OCTOBER 2 3.H 31.M 26.S EPICENTRE -5.49 151.98 DEPTH= 56.KM

A=-0.87880 B= 0.46762 C=-0.09512 D= 0.4698 E= 0.8828
G= 0.0840 H=-0.0447 K=-0.9955 HT= 7.0

DEPTH OF FOCUS= 0.004R

SE= 2.16

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	#PP M S	SUPP. M S
RABAUL	1.30	8.3	0 23A	0				
PORT MORESBY	6.16	230.7	1 32A	1	2 43	2		
HONIARA	8.81	116.8	2 5A	-2	3 41	-5		
CHARTERS TS.	15.54	200.5	3 38K	1	6 34	6		
LUGANVILLE	17.90	125.0	4 8	1				
KOUMAC	19.16	142.5	4 20A	-1				
GUAM	20.16	339.2	4 32	0				
BRISBANE	21.79	178.1	4 48	-1	8 47	6		
DARWIN	21.97	250.4	4 54	3	8 54	9		
RIVERVIEW	28.20	181.5						10 36
CANBERRA	29.81	184.9	6 3A	-1				
ADELAIDE	31.79	201.0	6 20K	-1				
TOOLANGI	32.47	189.6	6 27	0				
MANILA	36.61	303.5	7 3	0				
AFIAMALU	36.64	105.9			12 34	-7		
BAGUIO CITY	37.93	305.6	7 14	0				
KARAPIRO	38.76	149.7	7 20	-1				
GISBORNE	40.58	148.1	8 33	57				
WELLINGTON	41.04	153.6			13 46	-2		9 26 PP
HONOWAI	42.37	163.7	7 48	-2				
MUNDARING	42.56	227.3	7 56	4				
MATUSIRO	43.76	343.9	7 58	-4				9 47 PPP
PETROPAVLOVK	58.57	4.7						10 42
SHILLONG	65.97	301.0	10 42A	-1				
ULAN-BATOR	66.27	328.6	10 43	-2				
CAPE HALLETT	67.69	174.1	10 52	-1				
YAKUTSK	69.47	349.0	11 2K	-2				
CHATRA	70.37	300.9	11 9K	-1				
ESEN BULAK	71.38	322.9	11 16	0				
SCOTT BASE	72.73	176.8	11 23	-1				
TIKSI	78.46	352.7	11 54A	-3				
NEW DELHI	79.37	300.3	11 0A	-62				
COLLEGE	82.80	21.9	12 18	-2	22 4	-28		
ALMATA	82.94	314.7	12 19K	-1				
BYRD STATION	84.36	169.9	12 26	-1				
FRUNSE	84.50	313.9	12 28A	0				
SOUTH POLE	84.54	180.0	12 27	-1				
MAWSON	84.62	202.6	12 28	-1				
WARSAK DAM	85.15	304.7	12 31	0				
TASHKENT	88.13	311.6	12 46A	0				
QUETTA	88.45	300.3	12 47	0				
PARAISO	89.72	53.6	12 58	5				
CALISTOGA	89.84	51.3	12 55A	1				
BERKELEY	89.99	52.1	13 4K	9				
SHASTA	90.23	49.3	12 55A	-1				
LICK	90.42	52.7	12 58K	1				
VICTORIA	90.50	41.4	12 56A	-1				
MINERAL	90.79	49.7	13 0K	2				
PRIEST	91.07	54.0	13 2K	2				
PASADENA	92.92	56.1	13 9	1				
BLUE MTS.	94.34	45.5	13 14A	-1				16 58 PP
MOULD BAY	94.98	13.9	13 17A	-1				
SVERDLOVSK	95.30	326.5	13 17	-2				
EDMONTON	97.15	37.0	13 28	1				
TONTO FOREST	98.64	56.3	13 36	2				29 58 PKKP
TUCSON	98.98	58.3	13 38	2				17 43 PP
UINTA BASIN	99.97	50.2	13 40	0	13 55			17 35 PP
ALBUQUERQUE	102.60	55.6	13 58	6				18 8 PP
WICHITA MTS.	109.07	55.3	14 26	777				18 45 PP
NURMIJARVI	112.41	334.8						29 12 PS
CUMBERLAND	119.37	52.1	18 43	0				
COLLMBERG	123.06	330.6						18 52 PS
KASPERSKE H.	124.10	328.2	18 53	1				
STUTTGART	126.53	330.1	18 58	1				
ISOLA	130.71	326.9	19 7	2				22 31 SKP
LA PAZ	134.71	119.6	19 16	3				
AVERROES	146.34	327.9	19 36K	3	19 54			
TRINIDAD	146.57	79.0	19 36	2				

OCTOBER 2 5.H 47.M 3.S EPICENTRE -20.77-174.12 DEPTH= 8.KM

A=-0.93085 B=-0.09594 C=-0.35258 D=-0.1025 E= 0.9947
G= 0.3507 H= 0.0361 K=-0.9358 HT= 4.5

SE= 2.05

	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	
AFIAMALU	7.18	18.5	1	42	-6	2	59	-12					
NOUMEA	18.15	261.7	4	18K	4	7	55	21					
LUGANVILLE	18.57	283.3	4	20A	1								
GISBORNE	19.07	199.1	4	27	2				4	45			
KARAPIRO	19.30	205.4	4	27	-1								
KOUMAC	20.22	266.8	4	41	3								
WELLINGTON	22.51	202.3	5	2	0	9	9	5	5	24	10	7	SS
HONIARA	27.41	290.4	5	44	-4								
ROXBURGH	28.16	205.1	5	57	2								
MONOWAI	29.10	206.8	6	1	-2								
BRISBANE	30.87	251.2	6	19	0	11	24	2					
RIVERVIEW	33.33	239.7	6	41	0	12	3	3			14	51	
CANBERRA	35.41	237.9	6	57K	-1	12	33	0					
RABAUL	36.68	292.1	7	7	-2								
CHARTERS TS.	37.08	263.9	7	11	-2	12	40	-18					
TOOLANGI	38.71	235.4	7	25	-1						8	3	
PORT MORESBY	38.97	281.0	7	28	0								
ADELAIDE	43.64	240.8	8	5K	-2						18	9	SCS
HAWAII V.OB.	44.01	26.0	8	14	4	15	11	29					
HONOLULU	44.65	21.5	8	16	1	14	58	7					
KIPAPA	44.79	21.5	8	15	-1	14	57	4					
CAPE HALLETT	52.33	186.0	9	15	1	16	49	10					
GUAM	52.84	306.6	9	15	-3								
DARWIN	53.22	269.9	9	19	-2								
SCOTT BASE	57.87	184.7	9	54	-1								
MUNDARING	62.48	244.0	10	26	0	18	51	-1					
BYRD STATION	63.78	170.9	10	33	-2								
WILKES	65.29	205.5	10	43	-2						21	29	
SOUTH POLE	69.36	180.0	10	49	-21								
MATUSIRO	72.64	321.4	11	30A	0	20	51	-3					
BAGUIO CITY	73.97	294.9	11	37	-1	21	15	6					
PARAISO	74.94	41.0	11	47	4								
PRIEST	75.88	42.1	11	49K	0								
BERKELEY	76.00	39.9	11	49K	0	21	27	-5					
LICK	76.03	40.6	11	49A	-1								
PASADENA	76.26	45.0	11	51	0	21	39	5					
PETROPAVLOVK	77.19	343.5	11	58K	2								
SHASTA	77.78	37.6	12	0K	1								
TANGERANG	77.81	268.0	11	58	-2								
MINERAL	78.00	38.3	12	0	-1								
ARGENTINE I.	79.28	156.2	12	6	-2								
BOULDER CITY	79.55	45.2	12	11	2								
TUCSON	80.26	50.2	12	13	0								
EUREKA	80.85	41.7	12	15	-1								
TONTO FOREST	81.03	48.2	12	17	0	22	11	-14	12	27	22	32	*SS
HONG KONG	82.02	297.4	12	24	2	22	39	4					
GLEN CANYON	82.26	45.8	12	25	2								
SEATTLE	82.45	32.4	12	21	-3	22	37	-3					
VICTORIA	82.49	31.3	12	23	-2								
MAWSON	82.51	198.9	12	24A	-1	22	41	1					
DUGWAY	83.25	42.6	12	26	-2								
BLUE MTS.	83.30	36.8	12	28	-1	22	51	3			15	38	PP
SALT LAKE C.	84.18	42.5	12	35	2								
ALBUQUERQUE	84.77	49.7	12	36	0						13	3	
UINTA BASIN	85.40	43.8	12	39	0	23	16	7			28	42	SS
COLLEGE	87.74	10.9	12	49	-2								
PHU-LIEN	87.78	293.1	12	52	1						23	22	SKKS
N-LAZARVSKYA	88.61	182.0	12	49	-6	23	37	-3					
SANTA LUCIA	89.37	125.6				23	27	-20			13	21	
WICHITA MTS.	90.41	52.9	13	3	0	24	3	7			13	23	
TULSA	92.99	52.8	13	14	-1	23	50	-29					
AREQUIPA	95.57	109.8	13	29	2								
ULAN-BATOR	98.08	318.2	13	43	5								
CHINCHINA	99.68	88.3	13	33	-13	24	18	-5					
CUMBERLAND	100.66	56.0				25	30	62			18	7	PP
BOGOTA	101.01	89.2	13	51	-1	24	31	1			32	34	SS
ESEN BULAK	104.50	314.4									17	59	
CARACAS	109.62	85.9				26	52	104			17	29	
PALISADES	110.85	52.8				25	30	17					
WARSAK DAM	121.10	297.9	18	56	2								

TASHKENT	123.20	306.4	19	0K	2	20 40	
QUETTA	124.64	292.9	19	2	2		
SVERDLOVSK	126.26	326.2	19	4	0		
KEVO	129.37	350.7	19	10	0	21 13	PP
APATITY	130.11	346.6				21 23	PP
SODANKYLA	131.59	349.4	19	15	1		
ASHKABAD	131.81	302.8	19	18	4		
VANNOVSKAYA	132.00	302.8	19	18	3		
KIRUNA	132.07	352.6				39 20	SS
KIZYL-ARVAT	133.28	304.7	19	21	4		
KAJAANI	134.31	346.8	19	27	8		
UMEA	135.90	350.9	19	42	20	23 8	PKS
VIBORG	136.95	343.7	19	22A	-2		
SHIRAZ	137.13	291.5	19	23A	-1	22 10	PP
TEHERAN	137.61	300.6	19	29	4	34 36	PPS
MOSCOW	137.81	333.7	19	42	17		
NURMIJARVI	138.14	346.2	19	30	4	22 11	PP
TIFLIS	141.15	311.4	19	26	-5		
BAKURIANI	142.05	312.0	19	32	-1		
BANDEIRA	143.81	192.2	19	37A	1		
COPENHAGEN	144.80	353.5	19	40	2		
ADDIS ABABA	146.22	254.7	19	47	7		
WARSAW	146.47	343.1	19	43	3	23 11	PP
SIMFEROPOL	146.48	322.5	19	43A	3		
LWOW	147.63	337.9	19	47	5	22 57	
KISHINEV	147.86	329.9	19	46	3		
LWIRO	147.94	227.1	19	48A	5		
KRAKOW	148.73	342.5	19	48A	4	19 59	PKP2
HALLE	148.97	352.6	19	47	2	23 28	PKS
KEW	148.98	7.5	19	51	6		
COLLMBERG	149.03	351.3	19	49	4	19 54	PKP2
RACIBORZ	149.17	344.4	19	52	7	20 3	PKP2
UZHGOROD	149.24	338.5	19	52	7		
JENA	149.57	352.9	19	51	6	20 38	
BENSBERG	149.86	358.4	19	52	6		
PRAGUE	149.99	349.0	19	50	4		
PRUHONICE	150.05	348.8	19	52	6	20 36	
KSARA	150.46	302.4	19	53	6	23 13	PP
DOURBES	150.72	1.7	19	48	1		
KASPERSKE H.	151.04	349.5	19	49	1	20 25	
VIENNA-H.	151.31	345.3	19	52	4		
JERUSALEM	151.59	298.7	19	58	9		
FOLINIERE	151.60	8.9	19	57	8		
STUTTGART	151.93	355.2	19	59	10		
STRASBOURG	152.22	357.3	19	47	-2		
GARCHY	153.46	4.3	19	51	0		
LJUBLJANA	153.81	346.3	19	55	3		
TRIESTE	154.36	347.2	19	43	-9	43 30	SSP
PADOVA	154.94	350.0				25 27	
FLORENCE X.	156.63	350.2	20	1	6	29 2	PPP
AQUILA	157.57	345.3	19	59	2	24 57	
ROME	158.21	346.6	20	0	3	24 12	PP
TOLEDO	159.14	21.9	20	2	3	24 43	PP
MALAGA	161.75	27.3	20	1	0	24 56	PP

OCTOBER 2 21.H 5.M 12.S EPICENTRE 34.83 23.46 DEPTH= 56.KM

A= 0.75463 B= 0.32756 C= 0.56854 D= 0.3982 E=-0.9173
G= 0.5215 H= 0.2264 K=-0.8227 HT= 0.2

DEPTH OF FOCUS= 0.004R

SE= 2.96

	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	
ATHENS	3.14	3.7	0	48A	0	1	26	1			1	40	SG
PATRAS	3.67	338.3	1	7	11								
MESSINA	7.21	300.1	1	44	-1	2	56	-10					
SKOPJE	7.30	348.0	2	37	51						4	29	
TARANTO	7.48	320.6									3	15	
ISTANBUL UN.	7.58	33.5	1	50	0								
SOFIA	7.86	359.3	1	55	1	3	28	5			3	56	S*
BUCHAREST	9.79	11.2				4	15	5			6	4	
BELGRADE	10.24	347.9									3	2	
JERUSALEM	10.30	103.9	2	23	-5	4	9	-13					
KSARA	10.32	92.1	2	21	-7	4	9	-14					

ZAGREB	12.37	334.8			5 13	1						
KISHINEV	12.83	16.7	2 55	-7								
TRIESTE	13.10	328.5			5 18	-12				5 53		
LJUBLJANA	13.10	331.5	3 0	-5	5 21	-9						
UZHGOROD	13.82	356.8	3 14	-1								
VIENNA-H.	14.41	340.6	3 19	-3								
NIEDZIKA	14.76	351.9	3 32	5						4 3		
LWOW	14.99	1.4	3 34	4								
KRAKOW	15.43	351.4	3 32	-3						3 38	PP	
ISOLA	15.71	311.4	3 40	1								
KASPERSKE H.	16.05	335.9	3 39A	-4						4 30		
PRUHONICE	16.49	339.4	3 50	1								
PRAGUE	16.61	339.3	3 52	2								
ROSELEND	16.78	315.3	3 54	2						5 12		
BAKURIANI	17.17	60.4	3 57	0								
CHEB	17.27	335.3	4 2	3								
STUTTGART	17.45	327.3	4 0	-1								
STRASBOURG	18.01	324.5	4 12	4						7 31		
TIFLIS	18.09	61.3	4 10	1								
COLLMBERG	18.12	338.5	4 8	-1				4 22				
JENA	18.26	335.4	4 10	-1	7 22	-7						
GORIS	18.80	68.9	4 19	2								
GARCHY	19.71	315.3	4 27K	0								
BENSBERG	19.99	328.7	4 30	0								
DOURBES	20.56	323.6	4 33	-3								
PARIS	20.87	318.4	4 38	-1								
TOLEDO	22.40	291.1	4 57	2	8 14	-38						
FOLINIERE	22.52	315.5	4 55	-1								
TEHERAN	22.79	79.6	5 1	3								
MOSCOW	23.07	20.7	5 2	1	9 10	6						
GOTEBORG	24.15	344.9	5 11A	-1								
SHIRAZ	25.07	93.8	5 22A	1	9 45	7	5	34		6 1	PP	
UPPSALA	25.32	353.1	5 21A	-2								
PULKOVO	25.35	8.1	5 23	0								
HELSINKI	25.37	1.8	5 23	0								
NURMIJARVI	25.71	1.4	5 25	-2	9 34	-15				6 13		
VIBORG	26.14	6.0	5 28A	-3	9 58	2						
KONGSBERG	26.44	344.2	5 33	0								
KIZYL-ARVAT	26.47	70.8	5 38	4	10 9	8						
UMEA	29.09	357.1	5 55	-2								
ADDIS ABABA	29.26	147.8	6 2	3								
KAJAANI	29.40	3.8	6 7	7						9 40		
SKALSTUGAN	29.60	349.9	6 0A	-2								
BANGUI	30.63	189.5	6 7	-4						7 6	PP	
SODANKYLA	32.64	2.3	6 27	-2						7 57		
KIRUNA	33.09	357.9	6 31A	-2								
APATITY	33.27	7.0	6 32A	-2								
SVERDLOVSK	33.35	37.2	6 32A	-3								
TROMSOE	34.95	357.2	6 47	-1								
KEVO	35.04	2.1	6 47	-2						8 10	PP	
QUETTA	36.75	84.8	7 4	0			7	15				
LWIRO	37.22	171.2	7 11K	3								
WARSAK DAM	39.38	77.0	7 27	1								
ALMATA	41.77	61.8	7 48A	3								
NEW DELHI	45.69	82.3	8 18A	1								
SHILLONG	58.84	78.9	9 55	0								
TIKSI	61.97	20.3	10 16	0								
SCHEFFERVLLE	62.51	319.3	10 20	0								
MOULD BAY	66.73	350.9	10 46A	-1								
YAKUTSK	66.88	29.5	10 46K	-2								
COLLEGE	80.39	356.2	12 8	1								
CUMBERLAND	83.64	309.2	12 25	1								
BLUE MTS.	93.08	333.2	13 9	0								

OCTOBER 3 15.H 48.M 21.S EPICENTRE -58.50 -24.90 DEPTH= 80.KM

A= 0.47630 B=-0.22106 C=-0.85104 D=-0.4210 E=-0.9071
G=-0.7719 H= 0.3583 K=-0.5251 HT= -8.4

DEPTH OF FOCUS= 0.007R

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	
G. G. VIDELA	18.86	234.5	4	23	7						4	40	PP
ARGENTINE I.	19.47	233.3	4	20	-3								

