	-3	20	32	21	1	SKP	
ROLLA	141.76	29.6	18	24A	-4			20	23	PP	
FAYETTEVILLE	141.93	33.7	18	25A	-3	20	28	19	24	PP	
ST. LOUIS 1	141.96	27.2	18	25	-3			21	17	SKP	
BLOOMINGTON	143.06	22.6	18	29	-1			20	35	PP	
C. GIRARDEAU	143.35	27.7	18	30K	0			20	32	PP	
PENNSYLVANIA	144.08	11.3	18	32	1						
PALISADES	144.47	6.2	18	34	2	20	38	21	10	PP	
GEORGETOWN	146.07	11.1	18	37	3			20	42		
TACUBAYA	147.71	62.1						20	32		
CHAPEL HILL	148.47	15.4	18	44	6			20	54		
COLUMBIA	149.66	19.7	18	42	2	20	50				
LA PAZ	158.03	182.7	18	55	4			23	57		
SAN JUAN	166.94	347.1	19	3	3						
GRENADA	170.24	311.6	19	3	1						
TRINIDAD	170.80	303.7	19	6	4						
CHINCHINA	173.55	95.1	19	6K	3			26	31		
CARACAS	174.63	335.7	19	6A	2			26	33	PP	
BOGOTA	175.03	100.9	19	11	7			24	18	PP	

DECEMBER 26 6.H 17.M 29.S EPICENTRE -43.70 38.55 DEPTH= 0.KM

A= 0.56718 B= 0.45197 C=-0.68850 D= 0.6232 E=-0.7821
G=-0.5384 H=-0.4291 K=-0.7252 HT= -3.1

SE= 4.62

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	PP S	SUPP. M	SUPP. S
GRAHAMSTOWN	13.97	313.9	3	12K	-10							
HERMANUS	17.60	295.3	4	13	4						7	19
KIMBERLEY	18.56	319.0	4	14	-6							
BULAWAYO	24.93	337.4	5	17	-9							
TANANARIVE	25.84	19.9	5	37	2						6	45
MAWSON	27.23	159.8	5	45A	-3	10	30	4			6	17 PP
WINDHOEK	27.54	313.0	5	54	3							
BROKEN HILL	30.41	340.4	6	8	-8							
MIRNY	36.90	147.2	7	8	-4	12	59	1				
LUANDA	41.14	320.0	7	55K	7							
LWIRO	42.18	345.4	7	58	2							
WILKES	43.90	146.4	8	7	-3	14	40	-2				
SOUTH POLE	46.49	180.0	8	30	-1							
SCOTT BASE	54.70	168.2	9	31K	-2	17	6	-7			11	39 PP
BYRD STATION	55.90	184.5	9	37	-5							
ARGENTINE I.	56.17	209.6	9	48	4							
CAPE HALLETT	59.46	164.6	10	12	5	18	23	7			13	31 PPP
MUNDARING	60.36	107.2	10	13	0							
LEMBANG	70.21	80.3									18	38
FORT NELSON	72.81	133.3				21	1	3			25	41 SS
MOORLANDS	73.06	132.8	11	34	0							
ADELAIDE	73.28	122.4	11	37	2							
MBOUR	76.82	304.9				22	0	17			26	31 SS
KSARA	77.19	357.7	12	3	5	21	51	4			14	59 PP
QUETTA	77.99	24.9	12	5	3	22	9	14				
CANBERRA	79.10	128.7	12	7	-1							
TEHERAN	79.93	10.6	12	15	2							
NEW DELHI	80.18	33.9	12	14K	0							
ROXBURGH	81.02	147.4				22	31	4			27	19
RIVERVIEW	81.40	129.0	11	44	-36						27	47 SS
WARSAK DAM	82.99	27.1	12	33	4							
CHATRA	83.15	42.5	12	28	-1							
SHILLONG	84.51	46.7	12	35A	-1							
BRISBANE	87.11	125.7	12	50	1	23	17	-11				
LA PAZ	90.31	246.8	13	13	9	24	6	8				
HONG KONG	95.33	64.3				24	5	2			17	18 PP
STUTTGART	95.61	341.0									26	18 PS
PORT MORESBY	96.69	109.7	13	53	19						24	2 PS

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COLLMBERG	97.19	344.2	13 47	11	
MATUSIRO	120.41	67.0			29 31 PS
C. GIRARDEAU	140.56	279.0	19 35	3	
ST. LOUIS 1	141.62	280.5	19 45	11	
ROLLA	142.50	278.5	19 37	2	
RESOLUTE	142.78	341.4	19 35	-1	41 18
FAYETTEVILLE	143.36	274.5	19 40K	3	
DUBUQUE	143.39	286.2	20 30	53	20 52
LAWRENCE	145.34	278.4	19 34	-6	
WICHITA MTS.	145.92	269.5	19 45	4	23 14 PP
MANHATTEN	146.38	278.0	19 57	15	
RAPID CITY	152.59	284.2	20 0	9	
TUCSON TELE.	153.41	255.1	19 53	0	
TUCSON	153.44	254.8	19 59	6	
LARAMIE	153.57	277.3	20 3	10	20 53
FLAMING GRGE	156.21	274.4	20 8	12	
GLEN CANYON	156.35	263.7	20 3	6	
SALT LAKE C.	157.94	272.6	20 13	14	
BOULDER CITY	158.22	258.3	20 10	11	
BOZEMAN	158.36	285.8	20 10	11	
COLLEGE	158.49	7.4	20 9	10	24 19 PP
BUTTE	159.44	286.6	20 8	8	
PASADENA	159.59	250.0	20 13	12	24 26 PP
HUNGRY HORSE	160.45	293.3	20 9	7	
EUREKA	160.51	266.3	20 11	9	24 39 PP
PENTICTON	163.98	298.1			31 26
BERKELEY	164.36	254.9			25 9

DECEMBER 27 16.H 46.M 27.S EPICENTRE -1.76 -13.03 DEPTH= 0.KM

A= 0.97381 B=-0.22532 C=-0.03046 D=-0.2254 E=-0.9743
G=-0.0297 H= 0.0069 K=-0.9995 HT= 7.2

SE= 3.05

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LOME	16.24	61.1	3 47	-4				
MBOUR	16.50	346.4	3 59	4	7 18	20		
LUANDA	27.06	106.0	5 52A	6				6 44 PP
BANGUI	32.21	79.0	6 29	-3			6 36	
ALMERIA	39.65	13.3	7 38A	3	13 41	2		9 12 PP
GRANADA	39.72	11.8	7 38A	2	13 57	16		9 13 PP
ALICANTE	41.56	14.9	7 54	3	14 10	2		10 3 PPP
LWIRO	41.80	91.4	7 53	0	14 10	-2		
TOLEDO	42.25	10.3	7 59	2	14 30	12		9 37 PP
BROKEN HILL	42.88	109.4	8 2	0				
HERMANUS	44.28	140.8						14 54 PPS
BULAWAYO	44.58	117.2	8 13K	-3				
KIMBERLEY	44.93	130.3	8 18	-1				
BAGNERES	46.18	13.4	8 29	1				10 15 PP
MESSINA	47.72	30.6	8 34	-7	15 46	9	8 47	10 34 PP
ISOLA	49.13	19.1	8 52	0			9 6	
ROME	49.22	25.1	8 44	-8	16 7	9		10 47 PP
CLERMONT-FD.	49.44	14.8						10 52
CHANGALANE	49.80	123.5	8 55A	-2			9 2	
CHIAVARI	50.03	20.9	8 43	-16	17 43	94		
FLORENCE X.	50.29	22.8	8 53	-7	16 5	-8		
ROSELEND	50.49	18.8	9 1	-1				10 59 PP
FOLINIERE	51.49	10.6	9 10	0				
BESANCON	51.57	16.5	9 17	7				
ATHENS	52.10	36.8	9 8A	-6				
BASLE	52.29	17.5	9 12	-4				
TRIESTE	52.83	23.4	9 20	0	16 54	6		
STRASBOURG	53.29	17.1						18 39
LJUBLJANA	53.46	23.6	9 25A	1				10 13 PP
STUTTGART	53.92	18.1	9 26	-2				
CARACAS	55.00	284.0	9 38	2	17 13	-4		
SOFIA	55.05	32.2	9 38	2				
BENSBERG	55.27	15.4	9 45K	7				
KASPERSKE H.	55.66	20.9	9 39K	-1				11 41
DE BILT	55.82	13.5			17 41	13		
LA PAZ	56.14	251.4	9 46K	2	17 36	4		
BRATISLAVA	56.21	23.8	9 44	0				
JENA	56.53	18.4	9 45	-2				11 48 PP
PRUHONICE	56.72	20.9	9 47	-1				11 51