N-LAZARVSKYA	19.54	143.7	4	21K	-3							
SOUTH POLE	31.68	180.0	6	16	-2						6	47
BYRD STATION	33.84	198.2	6	34	-3						12	57
MAWSON	37.45	141.0	7	6	-1						16	28
HERMANUS	37.77	70.0				13	9	14			16	1 SS
SANTA LUCIA	39.36	289.2	7	22K	-1	13	18	0			9	11 PP
SCOTT BASE	43.72	183.5	7	58	-1							
KIMBERLEY	45.12	70.9	7	59A	-11							
CAPE HALLETT	49.06	186.1	8	40	-1							
CHANGALANE	50.87	76.3	8	54K	-1				9	9	16	12 SP
WILKES	51.12	158.7	9	5	8							
BANDEIRA	51.95	49.4	9	4A	1							
LA PAZ	52.61	304.2	9	10	2	16	47	19				
BULAWAYO	54.22	68.6	9	19A	-1							
BROKEN HILL	59.03	65.0	9	53	-1							
NANA	60.50	297.7	10	4	0							
TANANARIVE	64.90	85.3	10	38	5							
LWIRO	69.89	59.0	11	6A	1							
M.BOUR	72.90	8.0	11	24	2	20	52	11				
BOGOTA	74.09	308.3	11	28	-1	20	49	-5			22	0 PS
TRINIDAD	75.01	322.7	11	34	-1							
CHINCHINA	75.05	307.0	11	34	-1							
MONOWAI	75.57	189.0	11	37	-1							
CARACAS	76.73	317.4	11	42A	-2	21	19	-5				
WELLINGTON	79.24	195.0	12	0	2						22	39 SP
GISBORNE	81.34	198.0	12	10	1							
KARAPIRO	82.42	196.2	12	14	-1							
TOOLANGI	83.95	172.3	12	23	0							
MUNDARING	84.20	147.6	12	23	-1	22	48	7				
ADELAIDE	85.88	166.6	12	33K	1							
CANBERRA	86.40	175.0	12	37	2							
RIVERVIEW	87.96	176.7	12	44	2						24	55 PPS
TOLEDO	99.55	16.1	13	43	7	24	15	9			26	31 PS
AFIAMALU	102.93	213.0									27	15
ROME	104.76	27.9									33	19
KSARA	104.95	48.8	14	9	9	24	19	-12				
AQUILA	105.41	28.5									27	39
CUMBERLAND	106.47	312.2	14	9	777						18	26 PP
PALISADES	107.20	323.3	14	32	777							
TRIESTE	108.60	27.5									28	16 SP
SHIRAZ	108.62	63.7	17	57	777						34	2 SS
STRASBOURG	110.04	22.4	19	10	48						28	24
TULSA	110.94	304.8									18	54 PP
WICHITA MTS.	111.17	302.0	18	27	3	24	49	-9			19	9 PP
BREBEUF	111.18	325.5									45	39 SS
HONIARA	112.19	185.2									19	15 PP
TUCSON	114.86	291.3	18	34	2							
ALBUQUERQUE	114.96	296.3	18	36	4							
QUETTA	116.13	74.6	18	37	3							
TONTO FOREST	116.73	292.3	18	36	1				18	58	29	7 PKKP
SCHEFFERVLLE	117.89	334.1	18	39	1							
GOLDEN	118.32	300.2	18	41	3						29	55
BOULDER CITY	119.82	290.8	18	43	2							
PASADENA	120.03	287.0	18	43	1							
UINTA BASIN	120.75	297.7	18	44	1						30	13 PS
WARSAK DAM	121.51	75.5	18	46	1							
UPPSALA	122.64	23.9	18	52A	5							
PRIEST	122.85	286.5	18	46A	-1							
EUREKA	123.13	292.5	18	49	1							
PARAISO	123.86	285.4	18	50	1							
LICK	124.27	286.7	18	47A	-3							
MOSCOW	124.38	37.5	19	5	15							
NURMIJARVI	124.82	27.3				25	43	-3			20	51 PP
BERKELEY	124.99	286.6	18	53K	2						20	55 PP
SHILLONG	125.37	98.5	18	54	2							
CALISTOGA	125.75	287.0	18	52K	-1							
TASHKENT	126.06	68.3	18	55	2							
MINERAL	126.56	289.1	18	57K	3							
UMEA	126.76	23.1	18	56	1							
SHASTA	127.22	288.8	18	55	-1							
BLUE MTS.	127.87	295.8	18	57	0						21	7 PP
KAJAANI	128.63	26.6	19	0	2							
KIRUNA	130.33	20.7	19	4	2						22	27 PKS
SODANKYLA	131.17	23.7	19	7	4						22	23 SKP
ALMATA-2	131.51	72.4	19	5	1							
SEATTLE	132.28	295.0	19	5	0							
EDMONTON	132.30	305.9	19	5	0							
APATITY	132.83	26.5	19	7	1							

KEVO	133.24	22.1	19	9	2				21	55	PP
SVERDLOVSK	133.50	49.1	18	56	-12						
RESOLUTE	140.59	336.8	19	16	-5						
ALERT	142.07	352.5	19	21	-2						
MOULD BAY	146.72	334.2	19	32	1				23	11	
ULAN-BATOR	149.90	89.2	19	43	7						
IRKUTSK	151.09	80.0	19	46	8						
COLLEGE	153.05	307.7	19	49	8						
MATUSIRO	155.39	145.8	20	0	16						
YAKUTSK	166.95	63.6							21	0	PKP2

OCTOBER 3 23.H 24.M 38.S EPICENTRE 32.23 131.78 DEPTH= 56.KM

A=-0.56468 B= 0.63204 C= 0.53072 D= 0.7457 E= 0.6662
G=-0.3536 H= 0.3958 K=-0.8475 HT= 1.1

DEPTH OF FOCUS= 0.004R

SE= 3.14

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
NOBOEKA	0.36	348.0	0	9K	-3	0	18	-2				
MIYAZAKI	0.43	224.8	0	9K	-3	0	17	-5				
ASOSAN	0.90	318.4	0	17	0							
OOITA	1.01	352.4	0	20A	2	0	39	7				
KUMAMOTO	1.09	303.2	0	21A	2	0	41	7				
ASHIZURI	1.14	64.3	0	15	-5	0	29	-7				
UWAZIMA	1.19	32.9	0	18	-3	0	33	-4				
KAGOSIMA	1.23	238.2	0	24A	3	0	45	7				
UNZENDAKE	1.39	291.6	0	29A	6	0	51	10				
SAGA	1.61	309.7	0	29A	2	0	58	11				
NAGASAKI	1.68	287.8	0	28A	1	0	58	10				
HUKUOKA	1.79	319.3	0	30A	1	1	0	9				
MATUYAMA	1.81	27.4	0	28A	-1	0	51	-1				
SIMONOSEKI	1.86	337.7	0	30A	0	0	58	5				
KOTI	1.98	47.7	0	29K	-3	0	47	-8				
YAKUSIMA	2.08	212.0	0	28A	-5	0	55	-3				
HIROSIMA	2.20	14.2	0	35A	0	1	6	5				
MUROTO	2.27	62.6	0	31K	-5	0	52	-11				
TSURUGISAN	2.48	48.6	0	39	0	1	28	20				
HUKUE	2.54	281.5	0	38	-1	1	26	17				
HAMADA	2.68	5.1	0	43	2	1	15	2				
TAKAMATU	2.82	41.8	0	41	-2	1	25	8				
ITUHARA	2.87	313.9	0	44A	0	1	28	10				
TOKUSIMA	2.98	51.2	0	49	3						1	17
OKAYAMA	3.03	35.6	0	47	1	1	29	7				
HIMEJI	3.15	43.4	0	55	7	1	43	18				
SUMOTO	3.36	50.4	0	49K	-2	1	37	7				
MATSUE	3.39	18.1	0	54	3	1	48	17				
YONAGO	3.45	21.8	0	51	-1	1	43	11				
WAKAYAMA	3.47	54.0	0	48K	-5	1	51	18				
SIOMISAKI	3.57	69.0	0	48	-6	1	26	-10				
KOBE	3.75	48.4	0	54	-2							
TOTTORI	3.83	30.7	0	58	0	1	55	13				
OSAKA	3.96	51.4	0	57	-2	1	48	3				
ABUYAMA	4.12	49.2	0	57K	-5	1	53	4				
OWASE	4.14	62.5	0	57K	-5	1	40	-10				
TOYOOKA	4.15	36.7	1	4K	2	2	11	21				
SAIGO	4.17	17.6	1	9	7	2	14	24				
NARA	4.18	53.1	1	0	-2	1	53	2				
KYOTO	4.32	48.7	1	1	-3	1	50	-4				
MAIOURU	4.41	41.9	1	5	-1	2	18	21				
TU	4.67	56.8	1	13	4	2	8	5				
KAMEYAMA	4.71	55.0	1	9	-1	2	33	29				
HIKONE	4.80	49.6	1	9	-2	2	12	6				
TSURUGA	4.94	45.1	1	13	0	2	10	0				
GIHU	5.22	51.4	1	14	-3	2	13	-4				
NAGOYA	5.23	54.5	1	14K	-3	2	14	-3				
HUKUI	5.31	42.9	1	20	2	2	20	1				
HAMAMATU	5.55	61.8	1	26	.4	2	31	6				
OMAESAKI	5.88	64.6	1	22	-4	2	59	26				
KANAZAWA	5.88	41.8	1	26	0	2	40	7				
TAKAYAMA	5.99	47.7	1	24	-4	2	32	-4				
IIDA	6.01	55.2	1	23	-5	2	37	1				
TOYAMA	6.32	43.6	1	35	3	2	50	6				
MATUMOTO	6.51	50.3	1	34	-1	2	48	-1				

KOHU	6.60	56.8	1	39	3	2	58	7				
MISIMA	6.64	62.3	1	34	-3	2	55	3				
WAZIMA	6.64	37.9	1	58	21	3	14	22				
HUNATU	6.67	58.8	1	35	-2	1	58	-55				
AJIRO	6.72	63.3	1	34	-4	3	0	6				
OSIMA	6.84	66.2	1	35	-5	3	55	58				
MATUSIRO	6.84	49.3	1	37K	-3	2	56	-1				
NAGANO	6.91	48.4	1	48	7	3	20	21				
OIWAKE	6.94	52.0	1	39	-2	3	16	17				
MAWASHI	6.96	211.9	1	47	6	3	22	22				
TITIBU	7.12	56.3	1	44	0						3	59
TAKADA	7.21	45.9	1	41	-4	3	11	5				
MERA	7.24	66.0	1	58	13						4	48
YOKOHAMA	7.29	61.9	2	6	20	3	59	51				
MAEBASI	7.33	53.4	1	44	-2	3	45	36				
KUMAGAYA	7.41	56.1	1	48	0	3	23	12				
HONGO	7.49	60.2				3	22	8			4	4
AIKAWA	7.84	40.7	1	53	0	3	43	21				
UTUNOMIYA	7.96	55.0	1	57	2	3	36	11				
KAKIOKA	8.02	57.9	1	57	1	3	31	5				
NIIGATA	8.23	44.4	2	17	18	3	50	19				
MITO	8.30	57.7	2	0A	0	3	34	1				
SHIRAKAWA	8.49	52.6	2	2	0	3	43	5				
ONAHAMA	8.87	55.4	2	7	-1	3	50	3				
HUKUSIMA	9.01	49.9	2	12	2	4	0	9				
YAMAGATA	9.23	47.0	2	11	-2							
SAKATA	9.34	42.3									2	49
SENDAI	9.59	48.5	2	15	-2	4	8	3				
ISINOMAKI	9.95	48.9	2	20K	-2	4	16	2				
AKITA	10.06	39.7									2	44
MIZUSAWA	10.26	45.2	2	27	0	4	19	-2				
MORIOKA	10.65	42.9	2	34	2	4	33	2				
MIYAKO	11.09	45.3	2	36	-2	4	31	-10				
AOMORI	11.22	37.6	2	49	9	4	55	11				
HATINOHE	11.41	40.7	2	43	1	5	0	11				
ANPU	11.41	234.6	2	40	-2	5	1	12				
TAIPEI	11.51	234.1	2	55	11	5	35	43				
HAKODATE	11.95	34.3	2	51	2	5	12	10				
MORI	12.09	32.9	2	57	6							
HWALIEN	12.16	230.0	3	7	15	5	40	33				
MURORAN	12.45	33.4	2	58	2							
SUTTSU	12.50	30.0	3	0	3						6	4
TAICHUNG	12.66	233.3	3	8	9							
HSINKONG	12.94	228.0	3	14	11	5	50	24				
TOMAKOMAI	12.97	34.0	3	13	10							
ALISHAN	13.01	230.9	3	8	4							
SAPPORO	13.20	32.2	3	6	0	5	37	5				
URAKAWA	13.22	38.4	3	9	3	5	35	3				
TAITUNG	13.34	227.6	3	8	0	6	36	61				
HIROO	13.59	39.2	3	18	7	5	51	10				
TAINAN	13.76	230.9	3	34	21							
TAWU	13.79	227.2	3	29	15							
OBIHIRO	13.98	37.0	3	16	0							
RUMOE	14.02	30.6	3	18	1							
HENGCHUN	14.14	226.6	3	36	18							
ASAHIGAWA	14.22	32.8	3	24	5							
KUSIRO	14.65	39.3	3	23	-2	6	12	6				
WAKKANAI	15.25	27.4	3	35	2	6	35	15				
ABASHIRI	15.32	36.2	3	30	-4							
NEMURO	15.53	40.6	3	43	7	6	42	15				
Y.-SAKHLINSK	16.98	26.4	3	54K	-1	7	1	1				
HONG KONG	18.49	242.0	4	10	-3	7	41	7				
UGLEGORSK	18.53	21.7	4	11	-3	7	33	-2				
BAGUIO CITY	18.73	215.5	4	11	-5							
MANILA	20.02	211.7	4	29	-1	8	16	9				
GUAM	22.13	144.6	4	50	-2	8	41	-6				
ULAN-BAT-R	24.51	317.0	5	14	-1							
IRKUTSK	28.26	323.2	5	49A	-1							
PETROPAVLOVK	28.40	35.0	5	51	0	10	37	5				
YAKUTSK	29.84	358.0	6	1A	-3							
MAGADAN	30.14	19.3	6	7	1	10	55	-5				
ESEN BULAK	30.63	307.9	6	3	-8							
SHILLONG	35.41	269.6	6	50	-2	12	35	13			8	18 PP
CHATRA	38.97	273.9	7	22A	0	13	34	18			8	55 PP
TIKSI	39.49	358.6	7	25A	-1	13	18	-6				
CALCUTTA	39.51	267.0	7	22	-4	13	25	1			9	2 PP
RABAUL	41.09	148.1	7	37K	-2	13	14	-34				
BOKARO	41.19	270.2	7	39A	-1	14	9	20			9	19 PP
SEMIPALATNSK	41.82	311.3	7	44	-1						9	23 PP

PORT MORESBY	43.92	157.8	8	1A	-2	14	22	-7				
DJAKARTA	44.98	216.4	8	13	2	14	50	5				
TANGERANG	45.08	216.6	8	9A	-3							
DEHRA DUN	45.56	282.5	8	14K	-2						11	33 PP
FRUNSE	45.76	300.4	8	16A	-1						10	9 PP
VISHAKHAPTNM	45.89	263.7	8	18K	0	15	26	28			10	15 PP
NEW DELHI	46.80	280.5	8	24A	-1	15	23	12			10	12 PP
LAHORE	48.27	285.3	8	34A	-3	15	37	6				
SEHORE	48.82	273.8	8	38	-3							
KHOROG	48.99	293.8	8	42A	0						15	47 PS
HONIARA	49.40	142.2	8	42	-4							
WARSAK DAM	49.83	289.3	8	48	-1							
TASHKENT	49.92	299.2	8	48A	-2						16	16
HYDERABAD	50.12	266.2									18	21
MADRAS	50.82	260.2	8	52K	-4	16	26	19			10	54 PP
POONA	53.51	270.0	9	14A	-3	17	1	17				
SVERDLOVSK	53.57	319.7	9	15K	-2						16	54 PS
CHARTERS TS.	53.84	163.1	9	17	-2	16	50	2				
BOMBAY	54.22	271.0	9	17	-5	17	1	8			11	14 PP
KODAIKANAL	54.52	259.0	9	23A	-1						17	2 PS
QUETTA	54.72	286.3	9	24	-1	17	6	6				
KHEYS	55.77	349.0	9	31A	-2	17	14	0			10	23 PCP
COLLEGE	57.30	30.0	9	43	-1	17	44	10				
LUGANVILLE	58.31	139.0	9	50A	-1							
ASHKABAD	58.93	297.8	9	55	0						18	4 PS
KOUMAC	61.02	144.9	10	9A	-1							
BRISBANE	62.57	159.0	10	18	-2	18	44	2				
HONOLULU	62.59	81.1	10	31	11	18	50	8				
KIPAPA	62.60	80.9	10	29	9	18	50	8				
MOULD BAY	63.29	14.7	10	24A	-1							
NOUMEA	63.56	144.0	10	24A	-3							
APATITY	63.72	334.9	10	26A	-2	18	55	-1			12	48 PP
TEHERAN	64.93	297.7	10	34A	-1	19	25	14				
KEVO	65.02	338.2	10	34	-2	19	8	-4			12	56 PP
SITKA	65.10	37.0	10	37	0							
ALERT	65.30	2.0	10	37A	-1							
MUNDARING	65.53	194.5	10	38	-1	19	22	4				
HAWAII V.OB.	65.80	81.6	10	51	10	19	31	9				
SODANKYLA	66.19	335.9	10	42	-2						13	6 PP
MOSCOW	66.24	321.9	10	42A	-2	19	28	1			13	17 PP
SHIRAZ	66.50	291.2	10	43A	-2	19	32	2	11	37	14	58 PP
GORIS	67.15	303.2	10	49A	-1						20	2 PS
ADELAIDE	67.16	173.8	10	47K	-3	19	42	4	10	59	24	14 SS
KAJAANI	67.28	332.5	10	50	0	19	44	4			13	19 PP
TIFLIS	67.34	305.9	10	50	-1	19	45	5			13	18 PP
TROMSOE	67.55	339.6	10	51	-1							
KIRUNA	68.04	337.6	10	53A	-2	19	48	-1	11	4		
PULKOVO	68.13	327.7	10	53A	-3	19	47	-3				
RIVERVIEW	68.19	162.7	11	1	5	19	57	6	11	6	13	35 PP
RESOLUTE	69.08	12.0	11	1A	-1							
CANBERRA	69.11	165.0	11	3K	1	20	5	3			11	26 PCP
NURMIJARVI	70.26	329.8	11	6	-3	20	16	1			13	45 PP
UMEA	70.27	334.0	11	7A	-2				11	19	13	42 PP
HELSINKI	70.30	329.4	11	9	0							
TOOLANGI	70.61	168.5	11	9	-2	20	26	7	11	20	13	53 PP
AFIAMALU	70.84	121.1	11	10	-2	20	22	0				
SIMFEROPOL	72.93	312.6	11	23A	-2	20	47	1			14	13 PP
SKALSTUGAN	73.26	336.0	11	26	-1							
UPPSALA	73.55	331.3	11	28A	0	20	54	1			21	24
VICTORIA	75.38	41.6	11	39	0							
IASI	75.74	317.0	11	39	-2	21	35	18				
SCORESBY SD.	75.86	351.2	11	43A	1							
KAP TOBIN	75.91	351.2	11	43	1							
LWOW	76.29	320.6	11	43	-1	21	26	3				
SEATTLE	76.48	42.0	11	50	5							
WARSAW	76.49	323.7	11	44	-1	21	29	4			22	6 SCS
KARLSKRONA	76.67	328.9	11	54	8							
KONGSBERG	76.81	333.8	11	46K	-1	21	47	18	11	57	14	39 PP
GOTEBORG	77.20	331.5	11	48	-1				12	0		
KSARA	77.20	301.9				20	37	-56			13	22 PP
EDMONTON	77.79	33.8	11	53A	1							
BUCHAREST	78.11	315.2	11	54	0	21	46	3			22	4 SKS
ISTANBUL UN.	78.16	311.1	11	54A	0							
KRAKOW	78.32	322.3	11	55A	0	21	47	2			14	53 PP
COPENHAGEN	78.33	329.7	11	55	0	22	3	18				
CHORZOW	78.66	322.9	11	58	1						13	11
SKALNATE PL.	78.67	321.5	11	59	2	21	57	8			14	56 PP
JERUSALEM	78.71	300.4	11	56A	-1							

RACIBORZ	79.19	323.0	12	0	0					22	18
TIMISOARA	80.18	318.3	12	10	5	22	24	19			
SOFIA	80.74	314.9	12	8	0	22	27	17		15	17 PP
KARAPIRO	80.84	146.4	12	9	0						
BLUE MTS.	80.92	42.3	12	10	1	22	20	8		15	6 PP
BRATISLAVA	80.95	322.0	12	9	0	22	19	7		14	58
MINERAL	80.97	47.9	12	10A	0						
COLLMBERG	80.97	326.1	12	9	-1	22	34	21			
PRAGUE	81.09	324.6	12	10	0	22	18	4		15	22 PP
BELGRADE	81.17	317.9	12	9	-2					22	29 SCS
VIENNA-H.	81.27	322.4	12	13A	2	22	25	9		23	17 PS
CALISTOGA	81.31	49.7	12	12K	1						
CHATEAU	81.86	147.1	12	24	10						
JENA	81.89	326.5	12	13	-1	22	24	2		15	34 PP
BERKELEY	81.95	50.2	12	17K	2	22	18	-5		32	52 SS
CHEB	82.08	325.5	12	14	-1	22	29	5			
KASPERSKE H.	82.12	324.2	12	14A	-2					16	8
LICK	82.66	50.4	12	21K	3						
PARAISO	82.76	51.5	12	23	4						
WITTEVEEN	82.76	330.0	12	20	1						
ABERDEEN	82.82	336.7								17	34
BUTTE	82.82	39.3	12	19	0	22	38	6			
ZAGREB	83.03	320.6	12	22	2	22	40	6			
WELLINGTON	83.20	148.8	12	29	8	22	34	-1		15	30 PP
ATHENS	83.25	310.8	12	20A	-1						
TITOGRAD	83.31	316.5				22	37	0		22	59 SCS
LJUBLJANA	83.66	321.5	12	22	-1						
BENSBERG	83.88	328.4	12	24A	-1						
DE BILT	83.91	330.1	12	22	-3	23	4	21			
PRIEST	84.00	50.9	12	27K	2						
HEIDELBERG	84.27	326.6	12	26	-1						
TRIESTE	84.32	321.5	12	27	0	22	47	0		28	38 SS
STUTTGART	84.45	325.9	12	27	0	22	46	-2		15	38 PP
ROXBURGH	84.51	154.5	12	30	2	22	54	6		28	28 SS
DURHAM	84.53	335.0				23	6	17			
KARLSRUHE	84.69	326.5	12	29	0						
TUBINGEN	84.72	325.8	12	31	2						
EUREKA	84.97	46.0	12	31	1	23	3	10		15	58 PP
RAVENSBURG	84.98	325.0	12	30	0						
STRASBOURG	85.30	326.5	12	33A	1	22	59	3		15	52 PP
PADOVA	85.47	322.2	12	34	2	22	58	0		33	58 PS
DOURBES	85.63	329.0	12	32	-1	22	58	-1			
FELDBERG	85.68	325.9	12	34	1						
WELSCHBRUCH	86.08	327.0	12	34	-1						
DUGWAY	86.41	43.9	12	38A	1						
SALT LAKE C.	86.60	43.0	12	39	1						
KEW	86.64	332.3				23	3	-6			
AQUILA	86.70	319.2	12	40	2	22	52	-18		15	58 PP
PASADENA	86.82	51.3	12	38	-1	23	18	7		16	18 PP
FLORENCE X.	86.90	321.3	12	43	4	22	56	-16		16	12 PP
PRATO	86.91	321.5	12	27	-13	23	13	1			
PAVIA	87.01	323.4	12	40	0					16	6 PP
BESANCON	87.09	326.4	12	36	-4						
ROME	87.51	319.3	12	43	1	22	56	-21		16	12 PP
PARIS	87.51	329.2	12	44	2						
ADDIS ABABA	87.78	279.2								13	23
ROSELEND	87.91	325.0	12	43	-1						
PRICE	87.96	43.3	12	46K	1						
MESSINA	88.18	315.0	12	44	-2	23	6	-18		16	10 PP
UINTA BASIN	88.20	42.2	12	47A	1	23	31	7		16	6 PP
GARCHY	88.41	327.9	12	48K	1						
ISOLA	88.79	323.7	12	48	0						
FOLINIERE	88.80	330.7	12	53	4						
RAPID CITY	89.01	36.2	12	51	1						
GLEN CANYON	89.23	45.7	12	52	1						
CLERMONT-FD.	89.52	326.9	12	52	0						
GOLDEN	90.98	40.4	13	0	1	23	33	-16			
TONTO FOREST	91.17	47.6	13	1	1	23	34	-17	13 11	16	43 PP
SCHEFFERVLLE	91.85	10.6	13	4A	1						
ALBUQUERQUE	93.66	44.4	13	13	2	23	43	-30		17	1 PP
TANANARIVE	95.18	251.0	13	20	2						
TOLEDO	97.40	327.3	13	28A	0	24	2	3		17	22 PP
WICHITA MTS.	98.30	39.9	13	33	1	24	12	8		17	20 PP
TULSA	98.88	37.3	13	37	2	25	4	57		17	36 PP
ALMERIA	99.06	324.4	13	32	-4						
BREBEUF	99.28	17.8	13	38	1	25	7	58		17	42 PP
GRANADA	99.35	325.3	13	22A	-15					17	38 PP
MALAGA	100.10	325.6	13	40	0	24	18	5			

LISBON	100.61	329.9								18	2 PP
LWIRO	102.17	275.1	13	44	-6						
MORGANTOWN	102.68	24.6	17	50	238						
PALISADES	103.36	19.7	13	55	0	24	35	7			
CHILEKA	103.84	260.1	18	14	257						
CUMBERLAND	103.99	30.6	13	59	1	25	46	75		18	7 PP
AVERROES	104.32	325.6	13	57	-2						
COLUMBIA	107.24	28.1	18	41	777						
PONTA DELGDA	107.29	341.4								18	43 PP
CHANGALANE	111.13	251.6	18	29	2						
SCOTT BASE	111.81	172.5	18	28	0						
MAWSON	111.92	202.7	18	30	2					29	22 PKKP
BANDEIRA	121.75	271.9	18	48A	1					20	17 PP
HERMANUS	124.56	248.0								37	55 SSP
BYRD STATION	124.75	168.4	18	53	0						
M.BOUR	124.83	322.2								20	45 PP
ST. CLAUDE	130.31	17.1								21	7 PP
FORT FRANCE	131.70	16.9	19	9	3						
CARACAS	133.90	26.0	18	43K	-28					22	59 PP
CHINCHINA	134.75	40.2	19	15K	3					19	26 PKP2
TRINIDAD	135.54	18.7	19	17	3						
BOGOTA	135.88	38.6	19	14	0					21	58 PP
ARGENTINE I.	145.52	168.1	19	31	0						
NANA	146.88	59.1	19	36	2						
HUANCAYO	148.01	57.3	19	40	4						
LA PAZ	156.11	53.8	19	51	4				20 3		
SANTA LUCIA	161.12	99.7								34	46

OCTOBER 4 0.H 27.M 53.S EPICENTRE 31.77 131.17 DEPTH= 0.KM

A=-0.56071 B= 0.64118 C= 0.52391 D= 0.7528 E= 0.6583
G=-0.3449 H= 0.3944 K=-0.8518 HT= 1.2

SE= 5.34

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
NOBOEKA	0.92	28.5	0	14	-6							
KUMAMOTO	1.12	339.4	0	28A	5	0	48	8				
ASOSAN	1.13	355.8	0	24	1	0	42	2				
UNZENDAKE	1.24	321.2	0	31	6	0	53	10				
YAKUSIMA	1.43	203.8	0	35	7	0	59	11				
NAGASAKI	1.45	311.6	0	35A	7	1	5	17				
OOITA	1.51	14.5	0	27A	-2	0	45	-4				
SAGA	1.65	333.8	0	57	26	1	24	31				
ASHIZURI	1.82	58.0	0	21	-12	0	36	-21				
UWAZIMA	1.87	38.3	0	27	-7	0	42	-17				
HUKUOKA	1.93	340.0	0	38A	3	1	12	12				
SIMONOSEKI	2.19	354.8	0	37	-2	1	7	0				
HUKUE	2.19	295.7	0	51	12	1	31	24				
MATUYAMA	2.47	32.8	0	36	-7	1	6	-8				
KOTI	2.67	47.6	0	42	-3							
HIROSIMA	2.80	21.8	0	49	2	1	23	1				
ITUHARA	2.90	327.3	0	52	3							
MUROTO	2.94	59.0	0	44	-5	1	2	-24				
HAMADA	3.21	13.3	0	50K	-3	1	32	-1				
TAKAMATU	3.51	42.8	1	3	6	1	40	0				
TOKUSIMA	3.67	50.4	1	6	6							
OKAYAMA	3.71	37.7	0	58	-2	1	41	-4				
MATSUE	4.00	22.8	1	8	4	1	51	-2				
SUMOTO	4.05	49.8	0	57	-8	1	45	-9				
YONAGO	4.08	25.9	1	6	0	1	56	1				
SIOMISAKI	4.23	65.4	1	33	25							
TOTTORI	4.50	33.1	1	2	-9							
OSAKA	4.65	50.7	1	39	25	2	29	20				
SAIGO	4.77	21.5	1	20	5	2	24	12				
ABUYAMA	4.81	48.8	1	6A	-10	1	33	-40				
TOYOOKA	4.83	38.1	1	12	-4	2	19	5				
NARA	4.87	52.1	1	14	-3							
KYOTO	5.01	48.4	1	10	-9	2	1	-17				
MAIZURU	5.10	42.5									2	30
KAMEYAMA	5.40	53.9	1	16	-8						1	42
HIKONE	5.50	49.2	1	19	-7	2	12	-18				
GIHU	5.91	50.7	1	23	-8	2	24	-17				
NAGOYA	5.92	53.4	1	20	-12	2	21	-20				
HUKUI	5.99	43.2									2	1
HAMAMATU	6.23	60.0									2	31

KANAZAWA	6.57	42.2								2	25	
TAKAYAMA	6.68	47.5				3	11	12				
IIDA	6.70	54.2	1	32	-11	2	15	-45				
MATUMOTO	7.20	49.8	2	3	13							
KOHU	7.28	55.7	1	42	-9							
HUNATU	7.35	57.5				3	43	26		3	4	
MATUSIRO	7.53	48.9	1	44	-10	3	2	-19				
NAGANO	7.60	48.1								2	25	
TAKADA	7.90	45.8	2	14	15							
BAGUIO CITY	18.06	214.7	4	20	6							
ULAN-BATOR	24.50	318.2	5	22	0							
TIKSI	39.94	358.9	7	35	-3							
TANGERANG	44.40	216.2	8	17K	2							
WARSAK DAM	49.50	289.5	8	55	0							
SVERDLOVSK	53.58	319.9	9	22	-3							
QUETTA	54.35	286.3	9	31A	0							
BRISBANE	62.33	158.3	10	34	7							
MOULD BAY	63.86	14.6	10	31A	-6							
APATITY	63.92	334.9	10	35	-2							
SHIRAZ	66.18	291.1	10	50A	-2					11	36	
MOSCOW	66.28	321.9	10	50	-3							
SODANKYLA	66.40	335.9	10	50	-3							
ADELAIDE	66.76	173.3	11	1	5							
KAJAANI	67.45	332.4	10	56	-4					11	34	
BAKURIANI	68.06	306.3	11	2	-2							
KIRUNA	68.27	337.5	10	56	-9							
VICTORIA	76.06	41.3	11	41	-11							
UZHGOROD	77.92	320.1	12	0	-2							
KRAKOW	78.37	322.2	12	2K	-2					12	28	
SHASTA	80.97	47.6	12	14K	-4							
COLLMBERG	81.06	325.9	12	16	-3					12	47	
PRUHONICE	81.16	324.3	12	17	-2							
BLUE MTS.	81.61	42.0	12	17A	-5							
MINERAL	81.66	47.5	12	17K	-5							
JENA	81.98	326.2	12	20	-4							
CALISTOGA	82.00	49.4	12	19K	-5							
KASPERSKE H.	82.19	324.0	12	23	-2							
LICK	83.35	50.0	12	31K	0							
PARAISO	83.45	51.2	12	30	-1							
STUTTGART	84.54	325.6	12	34	-3							
PRIEST	84.69	50.6	12	41K	4							
EUREKA	85.66	45.7	12	39	-3							
DUGWAY	87.10	43.6	12	46A	-3							
BOULDER CITY	88.54	47.8	12	52	-4							
UINTA BASIN	88.89	41.8	12	54	-4							
TONTO FOREST	91.86	47.3	13	8	-4					13	17	
TUCSON	93.48	48.6	13	15	-4							
ALBUQUERQUE	94.35	44.1	13	20	-3							
WICHITA MTS.	98.99	39.5								13	50	
HUANCAYO	148.69	57.1	19	49	3							

OCTOBER 4 2.H 47.M 28.5 EPICENTRE -20.73-173.95 DEPTH= 0.KM

A=-0.93082 B=-0.09866 C=-0.35190 D=-0.1054 E= 0.9944
G= 0.3499 H= 0.0371 K=-0.9360 HT= 4.5

SE= 1.82

	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
AFIAMALU	7.09	17.3	1	41	-6	2	52	-18				
PORT VILA	17.01	277.1	4	5K	4	7	38	29				
NOUMEA	18.30	261.6	4	20K	3							
LUGANVILLE	18.71	283.0	4	24A	2							
GISBORNE	19.16	199.5	4	28	1	7	46	-12				
KARAPIRO	19.41	205.7	4	30	0							
KOUMAC	20.37	266.6	4	41K	0							
WELLINGTON	22.61	202.5	5	3	0	8	57	-10				
HONIARA	27.54	290.2	5	50	0	10	34	3				
MONOWAI	29.21	207.0	6	8	3							
BRISBANE	31.03	251.1	6	20	-1	11	30	4				
RIVERVIEW	33.48	239.7	6	39	-4						14	0
CANBERRA	35.56	237.9	6	59	-2							
RABAUL	36.81	291.9	7	10	-1						12	6
CHARTERS TS.	37.23	263.8				12	42	-20			8	43 PP
TOOLANGI	38.86	235.4	7	28	0				7	37	8	3
MOORLANDS	39.09	227.4	7	30	0							

PORT MORESBY	39.11	280.8	7	28	-2	13	32	1				
TARRALEAH	39.55	228.0	7	33	-1							
ADELAIDE	43.80	240.7	8	7A	-2						18	20 SCS
HONOLULU	44.55	21.3				14	59	8				
KIPAPA	44.69	21.3	8	16	0	15	0	7				
SCOTT BASE	57.92	184.7	9	55	-1							
MUNDARING	62.64	243.9	10	28	0				10	38		
BYRD STATION	63.80	170.9	10	34	-2							
WILKES	65.39	205.5	10	47	1							
SOUTH POLE	69.40	180.0	11	11	0							
MIRNY	72.39	204.8	11	28	-2							
MATUSIRO	72.70	321.3	11	31K	0							
BAGUIO CITY	74.09	294.8	11	37	-2							
PARAISO	74.80	41.0	11	48	4							
PRIEST	75.74	42.0	11	49A	0							
BERKELEY	75.87	39.8	11	51K	1	21	36	4			26	52 SS
LICK	75.90	40.6	11	50A	0							
PASADENA	76.12	44.9	11	51	0							
CALISTOGA	76.18	39.1	11	51K	0							
SHASTA	77.65	37.6	12	1K	1							
MINERAL	77.88	38.2	12	1A	0							
BOULDER CITY	79.41	45.1	12	10	1							
TUCSON	80.11	50.1	12	13	0							
EUREKA	80.72	41.7	12	16	0							
TONTO FOREST	80.89	48.2	12	17	0	22	29	4	12	29	15	31 PP
GLEN CANYON	82.12	45.7	12	26	2							
SEATTLE	82.33	32.3	12	23	-2							
MAWSON	82.60	198.9	12	26	0							
DUGWAY	83.12	42.5	12	30A	1							
BLUE MTS.	83.18	36.8	12	29	0							
SALT LAKE C.	84.04	42.4	12	35	2							
PRICE	84.07	43.9	12	36	2							
ALBUQUERQUE	84.62	49.7	12	36	0	23	1	-2				
UINTA BASIN	85.26	43.8	12	39	-1	23	12	2				
BUTTE	86.56	37.8	12	46	0							
COLLEGE	87.67	10.8	12	50	-1							
WICHITA MTS.	90.27	52.8	13	4	0	24	4	7			25	32 PS
EDMONTON	90.36	31.5	13	4	0							
TULSA	92.84	52.7				23	50	-29				
CUMBERLAND	100.50	56.0									32	28 SS
CARACAS	109.46	85.9	14	20	777	25	10	0				
QUETTA	124.76	292.9	19	5	3							
ASHKABAD	131.92	302.8	19	30	15							
VANNOVSKAYA	132.11	302.8	19	16	0							
KAJAANI	134.30	346.9	19	19	-1							
SHIRAZ	137.26	291.6	19	28	3						22	57 SKP
MOSCOW	137.84	333.8	19	30	4							
NURMIJARVI	138.14	346.3									40	34 SS
BAKURIANI	142.13	312.1	19	37	3							
BANDEIRA	143.88	192.0	19	38	1							
ADDIS ABABA	146.38	254.7									20	24
WARSAW	146.48	343.3	19	47	6						19	55 PKP2
SIMFEROPOL	146.54	322.7	19	45A	3							
LWOW	147.65	338.1	19	48	5							
KISHINEV	147.90	330.1	19	49K	5							
LWIRO	148.09	227.0	19	50K	6							
KRAKOW	148.74	342.7	19	48	3						19	52 PKP2
HALLE	148.95	352.8	19	54	9						23	40 SKP
COLLMBERG	149.01	351.5	19	52	6						20	3 PKP2
RACIBORZ	149.17	344.7	19	53	7						20	1 PKP2
SKALNATE PL.	149.43	341.5	19	53	7						20	17 PKP2
JENA	149.55	353.1	19	49	3						23	37 PP
BENSBERG	149.82	358.6	19	54K	7							
PRAGUE	149.98	349.2	19	52	5							
PRUHONICE	150.04	349.0	19	55	8						20	23
KSARA	150.57	302.6							20	26	23	8 PP
DOURBES	150.67	1.9	19	54	6							
KASPERSKE H.	151.03	349.8	19	51	2							
BRATISLAVA	151.21	344.5	19	59	10							
VIENNA-H.	151.31	345.6	19	52	3							
FOLINIERE	151.54	9.1	19	57	8							
JERUSALEM	151.70	298.9	19	59	9							
STUTTGART	151.91	355.5	19	53	3							
GARCHY	153.41	4.5	20	1	9							
AQUILA	157.57	345.6									29	32
TOLEDO	159.05	22.2									20	38 PKP2
GRANADA	161.58	25.1	20	53K	51							

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.