HALLE	57.14	18.3	9	49	-2					11	55 PP
ISTANBUL UN.	57.19	37.0	9	53	2						
COLLMBERG	57.31	19.1	9	51	-1					12	1 PP
KSARA	57.99	47.7	9	59	2	17	56	-1		18	10 PS
NIEDZIKA	58.52	24.9	10	1	0						
KRAKOW	58.84	24.2	10	2	-1						
FUQUENE	61.05	277.2	10	17	-1						
BOGOTA	61.32	276.2	10	23	3	18	43	3			
TANANARIVE	61.66	110.5	10	25	3						
CHINCHINA	62.89	276.4	10	28	-2						
TIFLIS	67.78	43.2	11	3	1						
GORIS	67.98	45.9	11	3	0	20	17	15			
HELSINKI	68.44	19.3	11	8	2						
NURMIJARVI	68.60	19.0	11	7	0						
PALISADES	69.62	315.1	11	8	-5	20	17	-4		20	55 SCS
MOSCOW	70.53	27.6	11	18A	-1						
CHAPEL HILL	71.83	308.7	11	34	7						
KAJAANI	72.21	17.5	11	28	-1						
SODANKYLA	74.35	14.9	11	43	1						
ST. LOUIS 1	81.12	309.4	12	18	-1						
KARACHI	81.72	64.7	12	22	0						
DUBUQUE	82.09	313.2	11	25	-59						
QUETTA	82.22	59.4	12	25K	0						
ROLLA	82.30	308.4	12	25K	0						
SVERDLOVSK	82.58	32.1	12	29	3						
MAWSON	83.03	158.0	12	29	0						
SAMARKAND	83.43	49.9	12	33	2						
FAYETTEVILLE	83.89	306.4	13	33A	60						
WARSAK DAM	86.47	56.0	12	46	0						
WICHITA MTS.	87.34	304.7	12	50	0					13	59
POONA	87.59	71.5	12	52K	0						
SOUTH POLE	88.25	180.0	12	55	0						
LAHORE	88.65	58.5	12	56	-1						
EUREKA	101.10	309.8	13	54	0						
BRISBANE	147.96	155.7	19	50	6					20	38
CHARTERS TS.	150.27	137.9	19	55	7					22	9
PORT MORESBY	157.36	119.6	20	1	3					20	35

DECEMBER 27 23.H 47.M 58.S EPICENTRE -41.36 175.60 DEPTH= 0.KM

A=-0.75062 B= 0.05772 C=-0.65821 D= 0.0767 E= 0.9971
G= 0.6563 H=-0.0505 K=-0.7528 HT= -2.2

SE= 3.05

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
WELLINGTON	0.63	276.5	0	18A	2								
CHATEAU	2.15	358.7	0	38A	0						0	48	PG
GEBBIES PASS	3.20	222.0	0	51	-2						1	9	PG
KAIMATA	3.33	248.2	0	55	0						1	12	PG
KARAPIRO	3.42	359.2	0	53A	-3								
ONERAHI	5.66	349.8	1	28	0						3	9	S*
ROXBURGH	6.16	225.9	1	31	-4								
RAOUL ISLAND	13.18	25.6				5	28	-12					
MACQUARIE I.	17.19	214.5	4	14	11				4	25			
NOUMEA	20.50	335.1	4	29A	-13	8	24	-3					
RIVERVIEW	20.74	283.3	4	45A	0				4	53	5	6	PP
FORT NELSON	20.97	256.3	4	47	0	8	52	15					
SAVANNAH	21.24	259.5	4	52	2								
CANBERRA	21.67	277.5	4	56A	2	9	0	10	5	8	5	36	PPP
KOUMAC	22.85	331.7	5	5A	-1	9	5	-7					
SUVA	23.25	6.8	5	12	2	9	22	3					
BRISBANE	23.34	299.5	5	10	-1	9	38	18					
MELBOURNE	23.80	268.4	5	16	1	9	38	9					
PORT VILA	24.36	343.0	5	18A	-3	9	38	0					
AFIAMALU	29.47	25.5	6	18	10	10	50	-12					
ADELAIDE	29.53	270.3	6	8A	0	10	46	-17			9	10	PCP
CAPE HALLETT	31.15	183.2	6	23	0	11	29	1			7	19	PP
CHARTERS TS.	32.69	301.5	6	36A	0	11	56	3					
SCOTT BASE	36.79	183.1	7	12A	1	12	53	-3			9	37	PCP
PORT MORESBY	40.54	313.7	7	39A	-4						13	30	
RABAUL	42.54	324.1	7	58	-1								
WILKES	43.09	212.4	8	7K	3	14	30	0					
BYRD STATION	45.26	167.2	8	19	-2								
MUNDARING	47.73	261.3	8	39A	-2	15	54	17					

PERTH	48.02	261.1	8	44	1	15	47	6		10	42 PP
SOUTH POLE	48.84	180.0	8	48	-1						
MIRNY	50.06	211.2	9	0	1	16	10	0			
MAWSON	60.23	204.0	10	12	0	18	8	-18	10 28	20	17 SCS
GUAM	61.54	325.4	10	20	-1						
ARGENTINE I.	64.03	156.1	10	35	-3						
HAWAII V.OB.	-66.23	30.1	10	52	0						
HONOLULU	66.94	26.7	11	0	3						
KIPAPA	67.08	26.7	10	54	-3						
DJAKARTA	70.04	279.6	11	13	-3	20	10	-16		19	6
BAGUIO CITY	76.75	306.1	11	59	4	21	55	13			
TUKUBASAN	83.78	331.8	12	32	-1	22	48	-7	12 42	15	51 PP
HONG KONG	85.12	305.3	12	42	3	22	38	-31		15	43 PP
VLADIVOSTOK	92.85	329.6								20	45
PASADENA	96.67	49.8	13	38	5	24	12	2		17	33 PP
LICK	97.06	45.6	13	41	6						
BERKELEY	97.12	44.8	13	46	11	24	12	-1		17	46 PP
LA PAZ	97.69	119.8	13	41	3	24	19	3			
TUCSON	99.73	55.5	13	44	-3					18	15 PP
BOULDER CITY	99.89	50.5	13	51	3						
HERMANUS	101.53	199.8				25	37	62		32	37 SS
EUREKA	101.69	47.3	14	17	21					18	47 PP
SHILLONG	102.02	293.4	13	55K	-3	24	35	-2		18	15 PP
GLEN CANYON	102.47	51.6								30	1 PKKP
MADRAS	102.50	276.3	17	11	191	24	45	6		27	26
CALCUTTA	102.54	288.9	18	25	265	25	0	21			
KODAIKANAL	102.77	272.4								23	49
BOKARO	105.19	288.4	18	26	777	24	51	-1			
CHATRA	106.09	291.6	18	17	777	24	58	2			
HYDERABAD	106.59	278.8								25	0
CHINCHINA	107.34	98.8				25	3	2		18	53 PP
BOGOTA	108.26	100.2				25	4	-1		19	6 PP
HUNGRY HORSE	108.76	41.6								19	12 PP
FUQUENE	109.08	100.0								19	6 PP
WICHITA MTS.	109.14	60.4	18	34	777	25	11	2		19	12 PP
YAKUTSK	109.47	339.0				25	3	-7		19	2 PP
COLLEGE	109.70	15.7	18	36	777						
POONA	110.70	276.8	19	11	36						
BOMBAY	111.69	276.5	19	12	35	25	16	-3		29	2
IRKUTSK	111.77	321.2								19	21 PP
RAPID CITY	111.92	50.1								19	26 PP
MANHATTEN	113.08	57.6								29	20
NEW DELHI	114.20	287.5	19	30	48	25	40	11		29	18
DEHRA DUN	114.59	289.5	19	57	75	25	33	2		29	34
ROLLA	115.38	61.0								29	22
C. GIRARDEAU	116.63	62.7								29	45
BROKEN HILL	116.70	216.1	18	51	5						
FLORISSANT	116.88	60.9								29	16
ST. LOUIS 1	116.88	61.1								29	17
CARACAS	117.43	100.5								20	2
DUBUQUE	118.63	57.2								35	48
BLOOMINGTON	119.64	62.3								30	18
ALMATA	122.16	301.5	19	1	4						
QUETTA	122.53	283.3	18	58	0						
MOULD BAY	124.27	15.2	18	58	-3						
GEORGETOWN	125.92	66.9	19	7	3						
TASHKENT	126.32	296.2	19	7	2						
LWIRO	127.14	223.3	19	6	-1					21	9 PP
SAMARKAND	127.16	293.4	19	5	-2						
PALISADES	129.02	65.9				26	24	6		21	26 PP
RESOLUTE	129.25	20.1	19	8	-3					22	34
BREBEUF	130.98	60.6	19	29	15					39	12 SS
SHAWINIGAN	131.90	59.5	19	19	3						
ALERT	134.83	9.1	19	19	-2						
KHEYS	134.94	348.1	19	19	-2						
SVERDLOVSK	136.43	313.7								19	16 PKS
TEHERAN	136.65	281.5	19	8	-17					22	10 PP
GORIS	141.79	284.5	19	32	-2						
TIFLIS	143.50	287.6	19	34	-2						
APATITY	146.73	334.6	19	42	0						
KSARA	147.44	269.9	19	45	2	26	53	3		23	13 PP
SOTCHI	147.66	289.0	19	47	3						
SODANKYLA	148.93	337.3	19	47	1						
MOSCOW	149.22	312.3	19	47	1						
KIRUNA	150.26	341.3	19	50	2					20	4
KAJAANI	150.63	331.6	19	51	2						
MBOUR	150.98	154.2	19	58	9					23	28 PP
PULKOVO	151.74	322.5	19	54K	4						