OCTOBER 5 1.H 55.M 27.S EPICENTRE -16.08-172.97 DEPTH= 16.KM

A=-0.95415 B=-0.11762 C=-0.27524 D=-0.1223 E= 0.9925
G= 0.2732 H= 0.0337 K=-0.9614 HT= 5.5

SE= 1.53

	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	2.44	28.3	0	37	-4	0	49	-22					
PORT VILA	17.98	262.1	4	15	4								
LUGANVILLE	19.16	268.9	4	29A	3								
NOUMEA	20.39	249.1	4	41A	2								
KOUMAC	22.04	254.9	4	56K	0								
GISBORNE	23.84	197.7	5	15	1								
KARAPIRO	24.01	202.8	5	16	0								
HONIARA	27.20	280.8	5	47	1	10	37	15					
RIVERVIEW	36.78	234.6									15	39	
CANBERRA	38.95	233.3	7	25A	-3								
PORT MORESBY	39.41	274.7	7	30	-1	13	56	24					
HONOLULU	39.91	21.9									13	50	
KIPAPA	40.05	21.9	7	38	1								
TOOLANGI	42.36	231.4	7	53	-3				8	8			
ADELAIDE	46.98	237.0	8	31K	-2								
CAPE HALLETT	57.08	186.0	9	49	1								
SCOTT BASE	62.61	184.7	10	27	1								
MUNDARING	65.57	241.8	10	45	-1								
BYRD STATION	68.23	171.3	11	1	-2								
MATUSIRO	69.72	319.7	11	11K	-1								
WILKES	69.98	204.7	11	15	2								
PARAISO	70.71	41.4	11	22	4								
PRIEST	71.69	42.4	11	25A	1								
BERKELEY	71.73	40.2	11	25A	1	21	33	51					
LICK	71.79	40.9	11	25A	1								
UKIAH	71.93	38.6	11	27	2								
CALISTOGA	72.01	39.4	11	26A	0								
PASADENA	72.20	45.4	11	26	-1	21	37	50					
BAGUIO CITY	73.06	293.1	11	31	-1								
SHASTA	73.42	37.8	11	34K	0								
MINERAL	73.67	38.5	11	36K	1								
SOUTH POLE	74.02	180.0	11	37	0								
BOULDER CITY	75.49	45.4	11	47	1								
TUCSON	76.44	50.4	11	53	2								
EUREKA	76.65	41.8	11	53	1								
MIRNY	76.98	204.2	11	53	-1								
TONTO FOREST	77.12	48.4	11	56	1				12	14	12	7	PCP
VICTORIA	77.93	31.2	11	59A	0								
GLEN CANYON	78.23	45.9	12	3	2								
BLUE MTS.	78.91	36.8	12	3	-2						39	5	PKPPKP
DUGWAY	79.08	42.6	12	6A	0								
TANGERANG	79.11	266.7	12	5K	-1								
SALT LAKE C.	80.00	42.5	12	11	0								
PRICE	80.09	43.9	12	12K	1								
UINTA BASIN	81.27	43.8	12	18A	1	22	28	2	12	29	15	22	PP
BUTTE	82.33	37.7	12	23	0								
HUNGRY HORSE	82.77	35.2	12	25	0								
COLLEGE	82.95	10.5	12	24	-2								
BOZEMAN	83.05	38.6	12	25	-2								
LARAMIE	84.41	44.3	12	35	1								
EDMONTON	85.93	31.2	12	40A	-1								
WICHITA MTS.	86.72	52.6	12	45	0	23	22	2					
MAWSON	87.28	198.5	12	48	0								
TULSA	89.29	52.3	12	58K	1	23	28	-16					
YAKUTSK	89.87	336.6	12	59K	-1								
N-LAZARVSKYA	93.31	181.6	13	17A	1								
TIKSI	95.75	344.3	13	26A	-1								
CUMBERLAND	97.12	55.1	13	32	-1				13	53	17	28	PP
MOULD BAY	97.51	11.2	13	33	-2								
LA PAZ	99.12	110.1	13	46	4								
CARACAS	108.13	84.0	18	12	777						28	21	PS
SVERDLOVSK	122.92	328.2	18	57	1								
QUETTA	123.70	295.7	19	0A	2	19	7						
KEVO	124.92	351.7	19	0	0								
APATITY	125.79	347.8	19	2A	0								
SODANKYLA	127.18	350.6	19	4	0								
KIRUNA	127.56	353.6	19	5	0								
KAJAANI	129.98	348.3	19	8	-2								
VANNOVSKAYA	130.25	306.3	19	12	2								
NURMIJARVI	133.83	348.0	19	18	1						22	47	PKS

MOSCOW	134.03	336.4	19	16	-1			
HELSINKI	134.08	347.6	19	19	1			
SHIRAZ	136.23	296.2	19	22	0		22	53
BULAWAYO	138.23	211.3	19	25	0			
BAKURIANI	139.55	316.7	19	24	-4			
BROKEN HILL	143.00	216.0	19	32K	-2			
KISHINEV	144.24	334.2	19	34	-2			
HALLE	144.45	354.7	19	36	0		19	42 PKP2
CHORZOW	144.53	346.8	19	37	1			
COLLMBERG	144.54	353.5	19	36	0		22	12
KRAKOW	144.54	345.6	19	36	0		19	58
RACIBORZ	144.90	347.5	19	38	1			
BENSBERG	145.21	359.8	19	38	0		21	30
UZHGOROD	145.21	342.2	19	38	0			
SKALNATE PL.	145.27	344.7	19	38	0		21	19
PRAGUE	145.57	351.6	19	40	2			
PRUHONICE	145.64	351.4	19	39A	1			
DOURBES	146.01	2.8	19	39	0		20	28
KASPERSKE H.	146.61	352.2	19	42	2		20	24
HEIDELBERG	146.74	358.0	19	43	3			
FOLINIERE	146.82	9.1	19	44	4			
BRATISLAVA	146.94	347.6	19	42	2			
VIENNA-H.	147.01	348.5	19	45	4		19	59 PKP2
KARLSRUHE	147.14	358.3	19	45	4			
PARIS	147.15	5.5	19	45A	4			
STUTTGART	147.35	357.2	19	43	2			
STRASBOURG	147.58	359.1	19	51	9			
TUBINGEN	147.59	357.5	19	46A	4			
WELSCHBRUCH	147.75	0.8	19	47	5			
ADDIS ABABA	148.26	261.1	19	51	8			
FELDBERG	148.28	358.7	19	48	5			
RAVENSBURG	148.32	356.7	19	47	4			
KSARA	148.59	309.6	19	13	-30			
BANDEIRA	148.60	191.7	19	50A	7			
ISTANBUL UN.	148.70	327.0	19	49A	6			
GARCHY	148.72	5.2	19	49A	6			
BELGRADE	149.19	341.2	19	50K	6		21	23
LJUBLJANA	149.47	349.7	19	51A	6			
JERUSALEM	149.98	306.5	19	52A	7			
TRIESTE	149.98	350.6	19	51A	6			
SOFIA	150.02	335.5	19	53	8		20	21 PKP2
CLERMONT-FD.	150.22	5.5	19	53	7			
ROSELEND	150.48	0.6	19	54	8		20	23
LWIRO	151.81	231.7	19	58A	10			
ISOLA	151.99	360.0	19	57	9			
BAGNERES	152.46	10.9	20	4	15			
TOLEDO	154.39	20.0	20	1	9	20 9	20	17 PKP2
GRANADA	156.97	22.1					24	24 PP
BANGUI	163.73	225.6	20	3	1	20 30		

OCTOBER 5 14.H 57.M 43.S EPICENTRE 11.49 42.82 DEPTH= 0.KM

A= 0.71895 B= 0.66630 C= 0.19786 D= 0.6797 E=-0.7335
G= 0.1451 H= 0.1345 K=-0.9802 HT= 6.3

SE= 2.85

	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	
ADDIS ABABA	4.68	238.9	1	10	-3	2	11	2					
LWIRO	19.51	226.5	4	32	1	8	16	10					
SHIRAZ	20.20	25.1	4	35A	-4	8	24	3	4	43	9	12	SS
JERUSALEM	21.38	342.0	4	49	-2								
KSARA	23.12	345.1	5	20	12	9	32	16					
BANGUI	24.97	255.5	5	21	-5	9	47	-1					
TEHERAN	25.36	16.4	5	29	-1	10	3	8					
GORIS	28.07	5.8	5	53A	-2						10	49	
CHILEKA	28.09	196.2	5	54K	-1								
QUETTA	29.12	46.7	6	4	0	10	39	-17					
BROKEN HILL	29.44	209.3	6	6	-1								
ASHKABAD	29.79	25.2	6	10	0								
BOMBAY	29.84	72.0	6	11	0	11	12	5			7	3	PP
TIFLIS	30.17	2.9	6	14	0						7	0	PP
TANANARIVE	30.57	171.2	6	19	2						13	40	
POONA	30.74	73.1	6	18	-1	11	40	19					
ATHENS	31.43	330.3									11	33	
ISTANBUL UN.	31.85	340.0	6	33	5	11	46	7					

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.

SIMFEROPOL	34.17	349.0	6	52A	3	12	13	-2			8	15 PP
BULAWAYO	34.40	204.1	6	49	-1							
WARSAK DAM	34.49	44.8	6	51	0							
LAHORE	35.26	50.6	6	57	-1							
SOFIA	35.42	334.9	6	57	-2	12	46	12			8	25 PP
SKOPJE	35.66	332.2	6	34	-27							
BUCHAREST	35.83	339.4				13	1	20				
MESSINA	36.07	322.2				12	50	6			16	20
NEW DELHI	36.32	57.0	7	6A	-1	12	47	-1			15	21 SS
KHOROG	36.50	40.0	7	8	0						8	39 PPP
MADRAS	36.52	83.7	7	9A	1	12	56	5			8	42 PP
TITOGRAD	37.04	330.6	7	17	4	13	7	8			16	26
DEHRA DUN	37.65	54.7	7	18	0	13	14	6				
TASHKENT	37.71	33.3	7	19K	1						13	16 SCP
BELGRADE	38.36	334.1	7	25	1						8	58 PP
CHANGALANE	38.95	195.3	7	32	3	13	36	8			9	4 PP
BANDEIRA	39.27	228.8	7	32A	0						16	13
ROME	40.25	324.3	7	45	5	13	51	3			16	43 SS
LWOW	41.25	341.6	7	46	-2	14	1	-2				
FRUNSE	41.68	35.7	7	51	0						14	14
LJUBLJANA	42.01	330.4	7	51	-3							
TRIESTE	42.10	329.4	7	53	-2	14	17	2			17	17 SS
FLORENCE X.	42.16	325.6									14	52
BRATISLAVA	42.43	334.5	7	53	-5	14	23	3				
BOKARO	42.59	67.3	8	0K	1	14	31	9			9	43 PP
VIENNA-H.	42.80	334.0	7	59	-2						9	42 PP
KRAKOW	42.83	338.4	7	58	-3	14	28	2	8	5	14	43 *SS
RACIBORZ	43.50	337.0	8	7	1						8	28
KIMBERLEY	43.64	203.2	8	6	-1							
PAVIA	44.19	325.8			.						18	45
WARSAW	44.29	340.9				14	51	4			18	17 SCS
MOSCOW	44.32	355.8	8	11	-2	14	45	-3			9	57 PP
CHATRA	44.34	63.3	8	12K	-1	14	54	6			18	28
KASPERSKE H.	44.68	332.8	8	13	-3						10	2 PP
CALCUTTA	44.76	69.6	8	17	1	14	58	4				
ISOLA	44.80	323.3	8	17	0							
PRUHONICE	44.89	334.3	8	14	-4	14	48	-8				
PRAGUE	45.01	334.3	8	21	2							
ROSELEND	45.92	324.8	8	23	-3							
STUTTGART	46.46	329.7	8	32	2	15	17	-1			18	53
COLLMBERG	46.54	334.5	8	28	-3						10	6 PCP
JENA	46.88	333.3	8	35	2	15	7	-17			10	24 PP
ALICANTE	46.91	312.4	8	35	1							
KARLSRUHE	47.05	329.4	8	42	7							
STRASBOURG	47.09	328.6	8	37	2	15	27	0			18	33
HALLE	47.13	334.0	8	36	1	15	28	0				
SVERDLOVSK	47.29	13.2	8	35A	-2							
ALMERIA	47.83	309.7	8	48	7						11	34 PPP
CHITTAGONG	47.92	70.3	8	40	-2							
CLERMONT-FD.	48.00	323.0	8	38	-4							
SHILLONG	48.30	66.0	8	44K	0	15	49	5				
GRANADA	48.80	309.7	8	51K	3						10	14 PCP
PORT BLAIR	48.83	84.5	8	50K	1	15	56	4				
BENSBERG	48.93	330.7	8	51	2							
PULKOVO	49.09	351.7	8	53	2	15	55	0				
MALAGA	49.26	308.9	8	50	-2	16	1	3				
SEMIPALATNSK	49.44	30.8	8	54	1						16	3 PS
DOURBES	49.66	328.5	8	53	-2	16	4	1				
TOLEDO	50.06	312.9	8	56K	-2	16	13	4			12	49 PP
HELSINKI	50.37	348.5	9	1	1							
DE BILT	50.62	330.8				16	17	0			20	17
AVERROES	50.72	303.7	9	3	0							
NURMIJARVI	50.74	348.5	9	3	0	16	17	-1			11	1 PP
HERMANUS	50.86	205.3				16	17	-3			16	29 PS
FOLINIERE	51.66	324.7	9	13	3							
GOTEBORG	51.77	339.5	9	13	2							
UPPSALA	51.79	344.1	9	13A	2	16	30	-3				
KEW	53.01	327.6	9	22	2	16	44	-5			20	30 SS
KAJAANI	53.58	351.8	9	25	0						11	34 PP
KONGSBERG	54.05	339.9	9	31	3	16	59	-5				
UMEA	54.63	347.9	9	25	-7	17	12	1			11	38 PP
DURHAM	55.45	330.5				17	24	2				
SKALSTUGAN	56.31	344.1	9	47	3							
APATITY	56.35	355.7	9	47	2	17	33	-1			13	2 PPP
ESEN BULAK	56.84	41.6	9	47	-1							
SODANKYLA	56.86	352.6	9	49	1	17	28	-13			11	57 PP
ABERDEEN	57.04	332.7									28	29
KIRUNA	58.19	350.2	9	57	-1	17	58	-1			18	12 PS

KEVO	59.09	353.7	10	3	-1	18	7	-3		13	43 PPP
ULAN-BATOR	64.24	42.2	10	37	-2						
HONG KONG	68.59	70.5				20	22	14		24	45 SS
SCORESBY SD.	70.93	341.2	11	26	5						
BAGUIO CITY	75.22	75.9	11	55	9	21	31	6			
TIKSI	77.93	18.9	11	58	-3	21	53	-1		15	6 PP
YAKUTSK	78.49	28.7	12	0	-4						
ALERT	80.66	352.6	12	17	1						
N-LAZARVSKYA	84.74	189.9	12	37A	0					12	42 PCP
MIRNY	85.99	162.1	12	44	1					27	4 PP
MATUSIRO	87.52	53.4	12	53	3	23	37	6			
BREBEUF	99.58	320.3								32	11 SS
PALISADES	101.79	316.3				24	51	16			
COLLEGE	103.44	4.7	18	13	250						
CHARTERS TS.	106.36	107.7								21	0
RIVERVIEW	111.48	121.9								29	5 PS
CUMBERLAND	112.43	316.3								35	3 SS
TULSA	118.78	322.2								36	17 SS
BLUE MTS.	121.11	343.6	18	59	5					20	18 PP
WICHITA MTS.	121.26	323.1	18	55	0					36	57 SS
ALBUQUERQUE	125.41	329.0	18	59	-4						
EUREKA	125.59	339.9	19	11	8						
TONTO FOREST	128.25	332.6	18	35	-33				18 43	20	41 PP
BOULDER CITY	128.29	336.9	19	17	9						
TUCSON	129.74	330.7	19	0	-11						
HONOLULU	141.48	32.3								36	43

OCTOBER 6 17.H 15.M 34.S EPICENTRE -33.92 -70.15 DEPTH= 102.KM

A= 0.28240 B=-0.78217 C=-0.55539 D=-0.9406 E=-0.3396
G=-0.1886 H= 0.5224 K=-0.8316 HT= 0.5

DEPTH OF FOCUS= 0.011R

SE= 1.87

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
SANTA LUCIA	0.63	319.1	0	18K	-1	0	31	-2					
CONCEPCION	3.30	207.6									1	41	
COPIAPO	6.55	358.4	1	36	0	2	51	2					
LA PAZ	17.44	6.5	3	59	1	7	10	3					
HUANCAYO	22.27	346.5	4	54	4								
NANA	22.67	342.8	4	53	0								
CARACAS	44.27	4.5	8	0K	-1	14	22	-5					
TRINIDAD	45.09	12.2	8	7	-1								
BYRD STATION	50.11	189.9	8	47	0								
N-LAZARVSKYA	55.77	156.6	9	28	-1								
SOUTH POLE	56.26	180.0	9	32	0								
SCOTT BASE	63.48	191.4	10	21	-1								
CAPE HALLETT	66.23	196.9	10	40	1						11	5	
CUMBERLAND	70.63	346.7	11	5	-2	20	20	9	11	31	32	21	
MAWSON	72.81	162.9	11	19K	0								
FAYETTEVILLE	73.18	339.8	11	20	-2								
WICHITA MTS.	73.30	335.8	11	21	-1	20	40	-1			21	18	PS
TULSA	73.48	338.5	11	22K	-1								
PALISADES	74.64	357.0				20	57	1					
PENNSYLVANIA	74.69	353.9	11	30K	0								
TUCSON	76.15	325.3	11	39	0				12	5			
ALBUQUERQUE	76.48	330.0	11	41	0				12	7	11	56	PCP
BANDEIRA	76.50	99.0	11	43A	2						14	33	PP
TONTO FOREST	78.04	326.2	11	50K	1				12	16	12	23	*SP
KIMBERLEY	78.29	116.7	11	51A	1								
MIRNY	79.02	173.2	11	54	-1								
BREBEUF	79.11	357.5	11	54	-1				12	22			
GOLDEN	80.17	333.2	12	0	-1								
GLEN CANYON	80.40	327.5	12	3	1								
BOULDER CITY	81.10	324.7	12	6	0				12	32			
PASADENA	81.32	321.4	12	7	0								
PRICE	82.26	329.5	12	2	-10								
UINTA BASIN	82.35	330.7	12	12	0						15	14	PP
FLAMING GRGE	82.79	331.1	12	15	1								
RAPID CITY	83.26	336.7	12	16	-1								
DUGWAY	83.61	328.5	12	19K	1						19	0	
SALT LAKE C.	83.67	329.4									19	19	
PRIEST	84.15	321.1	12	22K	1								
CHANGALANE	85.12	118.3	12	23	-3				12	55			

PARAISO	85.19	320.2	12 25	-1						
CHATEAU	85.21	225.3	12 28	2						
LICK	85.57	321.3	12 30K	2						
BULAWAYO	85.92	111.4	12 32A	2						
KARAPIRO	86.03	226.3	12 32	2						
BERKELEY	86.29	321.3	12 33K	1					12 54	
CALISTOGA	87.04	321.6	12 36K	1						
BOZEMAN	87.43	332.6	12 37	0						
MINERAL	87.83	323.3	12 38K	-1						
BUTTE	88.31	331.9	12 41	0					13 19	
SHASTA	88.49	323.0	12 41K	-1					13 8	
BROKEN HILL	89.03	106.7	12 47A	2						
BLUE MTS.	89.32	328.6	12 46	0					13 13	
HUNGRY HORSE	90.80	332.5	12 53	0			13 20			
BANGUI	91.39	85.7	12 54	-2	23 47	3				
TOOLANGI	101.53	208.2	13 42	0						
MOULD BAY	114.14	348.5	18 32	4						
BAKURIANI	128.18	60.7	18 57	2						
SHIRAZ	131.61	78.6	19 2	1					21 16	
TEHERAN	132.60	70.4							21 29	
TIKSI	140.90	350.6	19 10	-8						
QUETTA	143.64	83.8	19 24	1						
SAMARKAND	145.44	67.8	19 27	1						
TASHKENT	147.26	64.9	19 34	5						
WARSAK DAM	148.35	78.9	19 30	-1						
YAKUTSK	149.16	341.8	19 32	0						
LAHORE	150.11	84.6	19 42	8						
FRUNSE	151.15	61.6	19 44A	9						
ALMATA-2	153.09	60.1	19 40	2						
MATUSIRO	156.72	284.6	19 54	11					20 14	PKP2
SHILLONG	162.32	113.3	19 52K	3						

OCTOBER 7 13.H 14.M 23.S EPICENTRE -23.66 179.94 DEPTH= 533.KM

A=-0.91696 B= 0.00100 C=-0.39899 D= 0.0011 E= 1.0000
G= 0.3990 H=-0.0004 K=-0.9170 HT= 3.7

DEPTH OF FOCUS= 0.079R

SE= 1.41

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
PORT VILA	12.36	296.3	2 44K	1	5 4	10			
AFIAMALU	12.46	40.4	2 41	-3	4 50	-6			
NOUMEA	12.50	273.5	2 47K	2	5 10	13			
LUGANVILLE	14.52	301.6	3 5K	0					
KARAPIRO	14.72	193.8	3 7	0	5 47	9		3 31	
KOUMAC	14.83	279.0	3 8K	0	5 51	11			
GISBOURNE	15.02	185.8	3 8	-1	5 35	-9		10 24	SCP
WELLINGTON	18.10	192.6	3 39	-1	6 34	-3		10 30	SCP
ROXBURGH	23.42	199.0	4 29	0	7 59	-6		10 44	SCP
HONIARA	23.77	303.2	4 32	0				10 45	
MONOWAI	24.23	201.3	4 40	3	8 19	1			
BRISBANE	24.77	255.6	4 42	1	8 27	0			
RIVERVIEW	27.12	241.6	5 3K	1	9 5	1	6 33	10 57	SCP
CANBERRA	29.21	239.5	5 21K	1	9 36	0	6 52	7 4	PPP
TOOLANGI	32.53	236.7	5 49K	0	10 25	-2	7 21	7 29	PP
RABAUL	33.05	301.6	5 51K	-2					
PORT MORESBY	34.37	288.8	6 5K	1	10 54	-1		11 21	SCP
ADELAIDE	37.43	242.9	6 29K	0	11 38	-3		15 5	
CAPE HALLETT	48.99	183.9	8 0	0					
HONOLULU	49.54	27.3	8 5	1	14 35	3			
KIPAPA	49.68	27.3	8 5	0	14 35	1			
GUAM	50.45	313.3	8 10	-1					
MUNDARING	56.28	246.4	8 51	-1	16 1	0			
WILKES	60.32	205.8	9 17	-2	16 49	-3	9 36		
BYRD STATION	61.87	170.1	9 29	0					
SOUTH POLE	66.49	180.0	9 58	-1					
MANILA	68.99	297.5	10 15	1				12 5	
BAGUIO CITY	70.34	298.7	10 20	-2	18 48	-4			
MATUSIRO	71.66	325.6	10 29K	-1	19 8	2			
ABUYAMA	71.83	322.8	10 30K	0					
TANGERANG	72.27	271.0	10 21	-12					
MAWSON	77.96	209.4	11 4K	0	20 12	-2			
PETROPAVLOVK	78.57	347.1	11 7	-1					
HONG KONG	78.58	300.5	11 9	1				20 23	SCS

ARGENTINE I.	78.82	157.3	11	8	-1					13	4
PRIEST	81.75	44.8	11	25A	1						
BERKELEY	81.79	42.6	11	25A	1	20	53	0	13 27	14	41 PP
LICK	81.85	43.3	11	26A	1						
UKIAH	81.99	41.1	11	26	1				13 26		
CALISTOGA	82.07	41.8	11	26A	0						
PASADENA	82.22	47.6	11	27	0	20	56	-1	13 24	14	45 PP
MINERAL	83.73	40.9	11	34A	0						
PHU-LIEN	83.94	295.7	11	38	3	21	7	-7			
N-LAZARVSKYA	85.46	183.9	11	41A	-2	21	25	-4			
BOULDER CITY	85.51	47.6	11	44	1	21	21	-8	13 44	15	9 PP
MAGADAN	86.30	345.6	11	46	-1	21	36	0			
TUCSON	86.35	52.6	11	49	2				13 46		
TONTO FOREST	87.08	50.6	11	51	1	21	53	9	13 50	15	23 PP
PORT HARDY	87.34	30.3	11	53	2						
VICTORIA	87.87	33.8	11	55A	1						
SEATTLE	87.89	34.9	11	53A	-1						
GLEN CANYON	88.25	48.2	11	57	1				13 58		
BLUE MTS.	88.96	39.2	11	59	0	22	6	5	13 58	15	32 PP
SALT LAKE C.	90.06	44.9	12	5A	1	21	47	-23			
PRICE	90.14	46.3	12	5A	1	21	48	-23			
UINTA BASIN	91.32	46.1	12	10A	0	22	28	7	14 8	15	49 PP
COLLEGE	91.70	13.2	12	10	-2						
FLAMING GRGE	91.74	45.7	12	12	0						
HUNGRY HORSE	92.79	37.6	12	16	-1	21	58	-36			
GOLDEN	93.85	48.2	12	22	0					22	8
YAKUTSK	94.31	338.7	12	18	-6						
EDMONTON	95.86	33.6	12	29A	-2						
WICHITA MTS.	96.56	55.1	12	33	-1	22	19	0	14 34	16	34 PP
ULAN-BATOR	96.62	319.6	12	35	1						
SHILLONG	98.24	294.2	12	42K	1						
TULSA	99.13	54.9				22	29	-3	14 49	16	54 PP
IRKUTSK	100.07	322.8								17	0 PP
ESEN BULAK	102.61	315.2								17	21 PP
CHATRA	102.63	293.8	17	22	261	22	50	1		23	31
BOKARO	102.76	290.5	17	28	267	22	49	0		23	32 PCS
VISHAKHAPTNM	102.81	283.9	17	22	260	22	52	3			
MADRAS	103.93	278.2	17	24	257	22	57	3			
CUMBERLAND	106.84	58.1								17	50 PP
DEHRA DUN	111.33	294.7								18	21
NEW DELHI	111.57	292.7	17	35A	1						
ALMATA-2	114.72	308.3	17	39	-1						
FRUNSE'	116.64	307.5								18	58 PP
PALISADES	116.99	54.7				23	44	-3		19	0
WARSAK DAM	117.54	297.2								16	29
TRINIDAD	120.37	91.3	17	51	0						
QUETTA	120.64	292.1	17	53A	2	24	1	1			
SVERDLOVSK	125.45	324.0	18	0	-1						
BULAWAYO	128.27	215.0								20	38 PP
ASHKABAD	128.61	300.5	18	9	2						
VANNOVSKAYA	128.81	300.5	18	8	1					20	16 PP
KIZYL-ARVAT	130.25	302.1	18	12	2						
KEVO	131.16	347.9								20	46 SKP
APATITY	131.46	343.6				24	29	-2		20	47 PP
TROMSOE	132.63	351.1	18	14	-1						
SHIRAZ	132.95	289.2	18	15	0					20	39
BROKEN HILL	132.96	219.2								20	53 PP
SODANKYLA	133.23	346.2	18	10	-6					20	53 SKP
KIRUNA	134.04	349.3	18	7	-10					20	56 SKP
TEHERAN	134.18	297.5								21	0 PP
UMEA	137.65	346.8	18	15	-9				20 27	21	6 SKP
MOSCOW	137.69	329.1								21	8 PP
GORIS	137.91	303.3								21	9 PP
VIBORG	137.92	339.3	18	21	-3					21	8 PP
PULKOVO	138.11	337.5								21	8 PP
TIFLIS	138.69	306.9	18	20	-6						
SKALSTUGAN	139.25	351.6	18	22	-5					21	10 SKP
NURMIJARVI	139.36	341.5	18	21	-6					21	25 PP
HELSINKI	139.55	341.0	18	22	-5					21	24 PP
BAKURIANI	139.62	307.2	18	23	-4						
UPPSALA	141.76	345.6	18	25	-7					21	17 SKP
LWIRO	141.90	231.4	18	30	-3						
BERGEN	143.09	355.6	18	31	-3						
KONGSBERG	143.39	351.8	18	32K	-3					21	22 SKP
GOTEBORG	144.90	348.8	18	36	-1				20 45	21	25 SKP
SIMFEROPOL	145.04	315.9	18	38	1					25	17 PP
COPENHAGEN	146.70	347.1								20	48
KSARA	147.04	296.1	18	42	2				20 42	22	11 PP

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.

KISHINEV	147.17	322.4	18 43	3				
WARSAW	147.23	335.9	18 44	4	20 47	18 50	PKP2	
LWOW	147.80	330.3	18 46	5		28 15		
JERUSALEM	147.84	292.4	18 44	3				
DURHAM	148.91	1.7	18 48	5				
KRAKOW	149.37	334.4	18 49	5	21 5	18 58	PKP2	
UZHGOROD	149.44	330.2	18 51	7				
WITTEVEEN	150.43	351.7	18 53	8				
COLLMBERG	150.61	343.2	18 47K	2				
HALLE	150.70	344.6	18 52	6	20 56			
PRAGUE	151.30	340.4			20 58	19 3		
JENA	151.32	344.6	18 47	1	21 0	22 43	PP	
PRUHONICE	151.35	340.1	18 54	7		19 16		
BRATISLAVA	151.99	335.1	18 55	7		19 24		
BENSBERG	152.17	350.2	18 56	8	21 4			
KASPERSKE H.	152.40	340.5	18 48	0	21 3	22 3	*SPKP	
SOFIA	152.87	320.1	19 14	25	21 12	22 49	PP	
BELGRADE	153.06	326.6	19 0	11		21 17		
DOURBES	153.35	353.3	18 57	8				
STUTTGART	153.87	345.9	18 51	1				
PARIS	154.82	356.0	19 21	30				
ATHENS	155.18	310.6	19 21	29				
TRIESTE	155.36	336.3				28 57		
GARCHY	156.29	354.7	18 55	2		19 26		
AQUILA	158.26	332.2				23 23	PP	
ROME	159.02	333.1				19 38	PKP2	
TOLEDO	163.48	10.8				19 58	PKP2	
GRANADA	166.18	11.9	20 11K	67		24 25	PP	
MALAGA	166.45	15.0	19 5	1		22 21		
AVERROES	168.42	32.3	20 18	73		24 4	PP	

OCTOBER 7 23.H 34.M 23.S EPICENTRE 42.97 110.57 DEPTH= 0.KM

A=-0.25791 B= 0.68716 C= 0.67918 D= 0.9362 E= 0.3514
G=-0.2387 H= 0.6359 K=-0.7340 HT= -2.8

SE= 3.11

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ULAN-BATOR	5.58	333.7	1 21	-5				
IRKUTSK	10.21	337.8	2 28	-3				
ESEN BULAK	10.76	293.5	2 42	4				
HONG KONG	20.83	170.6			8 46	12		10 45
ABUYAMA	21.01	104.3	4 47A	0				
SEMIPALATNSK	21.98	300.3	4 58	1	8 58	2		
MATUSIRO	22.14	97.5	4 56	-3	8 53	-6		
YAKUTSK	22.19	24.2	4 57	-2				
PHU-LIEN	22.35	189.7	5 2	1				
SHILLONG	23.16	227.4	5 7A	-2	9 18	1		
ALMATA-2	24.15	282.2	5 19	1				
CHATRA	24.93	237.3	5 25A	-1	9 55	7		
FRUNSE	26.22	282.1	5 36A	-2				
BAGUIO CITY	27.81	159.1	5 53	0				
BOKARO	27.98	234.9	5 59	5				
DEHRA DUN	28.80	254.8	6 1	-1	11 10	19		
TIKSI	30.11	11.4	6 10	-3				
KHOROG	30.11	272.9	6 16	3				
NEW DELHI	30.42	252.8	6 11	-5				
TASHKENT	30.44	281.2	6 19	3				
LAHORE	30.79	260.4	6 15	-4				
WARSAK DAM	31.60	266.7	6 24	-2				
DUZHANBE	31.72	276.4	6 29	2				
SVERDLOVSK	34.21	311.5	6 50	1				
QUETTA	36.89	264.4	7 9A	-3				
POONA	39.40	243.4	7 26	-7				
ASHKABAD	39.52	280.9	7 36	2				
VANNOVSKAYA	39.70	281.0	7 37	2				
MADRAS	39.75	230.5						22 11
KIZYL-ARVAT	40.51	283.7						9 21
TEHERAN	45.50	281.6	8 27	4				
APATITY	46.38	328.9	8 28	-2				
MOSCOW	47.01	312.3	8 23	-12				
GORIS	47.39	288.8	8 41K	3	15 34	2		
SHIRAZ	47.75	273.7	8 38A	-2	15 40	3		
KEVO	48.29	332.4	8 42	-3				

BAKURIANI	48.35	292.7	8	44	-1						
SODANKYLA	48.99	329.3	8	52	2						
KIRUNA	51.12	330.8	9	8A	2						
HELSINKI	51.95	320.7	9	17	4						
NURMIJARVI	51.97	321.2	9	14	1	16	37	1		20	14 SS
UMEA	52.64	326.1	9	19	1						
ALERT	54.74	358.9	9	31	-2						
UPPSALA	55.44	322.3	9	39	1					10	3
SKALSTUGAN	55.94	327.7	9	43	1						
COLLEGE	56.56	30.1	9	45	-1						
MOULD BAY	56.90	12.6	9	46	-3						
LWOW	56.90	309.5	9	46	-3						
WARSAW	57.38	313.1								29	33
UZHGOROD	58.47	308.9	10	3	3						
JERUSALEM	59.07	286.1	10	8	4						
KRAKOW	59.08	311.3	10	1	-3						
RESOLUTE	61.41	7.5	10	22A	2						
PRUHONICE	62.03	313.4	10	25	1						
COLLMBERG	62.10	315.2	10	26	1					12	57
HALLE	62.53	315.8	10	31	3					34	41 PKKS
KASPERSKE H.	63.04	313.0	10	23	-8						
JENA	63.05	315.5	10	28	-3					12	40 PP
STUTTGART	65.53	314.5	10	49	2						
DURHAM	66.85	324.3				19	46	-2		20	28 PS
ROSELEND	68.87	313.2	11	8	0					11	30
FOLINIERE	70.44	319.1	11	15	-3						
CLERMONT-FD.	70.67	315.0								16	4
MUNDARING	74.76	175.0	11	46	3						
EDMONTON	76.87	25.3	11	55	0						
VICTORIA	77.26	33.5	11	58	0						
TOLEDO	78.55	314.5	11	59	-6						
HUNGRY HORSE	80.95	28.3	12	16	-2						
SCHEFFERVLLE	82.56	358.5	12	29A	3						
BLUE MTS.	82.69	32.1	12	25K	-2					15	27 PP
TANANARIVE	84.47	237.9	12	35	-1						
CANBERRA	85.45	149.3	12	41	0						
LWIRO	85.50	262.8	12	40	-1						
TOOLANGI	86.22	152.9	12	44	0					13	22
EUREKA	87.74	34.2	12	51	-1						
RAPID CITY	88.22	23.6	12	59	5						
FLAMING GRGE	89.03	29.1	13	2	4						
UINTA BASIN	89.50	29.5	12	59	-1					16	20 PP
WOODY	89.65	38.2	13	5	4						
BOULDER CITY	91.19	35.3	13	9	1						
TONTO FOREST	94.12	33.6	13	22	1					17	50
ALBUQUERQUE	95.39	29.8	13	27	0						
TULSA	97.89	21.3								24	57
WICHITA MTS.	98.21	23.9	13	45	5						
MIRNY	110.02	187.4	17	37	-56						
AREQUIPA	153.52	4.4	19	57	5						

OCTOBER 8 0.H 17.M 2.S EPICENTRE -15.07-173.17 DEPTH= 42.KM

A=-0.95920 B=-0.11494 C=-0.25831 D=-0.1190 E= 0.9929
G= 0.2565 H= 0.0307 K=-0.9661 HT= 5.7

DEPTH OF FOCUS= 0.001R

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
AFIAMALU	1.77	49.6	0	25	-4							
PORT VILA	17.96	259.0	4	13K	5	6	20	-64				
LUGANVILLE	19.01	266.0	4	22A	1							
NOUMEA	20.59	246.5	4	40K	2							
KOUMAC	22.15	252.4	4	55K	1							
GISBORNE	24.74	196.7	5	19	0							
KARAPIRO	24.87	201.6	5	21	1							
HONIARA	26.85	278.9	5	40	1	10	10	0				
WELLINGTON	28.14	199.5	5	48	-3	10	20	-11				
ROXBURGH	33.72	202.4	6	45	5							
BRISBANE	33.91	243.2	6	41	0	11	38	-24				
RIVERVIEW	37.22	233.4									8	51 PPP
HAWAII V.OB.	38.54	27.7	7	21	1							
CHARTERS TS.	38.93	256.6	7	21	-3							
HONOLULU	39.05	22.6	7	27	2	13	32	11				