SIMFEROPOL	151.85	290.4	19	56	6							
NURMIJARVI	153.84	327.0	20	OK	7							
HELSINKI	153.90	326.1	20	1	8							
ISTANBUL KA.	154.90	280.6	20	15	21					24	6	PP
ISTANBUL UN.	154.96	280.4	20	7	12					24	1	
REYKJAVIK	155.02	18.2	20	27	32							
KISHINEV	155.63	294.7								20	43	PKP2
UPPSALA	157.00	331.0								20	24	PKP2
SOFIA	159.39	283.0	20	8	8					20	39	
SKALNATE PL.	161.03	302.7	20	12	10							
BRATISLAVA	163.31	301.3	20	16	12					24	47	PP
TARANTO	163.61	274.1								23	30	
PRUHONICE	164.23	309.5	20	15	10					24	56	PP
MESSINA	164.34	264.9	20	5	0	27	2	-6	20 13	24	50	PP
HALLE	164.87	317.6	20	7	1					21	4	PKP2
KASPERSKE H.	165.16	307.6	20	14	8					25	5	PP
JENA	165.39	316.3	20	19	13					24	57	PP
LJUBLJANA	165.54	295.3	20	11	5					24	33	PP
TRIESTE	166.15	294.1								51	34	SS
DURHAM	166.45	353.0								25	29	PP
ROME	167.36	278.1	20	11	3	27	8	-2		38	11	PPS
DE BILT	167.42	331.9	20	12	4					25	2	PP
BENSBERG	167.50	324.1	21	23	75							
STUTTGART	167.83	312.1	20	10	2					25	17	PP
FLORENCE X.	168.21	287.1	21	20	72					28	4	SKKS
STRASBOURG	168.76	314.1	21	22	73					24	51	PP
KEW	169.50	345.9								35	46	
ROSELEND	170.32	299.3								21	31	PKP2
PARIS	171.10	329.2	21	39	89					25	29	PP
ALMERIA	175.26	199.0	20	25K	13					25	52	PP
TOLEDO	178.50	190.3	20	19	7					25	56	PP

DECEMBER 28 23.H 55.M 54.S EPICENTRE -12.38 166.16 DEPTH= 69.KM

A=-0.94869 B= 0.23373 C=-0.21296 D= 0.2392 E= 0.9710
G= 0.2068 H=-0.0509 K=-0.9771 HT= 6.2

DEPTH OF FOCUS= 0.006R

SE= 1.84

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PORT VILA	5.72	158.9	1	26	2	2	30	1					
KOUMAC	8.33	192.2	2	0	0	3	28	-6					
NOUMEA	9.87	178.4	2	21	0	4	4	-7					
SUVA	13.15	117.4	3	3	-2	5	32	2					
RABAUL	16.04	299.2	3	42	0								
PORT MORESBY	18.90	277.1	4	20	3	7	56	14					
BRISBANE	19.50	218.0				7	56	1					
CHARTERS TS.	20.57	245.6	4	37	2	8	29	13					
RIVERVIEW	25.37	210.2	5	25K	3	9	48	7			10	42	SS
CANBERRA	27.62	211.4	5	46	3	10	22	4			6	14	*SP
CHATEAU	27.98	164.3	5	45	-1								
COBB RIVER	29.17	169.8	5	58	1								
WELLINGTON	29.76	166.9	6	2	0								
ROXBURGH	33.10	175.9				11	44	0					
ADELAIDE	33.52	223.3	6	38A	3	11	56	5					
MOORLANDS	34.19	205.4	6	44A	3						7	33	
TARRALEAH	34.39	206.3	6	46	4						7	27	
FORT NELSON	34.53	204.7	6	46	2						7	27	
MUNDARING	49.72	238.5	8	49A	2								
MATUSIRO	55.33	332.7	9	29K	0	17	36	30					
LEMBANG	57.89	269.7	9	51	4								
HONG KONG	61.52	303.9	9	52	-20	17	40	-46	10	20	18	26	*SS
WILKES	65.33	201.5	10	36A	-1						20	15	*SS
MIRNY	72.03	203.7	11	20	2								
BYRD STATION	75.18	170.0	11	34	-3								
SOUTH POLE	77.70	180.0	11	51	0								
ULAN-BATOR	79.73	324.0	12	15	13								
SHILLONG	81.52	298.5	12	13	2								
BERKELEY	83.45	49.1	12	22K	1								
MAWSON	83.65	202.0	12	22	0								
LICK	83.72	49.8	12	21A	-2								
SHASTA	84.38	46.4	12	26	0								
COLLEGE	84.42	18.0	12	25	-1				12	46	29	27	PKKP
MINERAL	84.81	47.0	12	28K	0								

PASADENA	85.32	53.7	12 31	0	23	24	30			22	46 SKS
RENO	85.82	48.2	12 34	1							
CHATRA	85.92	298.4	11 36K	-57						22	59
BOULDER CITY	88.48	52.8	12 45	-1							
EUREKA	88.62	49.2	12 47	1				13	8	16	27 PP
PENTICTON	89.26	39.0	12 49	-1							
TUCSON	90.71	57.3	12 58	2							
GLEN CANYON	91.26	52.5	13 1	2							
ARGENTINE I.	93.95	161.0	13 12	1							
WICHITA MTS.	101.21	56.7								26	32 PS
MANHATTEN	103.30	52.4								27	40
ROLLA	106.87	54.0								28	14
C. GIRARDEAU	108.73	54.7								27	5
BLOOMINGTON	111.12	52.7								25	24
TEHERAN	117.19	303.9	18 40	3							
SODANKYLA	118.95	343.3	18 43	2							
SHAWINIGAN	120.14	43.1	18 44	1							
KIRUNA	120.23	345.7	18 44	1							
PALISADES	120.54	49.6								30	8 PS
MOSCOW	121.33	328.8	18 48	3							
TIFLIS	121.46	311.5	18 50	4							
NURMIJARVI	124.29	338.1	18 53	2							
HELSINKI	124.41	337.7	18 53	2							
SKALSTUGAN	125.66	346.0	18 57	3							
BULAWAYO	127.19	232.8								16	41
SIMFEROPOL	127.92	318.0	19 2	4							
ISTANBUL UN.	132.95	315.4	19 10	2							
LWIRO	135.23	254.0	19 2	-10							
COLLMBERG	135.49	336.2	19 15	3				19	42	21	52 PP
HALLE	135.74	337.1	19 16	3							
PRUHONICE	135.85	333.8	19 16K	3						22	45 PP
BRATISLAVA	135.99	330.3	19 17	4						22	46 PP
VIENNA-H.	136.28	330.9	19 17	3						19	49
JENA	136.33	336.8	19 16	2						22	45 PP
KASPERSKE H.	136.91	333.7	19 16	1						22	48
BENSBERG	137.88	340.2	19 20	3						22	50 PP
STUTTGART	138.95	336.7	19 22	3						22	54 PP
STRASBOURG	139.68	337.8	19 25	5						22	56 SKP
FOLINIERE	142.06	345.6	19 21	-3							
GARCHY	142.42	341.1	19 30	5						23	2 PP
ROSELEND	142.52	336.3								19	25 PKP2
ISOLA	143.58	334.4	19 27	0						23	5 PP
MONACO	143.78	333.6	19 28	1							
BAGNERES	147.11	341.0	19 38	5						20	28
TOLEDO	151.27	344.2	19 43	4						20	5
ALICANTE	151.52	337.6	19 28	-12	26	23	-15				

DECEMBER 30 0.H 39.M 23.S EPICENTRE 52.48 178.01 DEPTH= 0.KM

A=-0.61129 B= 0.02120 C= 0.79112 D= 0.0347 E= 0.9994
G=-0.7906 H= 0.0274 K=-0.6117 HT= -6.3

SE= 3.59

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PETROPAVLOVK	11.75	280.3	2	47	-5	4	47	-18					
MAGADAN	16.69	305.8	3	55	-1						7	7	SS
OKHA	21.01	286.9									8	37	SS
COLLEGE	21.33	41.2	4	51A	1	8	54	11			18	1	
UGLEGORSK	22.83	275.9	5	2	-3	8	59	-12					
Y.-SAKHLINSK	23.29	270.6	5	7	-3						5	43	PP
NEMURO	23.42	260.0	5	5	-6	9	23	2					
KUSIRO	24.33	260.5	5	15	-5	9	36	-1					
WAKKANAI	24.68	268.0	5	24	1	9	43	0					
OBIHIRO	25.08	261.6	5	25	-2								
HIROO	25.38	260.2	5	33	3								
URAKAWA	25.78	260.5	5	30	-4	10	0	-2					
SAPPORO	26.12	263.6	5	42	5	10	1	-6			11	58	
TOMAKOMAI	26.23	262.6	5	46	8								
SITKA	26.88	61.5	5	47A	3	10	21	1					
MORI	27.15	262.6	5	44	-2	10	36	12					
YAKUTSK	27.19	309.6	5	42	-5								
HAKODATE	27.20	261.9	5	43	-4						6	44	
HATINOHE	27.51	258.9	5	47	-3	10	30	0					

AOMORI	27.78	260.1	5 56	4	10 48	14		
MIYAKO	27.79	257.0	5 33	-19				
MORIOKA	28.24	257.9	5 49	-7				
MIZUSAWA	28.63	257.0	6 0	0	10 29	-19		
AKITA	28.87	259.0	6 20	18	10 51	-1		
ISINOMAKI	28.97	255.7	5 51	-12				
SENDAI	29.32	255.9	6 3	-3	10 57	-2		
HUKUSIMA	29.92	255.6	6 9	-2				
ONAHAMA	30.20	253.9	6 14	0				
UTUNOMIYA	31.08	254.5	6 25	3				13 24
KAKIOKA	31.12	253.7	6 18	-4				
TUKUBASAN	31.17	253.7	6 13	-10	11 13	-15	6 25	7 19 PP
MAEBASI	31.65	255.1	6 23	-4				13 14
HONGO	31.72	253.4	6 12	-15				12 35
TOKYO C.M.O.	31.75	253.4	6 34	6	11 19	-18		
VLADIVOSTOK	31.87	271.6	6 22	-7				
YOKOHAMA	31.98	253.1	6 55	25				13 56
NAGANO	31.99	256.4	6 29	-1				13 27
MERA	32.23	252.3	6 37	5				
MATUMOTO	32.41	256.0	6 32	-1				
HUNATU	32.45	254.2	6 27	-7				
TOYAMA	32.56	257.4	6 32	-3	11 26	-24		
MISIMA	32.61	253.5	6 38	3				
IIDA	32.99	255.2	6 36	-2				
SHIZUOKA	33.03	253.9	6 37	-2				
MOULD BAY	33.34	22.8						7 32
OMAESAKI	33.40	253.6	6 16	-26				
GIHU	33.70	256.1	6 48	3				14 37
NAGOYA	33.74	255.6	6 35	-10				
KAMEYAMA	34.26	255.7	6 45	-4				
KYOTO	34.58	256.7	6 49	-3	11 49	-32		
TOYOOKA	34.77	258.2	6 50	-4	12 14	-10		14 16
ABUYAMA	34.78	256.6	6 49K	-5				
OSAKA	34.95	256.4	6 57	2				
OWASE	34.96	255.0	6 51	-4				
ALBERNI	35.41	71.8	7 1	2				
CHANGCHUN	35.49	277.4	6 54K	-6	12 30	-6		
SUMOTO	35.54	256.6	6 54	-6	12 47	11		
SIOMISAKI	35.65	254.7	6 52	-9	12 36	-2		
TAKAMATU	36.06	257.4	7 3	-2	12 47	3		
KIPAPA	36.10	140.0	7 2K	-3				21 23
HONOLULU	36.17	140.2	7 3A	-3	12 45	-1		
VICTORIA	36.58	72.2	6 59	-10				
KOTI	36.91	257.0	7 9	-3	12 52	-5		
HIROSIMA	37.00	259.1	7 18	5	12 47	-12		
MATUYAMA	37.15	258.1	6 58	-16	13 5	4		
SIMIDU	37.78	256.7			12 53	-18		
PENTICTON	38.38	69.0	7 23	-1				
CORVALLIS	38.69	77.6	7 28	1				
HAWAII V.OB.	38.99	137.6	7 26	-3	13 27	-2		
SAGA	39.05	259.7						8 21
KUMAMOTO	39.11	258.9	7 29	-1	13 32	1		
RESOLUTE	39.56	24.6	7 35	1				
NAGASAKI	39.67	259.5	7 34A	-1	13 41	2		
BANFF	39.78	64.4	7 40A	4				
ARCATA	40.34	82.9	7 42K	1				
YAKUSIMA	40.92	256.5			14 0	2		30 33
SHASTA	41.48	81.9	7 37	-13				
ALERT	41.89	9.9	7 52K	-1				
UKIAH	41.93	84.4	7 53	-1				
HUNGRY HORSE	42.05	67.4	7 54K	-1				9 31 PCP
MINERAL	42.17	81.8	7 54	-2				
PEKING	43.24	278.8	8 0	-4	14 31	-1		
SAN FRANCSCO	43.26	85.4	8 5K	0				
BERKELEY	43.31	85.1	8 5K	0	14 25	-8		
BRANNER	43.65	85.6	8 9A	1				
RENO	43.75	81.5	8 9	1				
LICK	44.03	85.3	8 10	-1				
ULAN-BATOR	44.06	293.8	8 8K	-3	14 40	-4		
BUTTE	44.17	69.4	8 11A	-1	14 45	-1		
BOZEMAN	45.24	69.0	8 20A	-1	15 3	2		
FRESNO	45.52	84.5	8 23K	0				
ZO-SE	46.08	265.5	8 18	-9	15 4	-9		
EUREKA	46.10	78.9	8 26A	-1	15 21	8		10 17 PP
PAOTOW	46.59	283.6	8 29K	-2	15 22	2		
NANKING	46.88	268.4	8 30K	-3	15 25	1		
GUAM	47.12	226.8	8 14	-21				
SALT LAKE C.	47.74	74.8	8 40A	0				