PORT MORESBY	39.15	273.6	7	26	0	13	30	8				
KIPAPA	39.19	22.7	7	28	2	13	30	7				
CANBERRA	39.41	232.2	7	25A	-3							
TOOLANGI	42.85	230.5	7	53	-3				8	4	9 41	PCP
ADELAIDE	47.38	236.2	8	30K	-2						18 34	SCS
GUAM	50.38	302.2	8	56	1							
CAPE HALLETT	58.06	185.9	9	52	0							
SCOTT BASE	63.60	184.7	10	29	0							
MUNDARING	65.89	241.5	10	43	-1	19	23	-3				
TUKUBASAN	67.45	320.4	10	50K	-4	19	53	8			27 34	SSS
MATUSIRO	68.83	319.6	11	2	0	20	9	7				
BYRD STATION	69.25	171.4	11	5	0							
ABUYAMA	69.51	316.8	11	5K	-2							
WILKES	70.82	204.5	11	14	-1	20	24	-1				
PRIEST	71.08	42.8	11	17K	1							
BERKELEY	71.08	40.5	11	18A	2	20	36	8			15 28	PPP
LICK	71.15	41.2	11	17K	0							
UKIAH	71.27	39.0	11	17	0							
CALISTOGA	71.35	39.7	11	18K	0							
PASADENA	71.63	45.7	11	20	1	20	42	8				
PETROPAVLOVK	72.03	342.5	11	21	-1							
BAGUIO CITY	72.49	292.9	11	25	1							
MINERAL	73.00	38.8	11	29A	1							
BOULDER CITY	74.92	45.6	11	40	1						12 2	
SOUTH POLE	75.03	180.0	11	40	1							
TUCSON	75.94	50.7	11	46	2						12 32	
EUREKA	76.03	42.1	11	45	0						29 17	
TONTO FOREST	76.59	48.7	11	49	1	21	34	4	11	59	13 7	
VICTORIA	77.17	31.4	11	53	2							
SEATTLE	77.18	32.5	11	49	-2	21	28	-8				
GLEN CANYON	77.67	46.1	11	56	2							
MIRNY	77.83	204.1	11	55A	0	21	43	0			12 3	PCP
BLUE MTS.	78.22	37.0	11	57	0							
DUGWAY	78.47	42.8	11	59K	0							
SALT LAKE C.	79.39	42.7	12	4	0							
PRICE	79.50	44.1	12	5	1							
ALBUQUERQUE	80.42	49.9	12	10	1							
UINTA BASIN	80.68	43.9	12	11	1	22	17	4			27 49	SS
FLAMING GRGE	81.09	43.5	12	13	0							
COLLEGE	82.00	10.6	12	16	-1							
BOZEMAN	82.38	38.7	12	17	-2							
EDMONTON	85.16	31.3	12	32K	-1							
WICHITA MTS.	86.26	52.7	12	39	0	23	16	7			16 0	PP
RAPID CITY	86.59	42.7	12	41	1							
MAWSON	88.18	198.5	12	48A	0	23	13	-14				
TULSA	88.82	52.4	12	51	0	23	23	-10			29 43	SS
YAKUTSK	88.88	336.7	12	49A	-2						16 15	PP
FAYETTEVILLE	90.11	52.7	12	50	-7							
SANTA LUCIA	91.92	125.2	13	6	0	23	40	-21			30 14	
ULAN-BATOR	94.45	318.4	13	18	1							
TIKSI	94.73	344.4	13	18	0	23	55	-30			24 31	S
CUMBERLAND	96.70	55.1	13	28	1	24	2	3			17 23	PP
IRKUTSK	97.26	322.1	13	29	-1	24	1	-1				
LA PAZ	99.64	110.0	13	41	0						25 28	PS
BOGOTA	99.96	87.9				25	25	69			32 24	SS
RESOLUTE	101.35	15.4	13	49	1							
PALISADES	106.65	51.2				24	56	9				
BREBEUF	107.24	46.6									28 4	PS
CARACAS	108.21	83.7	18	36	777	26	34	100				
WARSAK DAM	119.11	300.7									19 5	
TASHKENT	120.43	309.2	18	50	3	25	47	6				
SVERDLOVSK	121.97	328.5	18	50	0							
QUETTA	123.09	296.3	18	55	3				19	14		
KEVO	123.90	351.7	18	55	1	25	56	4			20 32	PP
APATITY	124.77	347.9	18	57A	1						20 59	PP
SODANKYLA	126.15	350.7	19	0	2						20 43	PP
KIRUNA	126.54	353.6	19	1	2						20 54	PP
ASHKABAD	129.30	306.9	19	8	4						22 32	SKP
UMEA	130.42	352.2	18	59	-8						21 18	PP
SKALSTUGAN	131.40	356.8	19	11	3							
CHANGALANE	132.06	211.2	19	8	-2							
PULKOVO	132.16	344.2	19	11	1						21 23	PP
NURMIJARVI	132.81	348.1	19	13	2						21 35	PP
MOSCOW	133.03	336.7	19	14	2						21 31	PP
HELSINKI	133.06	347.7	19	14	2							
UPPSALA	134.59	352.4	19	12	-2						22 42	PKS
TEHERAN	135.25	305.8	19	22	6						22 51	PKS
KONGSBERG	135.44	358.0	19	8	-8							
SHIRAZ	135.61	297.1	19	16	0						21 52	PP

TIFLIS	137.85	316.7	19	22	2		22	13 PP
COPENHAGEN	139.24	355.1	19	28	5			
DURHAM	139.84	7.6	19	26A	2		22	32 PP
WARSAW	141.24	346.1	19	30	3		23	8 PKS
SIMFEROPOL	142.33	327.8	19	26	-2		32	35 PP
LWOW	142.61	341.6	19	26	-3			
DE BILT	143.03	1.7	19	28	-2		22	28 PP
KEW	143.24	7.5					22	43 PP
HALLE	143.43	354.6	19	29	-1		22	41 PP.
KRAKOW	143.52	345.8	19	29	-2		20	40
COLLMBERG	143.52	353.5	19	30	-1		23	6 PKS
BROKEN HILL	143.70	217.1	19	34	3			
RACIBORZ	143.88	347.6	19	33	2			
JENA	144.02	354.9	19	31	0		22	49 PP
BENSBERG	144.20	359.6	19	31	-1		22	49 PP
UCCLE	144.30	2.7	19	32	0			
PRAGUE	144.55	351.6	19	30	-2			
PRUHONICE	144.62	351.4	19	33	1			
DOURBES	145.01	2.5	19	32	-1			
KASPERSKE H.	145.58	352.2	19	36K	2		23	0 PP
HEIDELBERG	145.73	357.8	19	36	2			
FOLINIERE	145.86	8.6	19	36	1			
BRATISLAVA	145.92	347.7	19	35	0			
VIENNA-H.	145.99	348.6	19	39	4		19	50 PKP2
KARLSRUHE	146.13	358.1	19	39	4			
PARIS	146.16	5.2	19	39	4			
STUTTGART	146.33	357.1	19	38	3			
STRASBOURG	146.57	358.9	19	39K	3		23	10 PP
TUBINGEN	146.58	357.3	19	39	3			
GARCHY	147.73	4.8	19	42	4			
ISTANBUL UN.	147.75	327.7	19	40	2			
KSARA	147.80	310.7	19	27	-11		22	53 PP
BELGRADE	148.18	341.5	19	43K	5		21	35
ADDIS ABABA	148.22	262.8	19	44	6			
ZAGREB	148.39	347.8	19	43K	4			
LJUBLJANA	148.44	349.7	19	48	9			
TRIESTE	148.96	350.6	19	42	2		23	14 PP
SOFIA	149.03	336.0	19	39	-1		23	47 PP
JERUSALEM	149.23	307.7	19	47	7			
CLERMONT-FD.	149.23	5.1	18	47	-53			
PADOVA	149.46	353.0					20	28
ROSELEND	149.47	0.3	19	48	8		20	10
BANDEIRA	149.54	192.4	19	43K	2	19 55	19	50 PKP2
ISOLA	150.98	359.7	19	51	8			
FLORENCE X.	151.14	353.4					19	2
MONACO	151.43	359.1	19	55	12			
AQUILA	152.23	349.5	19	54	9		26	8 PPP
LWIRO	152.27	233.5	19	50K	5			
LISBON	152.55	27.9	20	4	19			
ATHENS	152.73	329.9	19	46	1			
ROME	152.82	350.7					23	24 PP
TOLEDO	153.51	19.0	19	48	2		23	28 PP
MESSINA	155.70	343.1					20	17
GRANADA	156.10	20.9	20	20K	30		24	3 PP
ALMERIA	156.78	19.2	19	52	1		23	59 PP
AVERROES	157.72	32.9	20	15	23		24	35 PP

OCTOBER 12 11.H 26.M 55.S EPICENTRE 44.70 149.18 DEPTH= 20.KM

A=-0.61244 B= 0.36541 C= 0.70100 D= 0.5124 E= 0.8588
G=-0.6020 H= 0.3592 K=-0.7132 HT= -3.4

SE= 2.85

	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	2.93	243.4	0	47A	0	1	27	5				
ABASHIRI	3.58	260.8	0	58A	2	1	39	1				
KUSIRO	3.86	245.2	1	2K	2	1	46	0				
OBIHIRO	4.68	249.7	1	12	0	2	20	14				
HIROO	4.90	242.5	1	16	1	2	14	2				
ASAHIGAWA	4.98	261.7	1	20K	4	2	19	5				
Y.-SAKHLINSK	5.07	299.5	1	20	3						2	50
URAKAWA	5.31	243.5	1	24K	4	2	24	2				
WAKKANAI	5.36	280.3	1	27	6	2	31	8				
RUMOE	5.47	264.8	1	27A	4							

TOMAKOMAI	5.89	252.1	1	31K	2	2	45	8			
SAPPORO	5.89	256.7	1	31A	2	2	43	6			
MURORAN	6.42	251.1	1	36	0	2	50	0			
UGLEGORSK	6.55	314.5	1	42A	4	2	55	2			
SUTTSU	6.75	256.8	1	43	2	3	13	15			
MORI	6.79	250.5	1	45K	4	3	6	7			
HAKODATE	6.79	247.8	1	41K	0	3	6	7			
HATINOHE	7.01	236.2	1	42	-2	2	59	-6			
AOMORI	7.29	240.8	1	46A	-2	3	9	-3			
MIYAKO	7.35	229.2	1	48K	-1	3	3	-10			
MORIOKA	7.76	232.7	1	53A	-2				2	17	
MIZUSAWA	8.18	229.9	2	0	-1	3	23	-11			
AKITA	8.37	236.7	2	5	2	3	34	-5			
ISINOMAKI	8.60	225.9	2	4	-2	3	34	-10			
SENDAI	8.93	226.9	2	9	-2	3	43	-9			
SAKATA	9.07	233.5	2	14	1	3	54	-2			
YAMAGATA	9.24	228.8	2	13	-2	3	46	-14			
HUKUSIMA	9.55	226.3	2	20	0	4	3	-5			
OKHA	9.75	337.5	2	25	3				4	53	
ONAHAMA	9.96	221.8	2	21	-4	4	5	-13			
SHIRAKAWA	10.16	224.9	2	26	-2	4	18	-5			
NIIGATA	10.19	231.8	2	30K	2	4	15	-8			
PETROPAVLOVK	10.40	33.4	2	34	3				4	50	
AIKAWA	10.58	234.7	2	31K	-3	4	15	-18			
MITO	10.62	221.5	2	34	0	4	23	-11			
UTUNOMIYA	10.78	224.1	2	34	-3	4	23	-15			
KAKIOKA	10.88	222.1	2	24	-14	4	23	-17			
TUKUBASAN	10.93	222.3	2	34K	-5						
TYOSI	10.99	218.2	2	35	-4	4	32	-11			
TAKADA	11.22	231.2	2	40	-3	4	46	-3			
MAEBASI	11.30	226.3	2	41	-3	4	39	-12			
KUMAGAYA	11.34	224.5	2	44A	0	4	55	4			
HONGO	11.50	221.9	2	48	2				5	12	
TOKYO C.M.O.	11.53	221.8	2	53	6	4	42	-14			
NAGANO	11.56	229.8	2	46	-1	5	23	26			
TITIBU	11.62	224.9	2	45	-3	4	50	-8			
OIWAKE	11.62	227.7	2	47	-1	4	53	-5			
MATUSIRO	11.65	229.4	2	44A	-4	5	3	4			
YOKOHAMA	11.78	221.5	3	0	10				5	38	
WAZIMA	11.80	235.9	2	51A	1	5	3	0			
MATUMOTO	11.99	229.1	2	55	2	5	17	10			
TOYAMA	12.09	232.8	3	0	6	5	15	5			
MERA	12.12	219.5	3	2	7	5	15	5			
KOHU	12.13	225.6	2	54	-1	5	1	-10			
HUNATU	12.15	224.4	2	52	-3	5	1	-10			
AJIRO	12.35	222.2	2	56	-2	5	5	-11			
MISIMA	12.37	222.8	2	55	-3	5	10	-7			
OSIMA	12.45	220.5	3	10	11	5	6	-12			
KANAZAWA	12.53	233.7	2	59	-1						
IIDA	12.62	227.3	3	1	0	4	17	-66			
SHIZUOKA	12.76	224.1	3	3	0	5	19	-7			
HUKUI	13.11	233.2	3	5	-3						
OMAESAKI	13.14	223.6	2	53	-15						
GIHU	13.28	229.9	3	11	1						
HAMAMATU	13.30	225.4	3	25	15	5	43	4			
NAGOYA	13.34	228.7	3	11	0	5	40	0			
HIKONE	13.66	230.8	3	13	-2	6	0	13			
KAMEYAMA	13.85	229.1	3	20	2	6	17	25			
TU	13.94	228.6	3	27	8						
MAIZURU	14.00	233.5	3	17	-3	6	58	62			
KYOTO	14.13	231.4	3	19	-2	6	5	6			
TOYOOKA	14.29	235.1	3	22	-1	5	59	-3			
NARA	14.33	230.3	3	21	-3						
ABUYAMA	14.33	231.4	3	21K	-3	6	39	36			
OSAKA	14.51	230.9	3	28	2	6	46	38	6	3	
OWASE	14.59	227.7	3	29	2	6	39	29			
TOTTORI	14.68	236.4	3	27	-2				7	31	
KOBE	14.69	231.8	3	31	2						
SAIGO	14.73	240.3	3	36	7	6	12	-1	7	26	
MAGADAN	14.91	3.2	3	34A	2				6	29	
WAKAYAMA	15.02	230.7	3	30	-3	6	36	16			
SUMOTO	15.09	231.6	3	32	-2	6	36	15			
YONAGO	15.23	238.0	3	34	-2						
HIMEJI	15.26	233.2	3	28	-8						
SIOMISAKI	15.29	227.3	3	43	6	6	43	17			
MATSUE	15.38	238.6	3	40	2	6	53	25			
TOKUSIMA	15.47	231.7	3	41	2				7	53	
TAKAMATU	15.59	233.5	3	37	-3	7	4	31			
TORISIMA	15.83	209.2	3	50	7	7	8	29			

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.

TSURUGISAN	15.95	232.4	3	40	-5					8	13
MUROTO	16.30	230.6	3	50	0	7	1	11			
HAMADA	16.36	239.1	3	52	2	7	1	10			
KOTI	16.44	232.7	3	52K	1	7	5	12			
HIROSIMA	16.50	237.0	3	51A	-1	7	4	10			
MATUYAMA	16.67	235.0	3	55	1	7	13	15			
UWAZIMA	17.24	234.0	4	2	1	7	26	15			
ASHIZURI	17.35	231.9	4	7	4	7	40	26			
SIMONOSEKI	17.70	238.9	4	5	-2						
OOITA	17.78	235.9	4	10K	2	7	44	20			
HUKUOKA	18.28	239.0	4	16	2	7	28	-7			
ASOSAN	18.34	236.2	4	18	3	7	48	12			
ITUHARA	18.56	242.4	4	20	2	7	37	-4			
SAGA	18.56	238.4	4	20K	2	8	30	49			
KUMAMOTO	18.62	236.7	4	19A	1	7	52	10			
MIYAZAKI	18.84	233.4	4	26	5	8	1	13			
UNZENDAKE	18.95	237.4	4	35	13						
NAGASAKI	19.17	238.0	4	26A	1	8	23	28			
KAGOSIMA	19.60	234.4	4	32	2	7	39	-25			
HUKUE	19.83	239.8	4	34	2	8	8	-2			
YAKUSIMA	20.46	232.3	4	40	1	8	51	29			
MAWASHI	25.29	230.4	5	33K	6					7	4
TIKSI	28.73	346.8	5	56A	-2					6	17 *SP
ULAN-BATOR	29.12	291.6	6	1	-1						
ANPU	29.66	238.2	6	6	-1						
TAIPEI	29.77	238.0	6	35	27	11	39	37			
IRKUTSK	30.27	300.7	6	10	-2	11	8	-2			
HWALIEN	30.51	236.5	6	21	7						
TAICHUNG	30.94	238.0	6	25	7						
HSINKONG	31.32	235.7	6	26	5	11	31	5			
ALISHAN	31.34	237.0	6	27	6	11	32	6			
TAITUNG	31.72	235.6	6	27	2						
TAWU	32.17	235.5	6	32	3	11	56	17			
HENGCHUN	32.53	235.2	6	34	2						
HONG KONG	36.35	243.7	7	7	2	12	51	7			
ESEN BULAK	36.53	291.9	7	8A	2	12	50	3			
BAGUIO CITY	37.07	229.6	7	9	-2						
MANILA	38.25	227.4	7	22	1	13	14	1			
COLLEGE	39.46	36.8	7	32	1	13	31	0			
PHU-LIEN	42.35	249.9	7	54	-1						
SEMIPALATNSK	45.35	302.9	8	18A	-1					15	8 PS
SITKA	46.79	46.5	8	34	4	15	25	6			
MOULD BAY	47.46	19.0	8	35A	0	15	27	-1			
RABAUL	48.75	176.0	8	45A	0	15	45	-1			
KIPAPA	48.99	100.4	8	48	1						
HONOLULU	49.01	100.6	8	53	6	15	59	9		18	46 SCS
SHILLONG	49.55	267.3	8	51A	-1	16	17	20			
ALMATA-2	50.10	295.2	9	0A	4					10	12 PCP
CHITTAGONG	51.59	264.1	9	7	0						
ALERT	52.06	5.0	9	9A	-2						
FRUNSE	52.08	296.0	9	11	0					16	37 PS
CHATRA	52.14	271.9	9	12K	1	16	52	19		11	14 PP
HAWAII V.OB.	52.23	100.1	9	13	1	16	40	6			
SVERDLOVSK	53.45	316.8	9	21K	0						
PORT HARDY	53.57	51.7	9	23	1						
RESOLUTE	53.64	17.3	9	21A	-1						
PORT MORESBY	53.88	182.5	9	24K	0						
CALCUTTA	53.94	266.8	9	24	-1	17	1	3			
YELLOWKNIFE	54.20	34.7	9	27A	0						
HONIARA	54.75	166.9	9	23	-8	17	5	-3			
BOKARO	54.95	269.9	9	32A	0	17	22	11		11	44 PP
TASHKENT	56.27	296.9	9	42A	0	17	30	1		11	47 PP
DEHRA DUN	56.52	281.2	9	43A	0	17	32	0		11	53 PP
KHOROG	56.90	291.9	9	47	1	17	35	-2			
VICTORIA	56.97	52.4	9	46A	-1						
SEATTLE	58.07	52.8	10	0	6	17	54	2			
APATITY	58.11	336.0	9	53A	-2	17	48	-5		12	2 PP
NEW DELHI	58.15	280.1	9	54A	-1	17	51	-3		18	14 PS
PORT BLAIR	58.20	253.9	9	55A	0	17	57	3		12	9 PP
KEVO	58.33	339.7	9	53	-3	17	54	-2		18	5 PS
LAHORE	58.39	284.6	9	56	-1	18	3	6			
WARSAK DAM	58.86	288.5	10	1	1	18	3	0			
CORVALLIS	59.18	56.2	10	4	2	18	38	31			
DARWIN	59.20	201.0	10	4	2						
SODANKYLA	60.14	337.9	10	7	-2					20	6 SCS
TROMSOE	60.31	342.1	10	7	-3					10	42 PCP
VISHAKHAPTNM	60.67	266.2	10	13K	1	18	52	26		12	38 PP
SPOKANE	60.80	50.5	10	13	0	18	38	10			