PASADENA	48.25	86.0	8	43	-1	15	45	1		10	38 PP
BOULDER CITY	49.05	81.7	8	50K	0						
FLAMING GRGE	49.09	73.1	8	54	3						
GLEN CANYON	50.35	78.5	9	0	0						
RAPID CITY	50.64	66.1	9	2	-1						
LARAMIE	51.06	70.3	9	6	0					11	4
SIAN	51.39	278.0	9	4K	-4						
LANCHOW	53.23	283.3	9	18	-4	16	53	0			
TUCSON	54.02	82.3	9	26A	-2						
TUCSON TELE.	54.02	82.1	9	27	-1						
ALBUQUERQUE	54.78	76.8	9	30	-3	17	17	3			
CANTON	56.67	265.0	9	43K	-4	17	38	-1			
HONG KONG	56.76	263.7				17	39	-1			
CHENGTU	56.86	278.4	9	43K	-6	17	36	-5			
APATITY	57.39	344.7	9	48A	-4	17	47	-1			
BAGUIO CITY	57.44	253.7	9	52	-1	17	48	-1			
MANHATTEN	57.58	66.6	9	50	-4	17	35	-16	10 1	17	49 PS
LAWRENCE	58.49	65.9	9	58	-2						
DUBUQUE	58.51	60.1	10	0	0	18	8	5			
SODANKYLA	58.55	347.5	9	57	-3	18	9	5		12	4 PP
KIRUNA	58.85	350.3	10	0A	-2	18	10	3		18	29 PPS
CHIHUAHUA	59.47	81.8	10	10	3	18	18	3		22	22 SS
WICHITA MTS.	59.57	71.6	10	5	-2	18	17	0		22	33 SS
SVERDLOVSK	59.59	325.5								18	33 SCS
ROLLA	61.11	64.6	10	14	-4	18	37	1			
FLORISSANT	61.30	62.9	10	19K	0	18	40	1			
ST. LOUIS 1	61.49	63.0	10	19	-2	18	33	-8			
KAJAANI	61.50	345.7	10	19	-2					12	38 PP
KUNMING	61.64	274.9	10	18	-4	18	44	1			
DALLAS	61.96	71.9	10	23	-1						
TERRE HAUTE	62.51	60.6	10	37	10	18	37	-17			
REYKJAVIK	62.70	9.7	10	29	0						
BLOOMINGTON	63.10	60.2	10	31A	0	18	59	-3			
SKALSTUGAN	63.75	352.9	10	35K	-1						
CLEVELAND	63.98	55.3	10	38	1	19	20	7			
SHAWINIGAN	64.31	46.3	10	33	-6						
FRUNSE	64.43	307.5	10	38	-2						
BREBEUF	64.73	47.6	10	39K	-3	19	16	-6			
PULKOVO	65.12	342.7	10	43	-1	19	27	0		13	13 PP
LHASA	65.33	286.9	10	44	-2	19	31	2			
NURMIJARVI	65.35	345.9	10	45A	-1	19	33	3		13	20 PP
HELSINKI	65.63	345.6	10	45	-3						
PENNSYLVANIA	66.32	53.5	10	53	1	19	44	3			
AFIAMALU	66.70	169.2	10	51	-4	19	19	-27		23	7 SS
UPPSALA	66.92	349.4	10	54A	-2	19	51	2			
GUADALAJARA	67.03	85.7	11	7	10					30	10
PORT MORESBY	67.06	213.3	10	52K	-5	19	43	-7		13	38
MOSCOW	67.30	337.0	10	59K	1	19	52	-1		13	29 PP
BERGEN	67.32	356.1	11	1	2						
MANZANILLO	67.64	87.6	11	1	0					20	40 SCS
SHILLONG	67.87	283.4	10	56A	-6	19	54	-6		13	28 PP
PALISADES	68.07	50.9	11	0A	-3	20	4	2		13	20 PP
TASHKENT	68.14	309.8	11	3	-1					11	33 PCP
WASHINGTON	68.17	54.3	11	6K	2	20	18	14		13	10
GEORGETOWN	68.17	54.3	11	3	-1	20	9	5			
GOTEBORG	69.59	352.1	11	14A	1					11	49
HALIFAX	69.75	42.0	11	14K	0						
COLUMBIA	69.89	60.3	11	15	1	20	23	-1			
CHITTAGONG	70.32	281.2	11	16	-1	20	26	-3			
SUVA	70.33	179.6	11	15	-2	20	30	1		21	7 PS
TACUBAYA	70.51	83.4	11	20A	2	20	32	1		13	55 PP
ABERDEEN	70.72	0.1				20	31	-3		13	58 PP
KARLSKRONA	70.76	349.7	11	22A	2						
COPENHAGEN	71.55	351.4	11	29A	4	20	47	4		15	51 PPP
DEHRA DUN	72.19	296.6	11	29	1	20	50	-1		15	59 PPP
CALCUTTA	72.25	283.9	11	31	2	20	52	1		14	19 PP
VERA CRUZ	72.52	81.2	11	26	-4	20	53	-1		13	59 PP
WARSAK DAM	72.76	303.5	11	32	0						
BOKARO	72.77	286.7	11	32	0	20	58	1		14	16 PP
DURHAM	73.12	359.8								21	43 PS
LAHORE	73.24	300.0	11	30	-4						
KOUMAC	73.70	193.4	11	41	4						
WARSAW	73.89	345.5	11	40	2					16	17
NEW DELHI	74.00	296.0	11	35A	-4	21	2	-9		21	23 SKS
WITTEVEEN	74.82	354.6	11	44K	0						
MERIDA	75.07	75.1	11	49	4	21	22	-1		16	37 PPP
NOUMEA	75.14	191.1	11	45A	0						
MUNSTER	75.61	353.9	11	48	0						