KIRUNA	61.37	340.3	10	15	-2	18	47	12			39	37 PKPPKP
SEHORE	61.58	275.3	10	17	-1	18	37	-1			10	51 PCP
LUGANVILLE	62.12	160.4	10	18K	-4							
KAJAANI	62.22	334.9	10	18K	-5							
HUNGRY HORSE	62.23	48.5	10	23	0	18	44	-2			39	21 PKPPKP
UKIAH	62.37	61.3	10	23	-1							
BLUE MTS.	62.51	53.2	10	25A	0	18	53	4			23	16 SS
MINERAL	62.65	59.4	10	25A	-1							
TANGERANG	63.41	228.8	10	29A	-2							
BERKELEY	63.73	61.9	10	34A	1	19	16	11			14	41 PP
QUETTA	64.27	287.7	10	36A	0	19	24	13				
HYDERABAD	64.32	269.5	10	35A	-2	19	31	19			13	5 PP
LICK	64.44	62.1	10	38K	1						39	29 PKPPKP
BUTTE	64.44	49.9	10	37	0	19	15	1				
PULKOVO	64.50	330.6	10	36	-2	19	6	-8			20	10
CHARTERS TS.	64.53	183.0	10	37	-1							
PORT VILA	64.54	159.7	10	49	11							
MOSCOW	64.54	324.4	10	37A	-1	19	14	-1				
UMEA	64.57	337.5	10	36K	-2	19	6	-9			14	44
SCORESBY SD.	64.95	356.7	9	41	-60	19	39	19				
KAP TOBIN	65.01	356.7	10	40	-1							
ASHKABAD	65.09	299.4	10	42	0	19	25	3			13	9 PP
BOZEMAN	65.49	49.4	10	42	-2	19	15	-11	10	54		
PRIEST	65.80	62.6	10	47A	1						39	1 PKPPKP
NURMIJARVI	65.84	333.5	10	46K	0	19	33	2			14	53 PPP
HELSINKI	66.01	333.1	10	47	0						13	47
MADRAS	66.06	264.6	10	48K	0	19	34	1			13	17 PP
KOUMAC	66.39	164.5	10	50K	0							
EUREKA	66.60	57.2	10	52	1	19	34	-6				
SKALSTUGAN	66.80	340.6	10	51K	-1						11	35
POONA	66.87	273.5	10	53A	0	20	12	29			13	27 PP
BOMBAY	67.36	274.5	10	58	2	20	11	22			13	21 PP
DUGWAY	68.00	54.9	11	0A	0							
SALT LAKE C.	68.19	53.9	11	2	1							
AFIAMALU	68.26	138.8	10	59	-3	19	48	-12				
UPPSALA	68.51	336.0	11	2K	-1	20	0	-3			21	21 SCS
NOUMEA	68.52	162.8	11	9K	6	20	9	6				
PASADENA	68.63	62.8	11	5	1	20	5	1			39	19 PKPPKP
FLAMING GRGE	69.49	52.5	11	10	1							
BOULDER CITY	69.54	59.4	11	10	1	20	19	4	11	22	39	19 PKPPKP
PRICE	69.55	54.3	11	11A	1							
UINTA BASIN	69.79	53.0	11	11A	0	20	20	2			24	15 SS
KODAIKANAL	69.88	264.5	11	10A	-2	20	34	15			14	1 PP
TIFLIS	70.60	309.8	11	18	2	20	31	4				
RAPID CITY	70.71	46.7	11	16	-1				11	27		
TEHERAN	70.79	301.4	11	19	2	20	58	28			14	18 PP
KONGSBERG	70.83	339.6	11	19	2	20	12	-18				
GLEN CANYON	70.85	56.8	11	17	0							
GORIS	71.25	307.2	11	22A	2						14	0 PP
LARAMIE	71.35	50.1	11	21	0						20	42
GOTEBORG	71.91	337.4	11	22K	-2							
GOLDEN	72.58	51.2	11	28	0	20	46	-4				
TONTO FOREST	72.84	58.7	11	30	1	20	57	4	11	43	13	56 PP
COPENHAGEN	73.53	336.1	11	33A	0	21	10	9				
WARSAW	73.64	329.7	11	35	1	21	5	3			21	19 *SS
SIMFEROPOL	73.79	317.9	11	35A	0	21	4	0			16	11 PPP
SHIRAZ	74.15	296.0	11	37A	0	21	5	-3	11	49	14	20 PP
LWOW	74.45	326.6	11	38	-1	21	11	0			21	37 PS
TUCSON	74.49	60.0	11	39	0						22	14 SCS
IASI	75.06	323.1	11	43	1	21	22	4				
ALBUQUERQUE	75.26	55.4	11	44	1						12	35
SOCORRO	75.59	56.3	11	47	2							
ABERDEEN	75.69	344.3	12	6A	20	21	34	9			15	5 PP
KRAKOW	75.82	329.0	11	47	0	21	17	-9				
BACAU	75.84	323.0	11	50	3	21	24	-3				
FOCSANI	76.39	322.3	12	0	10	22	18	45				
SKALNATE PL.	76.41	328.3	11	51	1	21	37	4			14	38 PP
RACIBORZ	76.42	330.0	11	51	1	21	35	2			12	3 PCP
COLLMBERG	77.14	333.5	11	54	0	21	37	-4				
HALLE	77.29	334.2	11	55	0	21	40	-3				
WITTEVEEN	77.66	337.8	11	18A	-39							
CAMPULUNG	77.66	323.3	11	51	-6	22	24	37				
PRAGUE	77.73	332.1	11	57	0						20	59
PRUHONICE	77.77	332.0	11	58	1	21	48	0				
DURHAM	77.83	343.2	11	56K	-2	21	31	-17			14	34 PP
BUCHAREST	77.88	322.1	12	1	3	22	41	52			15	39 PP
JENA	77.91	334.1	11	59	1	21	50	1			27	9 SS
RIVERVIEW	78.18	178.3	12	9	9	21	58	6			22	39 PS

HURBANOVO	78.26	328.7	12	8	8	21	31	-22			14	47 PP
CHEB	78.39	333.2	11	58	-3						12	27
BRATISLAVA	78.41	329.5	12	2A	1	21	56	1			22	25
LAWRENCE	78.52	45.9	12	0	-2							
VIENNA-H.	78.61	330.0	12	4A	2	21	57	0	12	25	16	47 PPP
DE BILT	78.71	338.3	12	4	1	22	20	22				
KASPERSKE H.	78.82	332.1	12	6	3							
TIMISOARA	78.85	325.8	12	6	3	21	47	-12	12	31	22	47 PS
LUBBOCK	78.91	53.6	12	5	1	22	5	5				
BENSBERG	79.19	336.7	12	4A	-1	21	58	-5			15	7 PP
ISTANBUL UN.	79.21	318.3	12	6K	1	21	32	-31				
CANBERRA	79.65	180.1	12	10A	2	22	11	3	12	24	17	3 PPP
ADELAIDE	79.86	188.7	12	9K	0	22	5	-5	12	22	27	5 SS
WICHITA MTS.	79.91	50.8	12	9A	0	22	7	-3			15	23 PP
BELGRADE	79.93	325.7	12	11	2	22	11	0			12	28 PCP
CHICAGO CGS.	80.03	39.4	12	14	4	22	6	-6			22	27 SCS
HEIDELBERG	80.13	335.0	12	11A	1							
SOFIA	80.46	322.7	12	14	2	22	17	1			15	29 PP
STUTTGART	80.52	334.4	12	14A	2	22	25	8			15	33 PP
TULSA	80.54	48.2	12	12A	-1	22	16	-1			27	35 SS
KARLSRUHE	80.57	335.0	12	13A	0	22	37	20				
KEW	80.64	341.2	12	13A	0	22	18	0			27	28 SS
DOURBES	80.68	337.8	12	11	-2	22	16	-2				
TUBINGEN	80.79	334.4	12	15A	1							
ZAGREB	80.81	328.9	12	14A	0	22	19	-1				
STRASBOURG	81.14	335.2	12	16A	0	22	26	3			15	22 PP
LJUBLJANA	81.15	329.9	12	16A	0						15	35 PP
KSARA	81.17	309.3	12	16A	0	22	26	3			15	22 PP
ST. LOUIS 1	81.28	43.0	12	16	0	22	23	-2				
RAVENSBURG	81.29	333.7	12	17A	1							
ANN ARBOR	81.35	36.7	12	18	1	22	45	20				
FELDBERG	81.70	334.7	12	19A	0							
WELSCHBRUCH	81.72	336.0	12	18	-1							
TRIESTE	81.76	330.2	12	18A	-1	22	29	-1			15	39 PP
LONDON ONT.	81.77	34.8	12	19A	0							
OTTAWA	81.86	30.2	12	18A	-1							
SKOPJE	81.86	323.4	12	20	1						22	34
SHAWINIGAN	81.88	27.8	12	20A	0							
TOOLANGI	81.96	183.0	12	21	1	22	20	-12	12	35	23	19 PS
SCARBOROUGH	81.98	33.2	12	21A	1							
MUNDARING	82.00	207.8	12	19	-1	22	2	0				
SEVEN FALLS	82.01	26.3	12	19	-1							
VALENTIA	82.12	347.3	12	21	0	22	31	-2				
TITOGRAD	82.39	325.0	12	23	1	22	37	1			13	0 PCP
PARIS	82.42	338.5	12	53A	31							
BREBEUF	82.51	28.8	12	23A	0	22	35	-2			28	3 SS
PADOVA	82.63	331.2	12	25A	2	22	38	0			29	35
BESANCON	82.87	335.7	12	25	0							
CLEVELAND	82.92	35.9	12	27A	2	22	36	-5				
JERUSALEM	83.06	308.4	12	27A	1							
JERSEY	83.19	341.5	12	30	4	23	8	24				
FOLINIERE	83.20	340.3	12	27	1							
GARCHY	83.67	337.5	12	29A	0							
PAVIA	83.73	332.8	12	31A	2						28	54 SS
ROSELEND	84.08	334.6	12	31	0						12	51
ATHENS	84.12	319.7	12	30A	-1	22	53	0			22	57 SKS
PRATO	84.23	330.9	12	35	3	23	17	23				
FLORENCE X.	84.27	330.8	12	22	-10	22	41	-14			23	11
AQUILA	84.74	328.7	12	36	2	22	45	-14			16	5 PP
TARANTO	84.86	325.3	12	5	-30	22	15	-46				
PENNSYLVANIA	84.99	33.9	12	36A	1							
CLERMONT-FD.	85.04	336.9	12	37	1	23	21	19				
MORGANTOWN	85.13	35.9	12	37A	1	23	3	0				
ISOLA	85.31	333.7	12	38	1	23	4	-1				
ROME	85.47	329.1	12	38A	0	23	6	-1			16	6 PP
MONACO	85.59	333.2	12	38	0							
KARAPIRO	85.63	159.4	12	40	1						13	24
CUMBERLAND	85.95	41.9	12	40A	0	22	59	-12			29	7 SS
PALISADES	86.33	31.2	12	42A	0	23	9	-6				
HALIFAX	86.42	22.8	12	43A	1							
FORDHAM	86.48	31.3	12	44	1							
TARRALEAH	86.65	182.0	12	45	1							
MOORLANDS	86.77	181.5	12	47	3							
PHILADELPHIA	86.77	32.6	12	47	3	23	27	8				
GEORGETOWN	86.93	34.4	12	45	0							
BLACKSBURG	86.96	37.5	12	45	0							
MESSINA	87.48	325.2	12	52	4	23	33	7			13	13
WELLINGTON	88.62	161.0	12	55	2	23	11	-26			24	41 PS
CHAPEL HILL	88.64	37.3	12	55	2							

BARCELONA	89.32	335.9	13	0	4	23	44	1			
COLUMBIA	89.37	39.7	12	58	1	23	43	0			
TORTOSA	90.34	336.8	13	9	8	23	47	-5			
TACUBAYA	90.95	61.4	13	20	16	24	21	23			
ROXBURGH	91.55	166.0	13	12	5	23	47	-16		16	57 PP
TOLEDO	92.42	339.7	13	11A	0	23	37	-34		17	5 PP
ALICANTE	92.91	336.6	13	13K	0	24	37	22		24	37 SKS
LISBON	94.69	343.2	13	23A	2	24	25	-5		31	23 SS
GRANADA	94.86	338.5	13	26A	4	25	0	28		16	42 PP
ALMERIA	94.87	337.5	13	27K	5	24	38	6			
MALAGA	95.50	338.9	13	25	0	24	39	41			
COMITAN	97.70	58.2								14	9
ADDIS ABABA	97.84	290.9	13	38	3						
AVERROES	99.50	340.3	13	38	-5						
SAN JUAN	109.45	35.6								19	16
TANANARIVE	111.22	264.1								18	35 PP
GALERAZAMBA	111.72	47.8	14	34	-239					19	31 PP
LWIRO	112.81	290.7	14	45	-231					35	57
ST. CLAUDE	113.34	32.5								19	27 PP
BANGUI	114.15	303.9	18	0	-38					21	54
CARACAS	116.09	40.2	18	55	13	27	40	129			
BOGOTA	117.50	50.3	18	47	2					20	7 PP
CAPE HALLETT	117.64	172.9	15	23	-202	27	57	141		20	10 PP
TRINIDAD	118.35	34.6	15	10	-216						
MIRNY	118.92	202.3	18	47	0	25	43	2		20	21 PP
M.BOUR	119.87	344.5				25	59	15		20	27 PP
SCOTT BASE	122.76	175.6	18	55	0	26	14	15		20	45 PP
BULAWAYO	125.50	276.4	19	1K	1						
CHANGALANE	126.82	268.0	19	3A	0					21	4 PP
NANA	129.00	64.9	19	8	1						
HUANCAYO	130.01	63.6	19	12	3						
PIETERMZBURG	130.06	265.7	19	6	-3						
BANDEIRA	132.38	294.3	19	16A	3				19	29	21 43 PP
KIMBERLEY	133.57	270.5	19	4	-12						19 14
BYRD STATION	133.87	166.0	19	16	0						23 18
AREQUIPA	135.76	63.7	19	23	3						
LA PAZ	137.91	60.2	19	19	-5						40 29
HERMANUS	140.62	267.4	19	42	14						22 35 PP
ANTOFAGASTA	141.62	70.2	19	30	0						
N-LAZARVSKYA	146.64	204.1	19	39K	0						
SANTA LUCIA	147.41	83.7	19	42A	2						33 37
ARGENTINE I.	152.42	149.9	19	54	6						
G. G. VIDELA	153.16	149.8	20	6	17						24 12

OCTOBER 12 13.H 7.M 9.S EPICENTRE 44.63 149.23 DEPTH= 57.KM

A=-0.61347 B= 0.36523 C= 0.70018 D= 0.5116 E= 0.8593
G=-0.6016 H= 0.3582 K=-0.7140 HT= -3.4

DEPTH OF FOCUS= 0.004R

SE= 2.56

	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
Y.-SAKHLINSK	5.14	299.9	1	18A	1							
MIZUSAWA	8.17	230.5	2	6	7	3	18	-13				
MATUSIRO	11.64	229.8	2	39	-7						3	0
YAKUTSK	20.80	333.7	4	39	0							
ULAN-BATOR	29.18	291.7	5	58	0							
BAGUIO CITY	37.06	229.8	7	5	-2							
COLLEGE	39.48	36.7	7	27	0							
MOULD BAY	47.51	19.0	8	31K	-1						10	15
SHILLONG	49.58	267.4	8	47A	-1							
ALMATA-2	50.17	295.3	8	54A	2							
FRUNSE	52.15	296.1	9	8A	1							
RESOLUTE	53.69	17.3	9	18	-1							
YELLOWKNIFE	54.23	34.7	9	21	-2							
DEHRA DUN	56.58	281.3	9	39A	-1							
APATITY	58.19	336.0	9	48	-3							
NEW DELHI	58.20	280.2	9	50A	-1							
KEVO	58.40	339.8	9	48	-4							
LAHORE	58.44	284.7	9	53	0							
WARSAK DAM	58.92	288.6	9	56	0							
SODANKYLA	60.21	337.9	10	2	-3							
TROMSOE	60.39	342.1	10	4	-2							

KIRUNA	61.45	340.3	10	11	-2					
KAJAANI	62.30	335.0	10	19	0					
BLUE MTS.	62.52	53.2	10	19	-1					
MINERAL	62.65	59.4	10	20A	-1					
QUETTA	64.33	287.8	10	32A	0					
MOSCOW	64.62	324.4	10	35	1					
UMEA	64.64	337.6	10	33	-1					
NURMIJARVI	65.92	333.5	10	41	-1					
HELSINKI	66.08	333.1	10	42	-2					
EUREKA	66.60	57.2	10	47	0			11	1	
UPPSALA	68.58	336.1	10	58	-1					
BOULDER CITY	69.53	59.4	11	12	7					
UINTA BASIN	69.80	53.1	11	6A	-1					
KIROVOBAD	70.55	308.1	11	12	1					
RAPID CITY	70.73	46.7	11	25	13					
TEHERAN	70C86	301.4	11	13	0					
BAKURIANI	71.36	310.5	11	18	2					
TONTO FOREST	72.84	58.7	11	25	0			11	39	
SHIRAZ	74.22	296.1	11	33A	0					
TUCSON	74.49	60.0	11	34	0					
ALBUQUERQUE	75.26	55.4	11	39	0					
KRAKOW	75.89	329.0	11	43A	1			11	57	PCP
UZHGOROD	76.16	326.9	11	44	0					
COLLMBERG	77.21	333.6	11	51	1			12	16	
HALLE	77.37	334.2	11	54	3					
PRUHONICE	77.84	332.0	11	54	1					
JENA	77.98	334.2	11	55	1					
VIENNA-H.	78.69	330.0	12	0	2					
KASPERSKE H.	78.90	332.1	12	0	1					
BENSBERG	79.27	336.7	12	2	1					
WICHITA MTS.	79.92	50.8	12	4	-1					
TULSA	80.55	48.2	12	7	-1					
STUTTGART	80.59	334.4	12	9	1					
DOURBES	80.75	337.8	12	9	0					
STRASBOURG	81.22	335.3	12	20	8					
LJUBLJANA	81.22	329.9	12	13	1					
KSARA	81.24	309.3	12	4	-8					
TRIESTE	81.84	330.2	12	15	0					
PARIS	82.49	338.6	12	24	6					
JERUSALEM	83.14	308.4	12	24	3					
FOLINIERE	83.27	340.4	12	23	1					
GARCHY	83.74	337.6	11	27K	-58					
ROSELEND	84.16	334.7	12	27	0					
ISOLA	85.38	333.7	12	34	1					
CUMBERLAND	85.97	41.9	12	35	-1					

OCTOBER 13 1.H 26.M 35.S EPICENTRE 44.35 149.43 DEPTH= 40.KM

A=-0.61776 B= 0.36491 C= 0.69657 D= 0.5086 E= 0.8610
G=-0.5998 H= 0.3543 K=-0.7175 HT= -3.3

DEPTH OF FOCUS= 0.001R

SE= 2.45

	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
KURILSK	1.42	309.1	0	25A	1	0	43	1				
UGLEGORSK	6.93	315.7	1	45	3	3	6	6				
MIZUSAWA	8.10	232.8	1	57	-1	3	20	-9				
MATUSIRO	11.56	231.4	2	42	-3	4	58	4				
YAKUTSK	21.12	333.8	4	42	-1	8	35	4				
TIKSI	29.12	346.8	5	56	-3							
ULAN-BATOR	29.41	292.2	6	1A	-1							
HONG KONG	36.35	244.4	7	16	14	12	54	14				
ESEN BULAK	36.83	292.5	7	10	4							
BAGUIO CITY	36.98	230.3	7	8	1							
MOULD BAY	47.73	18.9	8	34	-1							
SHILLONG	49.71	267.8	8	51K	1							
ALMATA	50.69	295.8	8	54A	-3							
SVERDLOVSK	53.83	317.1	9	20	-1							
RESOLUTE	53.92	17.2	9	20	-2							
TASHKENT	56.59	297.2	9	41A	0							
NEW DELHI	58.39	280.4	9	51A	-3	17	52	0				
APATITY	58.51	336.1	9	52A	-2							
LAHORE	58.65	285.0	9	57	1							
KEVO	58.72	339.9	9	53	-3							