DE BILT	75.62	355.4	11	55	7	21	37	8		26	40 SS
LWOW	75.72	343.0	11	51	2					21	51 SCS
HALLE	75.73	351.1	11	47	-2	21	29	-1			
ASHKABAD	75.81	314.9	11	48	-1					12	4 PCP
COLLMBERG	75.83	350.4	11	48	-1	21	38	7		16	36 PPP
CHORZOW	76.08	346.3	11	51	0					15	6
KRAKOW	76.17	345.7	11	53	2	21	41	6		13	54
JENA	76.33	351.2	11	51	-1	21	43	6		14	58 PP
RACIBORZ	76.40	346.8	11	53	0					12	38
KEW	76.42	358.9	11	54	1	21	38	0		26	23 SS
BENSBERG	76.65	354.1	11	53A	-1	21	54	14	12 7	14	42 PP
PRAGUE	76.89	349.2				21	51	8		17	54
PRUHONICE	76.96	349.1	11	57	1	21	47	3		14	50 PP
SKALNATE PL.	76.97	345.2	11	58	2	22	2	18			
CHEB	77.10	350.6	11	59	2						
COMITAN	77.20	80.1	12	22	25	21	44	-2		12	56
CHARTERS TS.	77.37	210.5	11	53	-5	21	40	-8			
TIFLIS	77.82	326.1	12	0	-1					12	4 PCP
KASPERSKE H.	77.91	349.6	11	59	-2					14	47 PP
PORT BLAIR	77.99	273.5	12	27	26	21	53	-2			
HEIDELBERG	78.09	352.9	12	1	-1						
SIMFEROPOL	78.10	334.7	12	1K	-1					12	16 PCP
BRATISLAVA	78.42	347.1	12	0	-4	22	4	5		15	4 PP
VIENNA-H.	78.44	347.6	12	6	2	22	8	8	12 30	15	5 PP
HURBANOVO	78.56	346.3	11	57	-8	21	56	-5			
STUTTGART	78.68	352.4	12	5	0	22	8	6	12 31	15	14 PP
JERSEY	78.72	0.1				22	10	7			
TUBINGEN	78.93	352.5	12	6	-1						
STRASBOURG	78.98	353.4	12	7	0	22	11	6		15	17 PP
PARIS	79.02	357.0	11	33	-34						
FOLINIERE	79.12	359.0	12	8	0						
GORIS	79.25	324.0	12	9K	1	22	0	-8		14	58 PPP
RAVENSBURG	79.63	352.1	12	10	0						
BASLE	80.04	353.4	12	13A	0						
BESANCON	80.42	354.5	12	15	0						
BUCHAREST	80.50	340.0	12	19	4	22	27	6		22	59 PS
GARCH	80.53	356.5	12	16	1					15	14 PP
CHUR	80.56	352.0	12	18	3	22	26	4			
NEUCHATEL	80.61	353.8	12	13	-3						
TEHERAN	80.61	318.6	12	15	-1	22	22	-1			
LJUBLJANA	80.84	348.4	12	17	0					15	33 PP
ZAGREB	80.87	347.4	12	15K	-2	22	30	5			
BELGRADE	81.18	344.0	12	22K	3	22	36	8		15	29 PP
TRIESTE	81.32	348.9	12	20	1	22	34	4		15	37 PP
PADOVA	81.77	350.2	12	25	3	22	41	6		23	43 PS
CLERMONT-FD.	82.03	356.4	12	29	6					15	44
HYDERABAD	82.04	288.1	12	28K	5	22	38	1		23	29 PS
ROSELEND	82.06	353.2	12	23	0						
PAVIA	82.25	352.1	12	26	2	23	0	21		23	50 PS
KARACHI	82.45	301.1	12	25	0						
BRISBANE	82.53	202.5	12	21	-5	22	36	-6			
SOFIA	82.71	341.5	12	27	0	23	2	18			
BOLOGNA	82.72	350.4				22	57	13		12	59
ISTANBUL KA.	83.02	336.9	12	33A	5	22	55	8		15	49 PP
ISTANBUL UN.	83.06	336.9	12	29	1	22	48	0			
CHIAVARI	83.09	351.9								17	42
PRATO	83.36	350.5	12	30	0	22	56	5			
ISOLA	83.41	353.5	12	30	0					12	34 PCP
FLORENCE X.	83.44	350.4	12	41	11	23	12	20			
LEMBANG	83.66	250.2	12	32	0	22	47	-7			
TITOGRAD	83.70	344.3	12	28	-4					23	2 SCS
POONA	83.81	292.3	12	29	-3	22	50	-5		15	45 PP
MONACO	83.83	353.1	12	31	-1					15	37 PP
BOMBAY	84.09	293.3	12	32	-2	22	57	-1		22	50 SKKS
MADRAS	84.52	284.1	12	43K	7	23	12	10		15	48 PP
BAGNERES	84.81	358.4	12	44	7					16	8 PP
ROME	85.17	349.2	12	42	3	23	12	3		15	57 PP
TARANTO	85.93	345.4								23	10
TORTOSA	87.06	358.1	12	54	6	23	31	4			
KSARA	87.92	329.2	12	56	3	23	40	5		16	24 PP
TOLEDO	88.00	1.6	12	54	1	23	42	6		29	32 SS
KODAIKANAL	88.31	284.5				23	39	0		33	54
MESSINA	88.41	346.3	12	58	3	23	46	6		16	34 PP
LISBON	88.96	5.6				23	55	10		29	45 SS
RIVERVIEW	89.09	202.1	12	56A	-2	23	45	-1		23	48 SCS
ALICANTE	89.54	358.8	12	59	-1	23	53	3		18	20 PPP
KARAPIRO	90.06	182.0	12	58	-5					19	55 PKKP
SAN JUAN	90.31	58.7	13	4	0					16	45 PP
GRANADA	90.70	1.3	13	10K	4	23	58	-2		17	1 PP

CANBERRA	91.03	203.4	13	3	-4					24	8 SCS
ALMERIA	91.04	0.4	13	7	0	23	54	-10		16	54 PP
CHATEAU	91.33	181.9	13	4	-5						
ADELAIDE	93.59	211.4	13	16	-3	23	54	-32			
FORT FRANCE	95.94	56.6	13	23	-7						
CHINCHINA	95.95	74.0	13	33	3	24	9	3		17	23 PP
CARACAS	96.40	63.7	13	34	2	24	6	-2			
FUQUENE	96.65	72.1	13	35K	2					17	24 PP
ROXBURGH	97.86	186.2				24	8	-8		25	1 S
PERTH	100.02	229.8	18	2	254					32	20 SS
MBOUR	112.17	15.7								19	29 PP
LA PAZ	117.43	81.3	18	49	2						
BANGUI	120.72	335.9								20	24 PP
LWIRO	123.77	322.0	19	2A	2						
CAPE HALLETT	124.61	182.9								21	29 PP
WILKES	129.00	208.7								22	5 PP
SCOTT BASE	130.25	183.1	19	10	-2					21	18 PP
LUANDA	134.76	338.6								21	59 PP
BROKEN HILL	134.99	316.0	19	23	2						
BULAWAYO	139.95	312.0	19	21	-9						
SOUTH POLE	142.29	180.0	19	27	-7						
PRETORIA	144.96	307.9	19	41	2						
MAWSON	146.13	218.5	19	36	-5						
KIMBERLEY	149.10	309.6	19	53	7					23	23 SKP

DECEMBER 30 7.H 8.M 38.S EPICENTRE 39.91 77.29 DEPTH= 57.KM

A= 0.16919 B= 0.75029 C= 0.63909 D= 0.9755 E=-0.2200
G= 0.1406 H= 0.6234 K=-0.7691 HT= -1.7

DEPTH OF FOCUS= 0.004R

SE= 2.92

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
RYBACHE	2.67	342.0	0	47	5						1	16	S*
PRZHEVALSK	2.70	17.7	0	40	-2						1	16	S*
FABRICHNAYA	3.28	348.9	0	50	0						1	39	S*
ALMATA	3.36	355.7	0	51	-1						1	36	S*
FRUNSE	3.54	326.2	0	56	2						1	47	S*
ANDIJAN	3.85	284.1	0	59	1						2	8	SG
FERGANA	4.25	278.0	1	4	0						2	17	SG
NAMANGAN	4.42	285.7	1	7	1						2	31	SG
DZERGETAL	4.74	263.5	1	11	0								
KHOROG	5.12	243.5									2	46	SG
GARM	5.49	262.7	1	20	-1						3	2	SG
KULYAB	6.22	253.5	1	30	-1						3	25	SG
TASHKENT	6.26	285.5	1	30	-2						3	22	
TCHIMKENT	6.28	294.8	1	31	-1	2	44	0			3	11	
WARSAK DAM	7.48	219.7	1	46	-3	3	14	1					
SAMARKAND	7.95	271.5	1	52	-3						4	56	
LAHORE	8.69	197.0	2	1	-5								
DEHRA DUN	9.59	176.1	2	19	1	4	6	1			4	20	SS
NEW DELHI	11.31	180.4	2	35	-6	4	36	-11			2	43	PP
BAIRAM-ALI	12.07	263.8	2	46	-6	4	55	-10			5	42	
QUETTA	12.88	224.2	2	57	-5								
ASHKABAD	14.88	268.5	3	26	-2						5	48	
LHASA	15.23	128.1	3	29	-4	6	23	3					
CHATRA	15.42	144.8	3	24	-11	6	4	-21			3	35	PP
KIZYL-ARVAT	16.23	274.2	3	42	-4						8	52	
SEHORE	16.69	180.7				6	36	-18			8	51	
BOKARO	17.57	153.3	4	0A	-2	7	18	4			7	39	SS
SHILLONG	18.80	135.1	4	9	-8	7	40	-1			8	3	SS
SVERDLOVSK	20.13	332.7	4	30	-2								
TEHERAN	20.85	266.7	4	41	2	8	37	13					
LANCHOW	21.20	91.0	4	38	-5	8	31	1					
BOMBAY	21.29	191.7	4	42	-2	8	45	13			10	46	SSS
CHITTAGONG	21.42	140.5	4	41	-4								
POONA	21.52	188.9	4	43	-3	8	50	14			8	37	PCP
HYDERABAD	22.43	177.1	4	58	3	8	55	2			10	7	
MAKHACH-KALA	22.49	287.5	4	53	-3	8	59	5			9	34	
ULAN-BATOR	22.67	59.6	4	56K	-1								
VISHAKHAPTNM	22.72	165.0	4	59	1	9	1	3			9	47	SS
KIROVOBAD	23.58	281.8	5	6	0								
CHENGTU	23.61	104.7	5	4K	-3	9	18	5					

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GORIS	23.77	279.0	5	10A	2				5	59	PPP
TIFLIS	24.58	284.8	5	18A	2				5	46	PP
PAOTOW	24.92	77.8	5	17K	-2	9	43	7			
SIAN	25.77	92.6	5	25K	-2	9	55	5			
KUNMING	25.92	117.0	5	26K	-3	9	58	6			
MADRAS	26.93	173.8				9	55	-13	7	57	
KODAIKANAL	29.56	179.6							12	24	
PEKING	29.64	77.1	6	0	-2	10	57	5			
MOSCOW	30.46	314.6	6	9	-1				7	12	PP
SIMFEROPOL	31.97	293.4	6	24	1				12	59	PCS
KSARA	33.46	272.8	6	36	0				7	49	PP
PULKOVO	35.23	320.1							14	34	SS
ISTANBUL KA.	36.32	287.8	6	59	-1						
APATITY	36.58	333.5	7	3	1						
KAJAANI	37.51	326.7	7	10	0						
HELSINKI	37.95	320.0	7	17	3						
NURMIJARVI	38.15	320.5	7	15A	0						
LWOW	38.29	303.1	7	17	0				8	50	PP
YAKUTSK	38.30	37.1	7	13	-4	13	8	2			
SODANKYLA	38.92	331.6	7	22	0						
KRAKOW	40.89	304.0	7	38	0						
PRUHONICE	44.32	304.8	8	7	1						
COLLMBERG	45.02	306.9	8	11A	-1				10	1	PP
KASPERSKE H.	45.12	303.8	8	12	0				9	55	
LJUBLJANA	45.28	299.4	8	13	-1				9	50	
JENA	45.97	306.7	8	19	0	14	16	-43	10	10	
MATUSIRO	47.16	73.7	8	24	-5						
STUTTGART	47.95	304.3	8	35	0				10	4	
ROME	47.97	294.6							28	52	
STRASBOURG	48.97	304.4	8	43	0						
ROSELEND	50.04	300.6	8	56	5						
KEW	53.00	310.1	9	13	0						
ALERT	56.20	354.1	9	34	-3						
LWIRO	61.03	238.8	10	9	-1						
THULE	61.90	351.3	10	15	-1						
MOULD BAY	63.64	4.4	10	25A	-2						
TANANARIVE	64.77	211.3	10	38	3						
RESOLUTE	65.58	357.7	10	37	-3						
COLLEGE	69.75	18.8	11	2	-4						
BROKEN HILL	70.60	230.6							11	7	PCP
DARWIN	71.91	124.2	11	18	-1						
BULAWAYO	75.03	226.9							11	36	PCP
KIMBERLEY	83.96	224.5	12	26	1						
CHARTERS TS.	87.64	118.6	12	42	-1						
PENTICTON	89.90	11.0	12	53	-1						
EUREKA	100.06	10.4	13	41	0				17	44	PP
WICHITA MTS.	105.64	356.5	18	12	777				27	42	PS
ANTOFAGASTA	148.37	291.0	19	42	5						

DECEMBER 30 16.H 41.M 50.S EPICENTRE 52.19 177.86 DEPTH= 0.KM

A=-0.61526 B= 0.02299 C= 0.78799 D= 0.0373 E= 0.9993
G=-0.7874 H= 0.0294 K=-0.6157 HT= -6.2

SE= 1.95

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PETROPAVLOVK	11.71	281.7	2	33	-18	4	21	-43				
MAGADAN	16.79	306.7	4	1	3							
COLLEGE	21.62	40.8	4	52	-1	8	57	9			5	55
UGLEGORSK	22.77	276.5	5	6A	1							
Y.-SAKHLINSK	23.20	271.2	5	10	1							
YAKUTSK	27.30	310.0	5	46	-2							
VLADIVOSTOK	31.78	272.0	6	27A	-1							
MATUSIRO	31.91	256.5	6	26	-3							
MOULD BAY	33.65	22.6	6	45	1							
PENTICTON	38.58	68.6	7	27	1							
RESOLUTE	39.87	24.5	7	37	0	13	47	5				
SHASTA	41.61	81.5	7	52	1							
ALERT	42.19	9.8	7	55	-1							
HUNGRY HORSE	42.25	67.0	7	56	0							
MINERAL	42.30	81.4	7	56A	0							
CALISTOGA	42.75	84.1	8	1K	1							
PEKING	43.20	279.0	8	4	0	14	26	-5				
KHEYS	43.36	348.0	8	4	-1							
BERKELEY	43.43	84.7	8	7A	1							

RENO	43.89	81.1	8	10	1					
ULAN-BATOR	44.10	294.0	8	10	-1					
LICK	44.15	84.8	8	12K	0					
PARAISO	44.35	86.5	8	19K	6					
VINEYARD TE.	44.68	85.3	8	17A	1					
THULE	45.02	17.8	8	20	1					
PRIEST	45.52	85.4	8	24K	1					
FRESNO	45.64	84.1	8	24	1					
EUREKA	46.25	78.5	8	28	0					
PADTOW	46.56	283.7	8	32	1	15	16	-4	10	18 PP
PASADENA	48.37	85.6	8	45	0	15	52	7		
BOULDER CITY	49.19	81.4	8	51	0					
LARAMIE	51.24	70.0	8	37	-30					
LANCHOW	53.20	283.4	9	19	-3					
TUCSON	54.15	82.0	9	22	-7					
ALBUQUERQUE	54.94	76.5	9	34	0					
APATITY	57.64	344.7	10	47	53					
MANHATTEN	57.79	66.3	9	53	-2					
DUBUQUE	58.74	59.9				18	29	23		
SODANKYLA	58.82	347.4	10	2	0				10	51 PCP
KIRUNA	59.12	350.2	10	1	-3					
WICHITA MTS.	59.75	71.4	10	7	-2				10	34
SVERDLOVSK	59.78	325.5							11	6
ROLLA	61.32	64.4	10	17	-2					
ST. LOUIS 1	61.71	62.7	10	21	-1					
KAJAANI	61.76	345.6	10	20	-2				11	2 PCP
BLOOMINGTON	63.33	59.9	10	32	-1	20	40	96		
SHAWINIGAN	64.58	46.1	10	39	-2					
BREBEUF	65.00	47.4	10	40K	-4					
PULKOVO	65.37	342.6	10	47	1					
NURMI JARVI	65.62	345.8	10	48	1					
UPPSALA	67.19	349.3	10	56	-1					
MOSCOW	67.54	336.9	10	47	-13					
TASHKENT	68.25	309.8	11	5	1					
PALISADES	68.33	50.7	11	5	0					
CHATRA	69.69	287.7	11	9	-4					
CHITTAGONG	70.28	281.2	11	17	0					
SAMARKAND	70.63	310.1	11	20	1					
WARSAK DAM	72.85	303.4	11	31	-1					
NEW DELHI	74.05	296.0	11	38A	-1					
MUNSTER	75.89	353.8	11	52	2					
MAKHACH-KALA	75.97	324.8				21	11	-22		
HALLE	76.01	351.0	11	52	2					
COLLMBERG	76.10	350.3	11	52	1				12	4 PCP
JENA	76.61	351.1	11	56	2					
BENSBERG	76.93	354.0	11	57	2					
NIEDZIKA	76.99	345.2	11	51	-5					
CHARTERS TS.	77.07	210.4	11	57	1					
PRUHONICE	77.23	349.0	11	59	2					
KISHINEV	77.67	338.9				21	52	1		
TIFLIS	78.01	326.0	12	3	2					
KASPERSKE H.	78.18	349.5	12	1	-1					
QUETTA	78.24	304.3	12	3	0					
SIMFEROPOL	78.33	334.6							24	2
STUTTGART	78.95	352.3	12	6	-1					
FOLINIERE	79.41	358.9	12	10	1					
GARCHY	80.81	356.4	13	10	53					
BRISBANE	82.23	202.4	12	26	2				21	33
ROSELEND	82.34	353.1	12	27	2					
FLORENCE X.	83.72	350.3	12	5	-27					
BOMBAY	84.12	293.2							23	1
KARAPIRO	89.76	181.8	13	0	-1					
SAN JUAN	90.55	58.6	13	7	2					
BYRD STATION	136.60	167.0	19	17	-7					
SOUTH POLE	142.00	180.0	19	29	-5					
MAWSON	145.84	218.2	19	38	-2				20	4
KIMBERLEY	149.22	309.0	19	20	-26					

DECEMBER 31 13.H 46.M 6.S EPICENTRE 1.50 127.43 DEPTH= 186.KM

A=-0.60765 B= 0.79378 C= 0.02599 D= 0.7940 E= 0.6079
G=-0.0158 H= 0.0206 K=-0.9997 HT= 7.2

DEPTH OF FOCUS= 0.024R

SE= 2.78

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DARWIN	14.19	166.4	3	12	-2								
BAGUIO CITY	16.29	335.9	3	42	2	6	43	9					
GUAM	20.85	54.4	4	27	-1								
LEMBANG	21.44	247.1	4	36	2	8	26	11					
DJAKARTA	21.94	249.5	4	34	-5								
PORT MORESBY	22.43	119.2	4	45	1	8	40	7			5	17	
HONG KONG	24.37	329.0	5	14	12	9	10	4			9	38	*SS
CANTON	25.45	328.5				9	27	4					
CHARTERS TS.	28.30	140.2	5	39	1	10	32	22					
ZO-SE	30.03	349.2				10	42	5					
NANKING	31.47	345.8				11	5	6					
KUNMING	33.46	316.6	6	24K	1	11	34	4					
MATUSIRO	36.26	14.7	6	45A	-2	12	8	-5			9	8	PCP
CHENGTU	36.52	324.9	6	48	-1	12	17	0					
SIAN	36.89	334.0	6	53K	1	12	26	3					
BRISBANE	37.68	141.5	6	59	0	13	33	58					
ADELAIDE	37.79	164.8	7	0A	0						8	0	
PEKING	39.70	346.4	7	15	-1	13	5	0					
CHITTAGONG	40.35	303.6	7	23	2								
LANCHOW	40.75	330.2	7	26	2	13	23	3					
RIVERVIEW	41.63	149.7	7	32A	0						16	52	SS
VLADIVOSTOK	41.63	4.9	7	9A	-23								
SHILLONG	41.79	308.0	7	32K	-1								
CANBERRA	41.81	153.2	7	34A	1						9	26	
PAOTOW	41.98	340.1	7	35	1	13	40	2					
CHANGCHUN	42.19	357.7	7	35	-1	13	42	0					
KOUMAC	42.22	123.3	7	35A	-1								
MELBOURNE	42.36	159.3	7	38	1						9	22	
PORT VILA	44.57	117.2	7	55	0								
NOUMEA	44.80	124.2	7	56A	-1								
BOKARO	46.00	302.2	8	6	-1						9	57	
CHATRA	46.11	306.7	8	8K	1	14	42	4					
VISHAKHAPTNM	46.23	293.2	8	11K	3						9	21	
MADRAS	48.15	286.1	8	24K	1	15	12	5			10	11	PP
IRKUTSK	54.16	342.7	9	7	-1	16	35	6					
DEHRA DUN	54.85	306.6	9	22	9						16	43	
NEW DELHI	54.92	304.3	9	13K	-1								
LAHORE	58.27	306.6	9	33	-4	17	26	3					
KARAPIRO	59.21	136.7	9	43	-1				10	19			
CHATEAU	59.85	138.0	9	48	0								
YAKUTSK	60.39	1.2	9	56	4	17	58	8					
WELLINGTON	60.43	140.4	9	50	-2								
GEBBIES PASS	60.47	143.7	9	54	2								
MAGADAN	60.67	13.4	9	53	-1								
ALMATA	61.16	320.0	9	55	-2	18	6	6					
WARSAK DAM	61.30	308.4	9	58	0								
KARACHI	62.64	297.2	10	8	1								
QUETTA	63.93	303.0	10	15	0	18	38	4					
TASHKENT	65.52	315.3	10	25	-1	18	58	4					
SAMARKAND	66.61	313.0	10	31	-1	19	10	3					
HONOLULU	74.99	68.5	11	25	2								
KIPAPA	75.07	68.3	11	25	2								
SVERDLOVSK	76.22	328.7	11	28	-2								
HAWAII V.OB.	77.52	70.5	11	38	1								
TANANARIVE	80.92	250.7	12	10	15						12	58	
MAKHACH-KALA	81.61	313.1									19	51	
MAWSON	81.92	200.5	11	59	-1								
SCOTT BASE	82.04	172.2	12	1	0								
TIFLIS	83.50	311.6	11	59	-9								
KHEYS	85.22	351.1	12	17	0								
COLLEGE	86.41	25.2	12	22	-1								
MOSCOW	88.66	325.5	12	33	0								
SOUTH POLE	91.49	180.0	12	51	4								
SODANKYLA	92.78	337.6	12	51K	-1								
MOULD BAY	93.97	12.7	12	58A	0								
KIRUNA	94.99	338.6	13	1A	-2								
BYRD STATION	95.39	170.7	13	5	1						13	41	
RESOLUTE	99.87	10.5	13	25A	0								
PENTICTON	103.61	38.3	17	19	218								
KASPERSKE H.	104.24	321.7									18	26	
EUREKA	109.26	47.1	17	58	777						19	11	PP
ALBUQUERQUE	117.97	48.7	18	27	2								
WICHITA MTS.	123.85	45.5	18	37	1						20	20	PP
FAYETTEVILLE	126.16	41.8	18	41K	1								
SAN JUAN	156.16	33.4	20	3	31								

LA PAZ 158,62 135.1 19 25 -10

The scanned images of the bulletins of the International Seismological Summary (ISS) have been obtained as part of a global earthquake relocation project (Villaseñor et al., 1997) initiated with funding from the US National Science Foundation through grant EAR-9725140 and collected by SGA Storia Geofisica Ambiente (Bologna) on behalf of the Istituto Nazionale di Geofisica e Vulcanologia (Rome), in the frame of Euroseismos project.

A digital hypocenter file of the ISS (Villaseñor and Engdahl, 2005) can be obtained from the USGS web site: http://earthquake.usgs.gov/scitech/iss/

Villaseñor, A., and E.R. Engdahl, *A digital hypocenter catalog for the International Seismological Summary,* Seism. Res. Lett., vol. 76, no. 5, pp. 554-559, 2005.

Villaseñor, A., E.A. Bergman, T.M. Boyd, E.R. Engdahl, D.W. Frazier, M.M. Harden, J.L. Orth, R.L. Parkes, and K.M. Shedlock*, Toward a comprehensive catalog of global historical seismicity,* Eos Trans. AGU, vol. 78, no. 50, pp. 581, 583, 588, 1997.