WARSAK DAM	59.14	288.9	10	0	1				
SODANKYLA	60.54	338.1	10	7	-1				
TROMSOE	60.70	342.2	10	8	-2				
KIRUNA	61.77	340.4	10	15	-2				
HUNGRY HORSE	62.33	48.4	10	20	-1				
BLUE MTS.	62.58	53.1	10	23	1				
KAJAANI	62.62	335.1	10	22	0				
QUETTA	64.55	288.1	10	35A	0				
VIBORG	64.73	332.1	10	35	-1				
MOSCOW	64.93	324.6	10	39	1				
UMEA	64.96	337.7	10	35	-3				
BOZEMAN	65.58	49.4	10	40	-2				
NURMIJARVI	66.24	333.6	10	44	-2				
HELSINKI	66.40	333.3	10	46	-1				
EUREKA	66.64	57.2	10	49	1				
WOODY	67.22	61.9	10	52	0			11	7
UPPSALA	68.91	336.2	11	1A	-2				
BOULDER CITY	69.56	59.5	11	8	1				
UINTA BASIN	69.86	53.1	11	9	1				
RAPID CITY	70.82	46.7	11	28	14				
KIROVOBAD	70.84	308.3	11	15	1				
KONGSBERG	71.23	339.7	11	16	-1				
GORIS	71.61	307.4	11	21	2				
BAKURIANI	71.66	310.7	11	21	2				
GOTEBORG	72.31	337.6	11	21	-2				
TONTO FOREST	72.87	58.8	11	27	1			11 35	11 44 PCP
SHIRAZ	74.47	296.2	11	36A	0				12 9
LWOW	74.84	326.8	11	39	1				
ALBUQUERQUE	75.31	55.4	11	42	1				
KRAKOW	76.21	329.2	11	46A	0				12 11
UZHGOROD	76.47	327.0	11	54	7				
COLLMBERG	77.54	333.7	11	53A	0			12 0	
HALLE	77.69	334.4	11	54	0				
PRUHONICE	78.16	332.1	11	58	1				
JENA	78.30	334.3	11	58	1				
VIENNA-H.	79.01	330.2	12	3	2				
KASPERSKE H.	79.22	332.2	12	3A	1				
BENSBERG	79.59	336.8	12	6	2				
WICHITA MTS.	80.00	50.9	12	7	0				
TULSA	80.64	48.3	12	10	0				
STUTTGART	80.91	334.6	12	22	10				
KEW	81.04	341.4	12	12	0				
KSARA	81.53	309.5	12	6	-9				
PARIS	82.81	338.7	12	23A	2				
FOLINIERE	83.59	340.5	12	26	1				
GARCHY	84.06	337.7	12	28A	0				
ROSELEND	84.48	334.8	12	32	2				
ISOLA	85.71	333.9	12	39	3				13 0
CUMBERLAND	86.09	42.0	12	38	0				
MAWSON	128.82	209.4	18	58	-5				

OCTOBER 13 5.H 17.M 51.5 EPICENTRE 44.89 149.56 DEPTH= 0.KM

A=-0.61284 B= 0.36017 C= 0.70335 D= 0.5067 E= 0.8621
G=-0.6064 H= 0.3564 K=-0.7108 HT= -3.5

SE= 3.44

	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
KURILSK	1.24	286.5	0	29K	5							
NEMURO	3.26	242.8	0	52A	-1	1	37	4				
ABASHIRI	3.88	258.9	1	4A	2	1	48	-1				
KUSIRO	4.19	244.7	1	5A	-1	1	54	-3				
OBIHIRO	5.00	249.0	1	17	-1	2	19	2				
Y.-SAKHLINSK	5.22	296.5	1	24	3	2	27	4				
HIROO	5.23	242.2	1	20A	-1	2	26	3				
ASAHIGAWA	5.27	260.4	1	24A	2	2	27	3				
WAKKANAI	5.60	278.2	1	32A	6	2	23	-9				
URAKAWA	5.64	243.3	1	26A	-1	2	39	6				
RUMOE	5.76	263.4	1	31A	2							
SAPPORO	6.19	255.8	1	36A	1	2	48	1				
TOMAKOMAI	6.20	251.4	1	36A	1	2	54	7				
UGLEGORSK	6.62	312.0	1	47A	6							
MURORAN	6.74	250.6	1	42A	0	2	54	-7			3	24
SUTTSU	7.06	256.1	1	53	6	3	13	4				
MORI	7.11	250.0	1	46	-1	3	23	13				

HAKODATE	7.11	247.4	1	45A	-3	3	13	3			
HATINOHE	7.34	236.4	1	45	-6	3	10	-6			
AOMORI	7.62	240.8	1	51	-4	3	22	-1			
MIYAKO	7.68	229.7	1	46A	-10	3	15	-9	2	44	
MORIOKA	8.09	233.1	1	55	-6	3	27	-8	3	8	
MIZUSAWA	8.51	230.4	2	5	-2	3	27	-18			
AKITA	8.70	236.9	2	11A	1	3	59	9			
ISINOMAKI	8.92	226.5	2	6	-7	3	47	-8			
SENDAI	9.26	227.4	2	9	-8	3	48	-16	4	59	
SAKATA	9.40	233.8	2	13	-6	4	1	-6			
YAMAGATA	9.57	229.3	2	17	-5	4	2	-9			
OKHA	9.69	335.8	2	28	5						
HUKUSIMA	9.87	226.9	2	26	0	4	10	-9			
PETROPAVLOVK	10.09	33.0	2	30	1				5	6	
ONAHAMA	10.28	222.5	2	30	-2	4	27	-2			
SHIRAKAWA	10.48	225.5	2	34	0	4	37	3			
NIIGATA	10.52	232.2	2	37K	2	4	24	-11			
AIKAWA	10.91	234.9	2	35	-5	5	12	28			
MITO	10.94	222.2	2	37	-4	4	9	-36			
UTUNOMIYA	11.10	224.7	2	43	0	4	48	-1			
KAKIOKA	11.20	222.7	2	34	-10				5	32	
TUKUBASAN	11.25	222.9	2	38A	-7						
TYOSI	11.31	218.9	2	44	-2	4	49	-5			
TAKADA	11.55	231.5	2	43	-6	4	50	-10			
MAEBASI	11.63	226.8	2	46A	-4	5	12	10			
KUMAGAYA	11.66	225.0	2	49	-1	6	0	58			
HONGO	11.82	222.5	2	49A	-3				3	48	
NAGANO	11.89	230.2	2	56	3	5	11	3			
TITIBU	11.95	225.4	2	53	-1	5	6	-3			
OIWAKE	11.95	228.1	2	54	0	4	54	-16			
MATUSIRO	11.98	229.8	2	48A	-7	5	5	-5			
YOKOHAMA	12.10	222.1	2	58	2	5	50	37			
WAZIMA	12.13	236.2	2	52	-5	6	9	55	4	17	
MATUMOTO	12.32	229.5	2	58	-1	5	15	-4			
TOYAMA	12.42	233.1	2	58A	-3	5	14	-7	6	18	
MERA	12.44	220.1	3	4	3	5	16	-5	6	15	
KOHU	12.45	226.1	3	1	0						
HUNATU	12.48	225.0	3	3	2	4	55	-27			
AJIRO	12.67	222.7	3	3	-1	5	18	-9			
MISIMA	12.69	223.4	3	1	-3	5	14	-13			
OSIMA	12.77	221.2	4	7	62	6	34	65			
TAKAYAMA	12.79	231.2	3	5	-1	5	34	4			
KANAZAWA	12.86	234.0	3	10	4	5	22	-9			
IIDA	12.95	227.7	3	8	0	4	18	-76			
SHIZUOKA	13.08	224.6	3	13	4	6	1	24			
NAGATURO	13.16	222.3	3	31	21	6	36	57			
HUKUI	13.44	233.5	3	11	-3	4	37	-68			
OMAESAKI	13.46	224.1	3	21	7						
GIHU	13.60	230.2	3	8	-8	5	10	-39			
HAMAMATU	13.62	225.9	3	19	2	5	28	-22			
NAGOYA	13.67	229.1	3	17A	0	5	48	-3			
TSURUGA	13.81	232.7	3	21	2	5	44	-10	7	54	
HIKONE	13.99	231.2	3	18	-3	6	3	4			
KAMEYAMA	14.18	229.5	3	29	5	6	59	56			
TU	14.26	229.0	3	36	11						
MAIZURU	14.33	233.8	3	29	3	6	28	21			
KYOTO	14.46	231.8	3	23	-5				7	9	
TOYOOKA	14.62	235.3	3	27	-3	6	6	-7	7	11	
NARA	14.65	230.6	3	27	-3	6	19	5			
ABUYAMA	14.66	231.8	3	24K	-6						
MAGADAN	14.70	2.5	3	32A	1				8	15	
OSAKA	14.84	231.3	3	33	0				4	19	
OWASE	14.92	228.2	3	37	3	7	36	75			
TOTTORI	15.01	236.7	3	31	-4	6	7	-16			
KOBE	15.02	232.2	3	36	1						
SAIGO	15.06	240.4	3	47	12	7	4	40			
WAKAYAMA	15.35	231.0	3	39A	0				8	26	
SUMOTO	15.42	231.9	3	11K	-29				6	51	
YONAGO	15.56	238.2	3	43	1	6	34	-2			
HIMEJI	15.59	233.5	3	33	-9	7	31	55			
SIOMISAKI	15.62	227.7	3	43	0	6	38	1			
MATSUE	15.71	238.8	3	48	4				7	59	
OKAYAMA	15.74	235.0	3	47	3	6	44	4			
TOKUSIMA	15.80	232.0	3	43	-2				8	40	
TAKAMATU	15.92	233.8	3	42	-5	7	11	27			
TORISIMA	16.13	210.0	3	52K	3	7	59	70			
TSURUGISAN	16.28	232.7	3	50	-1	8	6	73			
MUROTO	16.63	230.9	3	57	1	7	42	41	4	51	

HAMADA	16.69	239.3	3	59A	3	7	31	29	5	13	
KOTI	16.77	233.0	3	58A	1				8	21	
HIROSIMA	16.83	237.3	3	58A	0	8	18	73			
MATUYAMA	17.00	235.3	4	2	2	7	15	6			
UWAZIMA	17.57	234.3	4	8	1	7	47	25			
ASHIZURI	17.68	232.3	4	8	-1	7	9	-16			
SIMONOSEKI	18.02	239.1	4	16	3	7	56	23			
OOITA	18.11	236.1	4	17A	3	7	49	15			
NOBOEKA	18.53	234.6	4	24	5	7	48	4			
HUKUOKA	18.61	239.2	4	18A	-2	7	51	5			
ASOSAN	18.67	236.4	4	25	4	8	0	13			
ITUHARA	18.88	242.6	4	26A	2	7	58	6			
SAGA	18.89	238.6	4	24	0				9	14	
KUMAMOTO	18.94	237.0	4	23K	-1	7	42	-11			
MIYAZAKI	19.17	233.7	4	30	3	8	51	53			
UNZENDAKE	19.28	237.6	4	26	-2						
NAGASAKI	19.50	238.2	4	29A	-2	7	59	-7	9	11	PCP
KAGOSIMA	19.93	234.6	4	41	5	8	15	0			
HUKUE	20.16	240.0	4	43A	5	8	28	8			
YAKUSIMA	20.79	232.6	4	43	-2	9	3	30			
MAWASHI	25.61	230.7	5	34	2	10	31	32			
TIKSI	28.61	346.5	5	56A	-4						
ULAN-BATOR	29.30	291.3	6	5	-1						
ANPU	29.99	238.4	6	14	2						
TAIPEI	30.10	238.2	6	19	6	12	9	58			
IRKUTSK	30.40	300.4	6	13A	-3						
HSINCHU	30.61	238.7							7	31	
HWALIEN	30.84	236.7	6	26	6						
TAICHUNG	31.27	238.2	6	16	-7						
GUAM	31.59	189.0	6	28	2				12	4	
YUSHAN	31.61	237.0	6	26	0						
HSINKONG	31.65	236.0	6	29	2						
ALISHAN	31.67	237.3	6	35	8				13	3	
TAITUNG	32.05	235.9	6	32	2	11	43	1			
TAINAN	32.41	237.4	6	38	5	11	45	-3			
TAWU	32.50	235.7	6	37A	3	12	53	64			
HENGCHUN	32.86	235.5	6	40	3						
HONG KONG	36.67	243.9	7	12	2						
ESEN BULAK	36.71	291.8	7	10	0						
BAGUIO CITY	37.40	230.0	7	13	-3						
MANILA	38.58	227.7	7	29	3	13	49	26			
COLLEGE	39.14	36.9	7	31	0						
PHU-LIEN	42.67	250.1	7	57A	-3						
SEMIPALATNSK	45.48	302.9	8	20A	-2						
SITKA	46.47	46.8	8	33	3	15	25	6	18	55	SS
MOULD BAY	47.19	19.1	8	34A	-2						
KIPAPA	48.76	100.9	8	46	-2						
HONOLULU	48.78	101.0	8	48	0	15	59	8			
RABAUL	48.92	176.5	7	48K	-61						
SHILLONG	49.83	267.4	8	54A	-2	15	59	-7			
ALMATA-2	50.27	295.3	8	59A	-1						
ALERT	51.85	5.1	9	9	-3						
CHITTAGONG	51.88	264.3	9	10	-2	16	39	5			
HAWAII V.OB.	52.00	100.5	9	16	3	16	35	-1			
FRUNSE	52.24	296.0	9	15A	0	16	36	-3	17	9	
CHATRA	52.40	272.0	9	15A	-1	16	41	0			
SVERDLOVSK	53.50	316.9	9	21	-3						
YELLOWKNIFE	53.89	34.9	9	26K	-1						
PORT MORESBY	54.08	182.9	9	30	2	17	4	0			
CALCUTTA	54.22	267.0	9	27	-2						
HONIARA	54.87	167.4	9	33	-1						
BOKARO	55.22	270.1	9	39	2						
TASHKENT	56.42	297.0	9	45A	0				17	41	PS
VICTORIA	56.64	52.7	9	43	-4						
DEHRA DUN	56.75	281.3	9	48A	0	17	41	1	11	58	PP
SEATTLE	57.74	53.0	10	3	8	18	20	27			
APATITY	58.05	336.0	9	54A	-3	17	52	-5	12	4	PP
KEVO	58.24	339.8	9	56	-2	18	3	4			
NEW DELHI	58.39	280.2	9	56A	-3	18	0	-1	10	28	PCP
PORT BLAIR	58.52	254.1	10	0A	0						
LAHORE	58.60	284.7	9	59	-2						
CORVALLIS	58.85	56.5	10	3	1						
WARSAK DAM	59.06	288.6	10	2	-2						
SODANKYLA	60.06	338.0	10	8	-3				39	47	PKPPKP
TROMSOE	60.21	342.2	10	9	-3						
SPOKANE	60.47	50.8	10	13	-1	18	39	11			
VISHAKHAPTNM	60.95	266.4	10	19	2	18	54	20	12	40	PP
KIRUNA	61.28	340.4	10	16A	-3				11	10	PCP
SEHORE	61.83	275.4	10	21	-2	18	59	13			

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.

HUNGRY HORSE	61.90	48.7	10	22	-1						
UKIAH	62.04	61.6	10	26	2	18	52	4			
KAJAANI	62.16	335.0	10	22	-3						
BLUE MTS.	62.18	53.4	10	23	-2	18	54	4			
LUGANVILLE	62.21	160.8	10	17K	-8						
MINERAL	62.32	59.6	10	24K	-2						
CALISTOGA	62.73	61.7	10	26K	-3						
BERKELEY	63.40	62.2	10	37A	4	19	9	4		13 6	PP
DJAKARTA	63.64	228.8								10 55	
TANGERANG	63.74	229.0	10	32K	-3						
LICK	64.11	62.3	10	38A	0						
BUTTE	64.11	50.1	10	35	-3	19	21	7			
QUETTA	64.47	287.9	10	39A	-1	19	20	1			
PULKOVO	64.47	330.7	10	38A	-2	19	20	1		13 6	PP
UMEA	64.50	337.7	10	37A	-3						
MOSCOW	64.54	324.5	10	38	-3	19	14	-6		14 16	
HYDERABAD	64.59	269.6	10	42A	1	19	15	-5		19 58	PS
CHARTERS TS.	64.73	183.4	10	47	5	19	5	-17			
SCORESBY SD.	64.78	356.9	10	39	-3						
KAP TOBIN	64.84	356.9	10	41	-2						
BOZEMAN	65.16	49.7	10	40	-5						
ASHKABAD	65.24	299.5	10	44	-1	19	27	-1		13 13	PP
PRIEST	65.47	62.8	10	44A	-3						
NURMIJARVI	65.79	333.6	10	47	-2						
HELSINKI	65.96	333.2	10	47	-3						
EUREKA	66.27	57.4	10	51	-1						
MADRAS	66.34	264.8	10	54K	2	19	47	5		13 21	PP
KOUMAC	66.50	164.9	11	0K	7						
SKALSTUGAN	66.71	340.7	10	57	2					11 27	PCP
POONA	67.13	273.7	10	56A	-1	19	59	8		13 29	PP
BOMBAY	67.61	274.7	11	3	3	20	21	24		13 34	PP
DUGWAY	67.67	55.2	10	59A	-2						
SALT LAKE C.	67.86	54.2	11	2	0						
AFIAMALU	68.22	139.2	11	3	-1					11 16	PCP
PASADENA	68.31	63.1	11	8	3	20	1	-4			
UPPSALA	68.45	336.2	11	2A	-4	20	17	10	11 15	40 8	PKPPKP
NOUMEA	68.62	163.2	11	11K	4	20	17	8			
FLAMING GRGE	69.16	52.7	11	8	-2						
PRICE	69.22	54.5	11	10A	0						
UINTA BASIN	69.46	53.3	11	10	-2					31 7	PKKP
KODAIKANAL	70.17	264.7	11	17A	1	20	41	14		13 50	PP
GLEN CANYON	70.52	57.1	11	16	-2						
TIFLIS	70.68	309.9	11	19	0					20 56	PS
KONGSBERG	70.75	339.7	11	18	-2	21	23	49	11 27	11 45	PCP
TEHERAN	70.92	301.6	11	21A	0						
GORIS	71.35	307.4	11	23A	0	21	27	46		11 40	PCP
GOTEBORG	71.84	337.6	11	24A	-2						
KARLSKRONA	72.13	335.0	11	24	-4						
GOLDEN	72.25	51.5	11	27	-2	20	57	6			
TONTO FOREST	72.51	59.0	11	29	-1						
COPENHAGEN	73.46	336.3	11	35	-1	21	21	16			
WARSAW	73.61	329.9	11	38	1	20	55	-12	11 51	12 1	PCP
SIMFEROPOL	73.83	318.1	11	36A	-2	21	7	-2		11 42	PCP
TUCSON	74.16	60.3	11	38	-2						
SHIRAZ	74.31	296.2	11	39A	-2						
ALBUQUERQUE	74.93	55.6	11	43	-1				12 1		
ABERDEEN	75.58	344.5	11	51A	3	21	28	-1		14 44	PP
KRAKOW	75.79	329.2	11	48	-1	21	34	3		21 15	
BACAU	75.85	323.2	11	53	4					14 19	PP
CHORZOW	75.93	329.8	11	50	0	21	34	1		12 8	PCP
SCHEFFERVLLE	75.98	20.7	11	49A	-1						
RACIBORZ	76.39	330.2	11	53	0					14 37	PP
SKALNATE PL.	76.39	328.5	11	58	5	21	38	0		14 33	PP
FOCSANI	76.40	322.5	12	4	11					23 11	
COLLMBERG	77.09	333.7	11	56	0	22	2	17			
HALLE	77.24	334.4	11	55	-2	21	46	-1			
WITTEVEEN	77.59	338.0	11	59A	0						
CAMPULUNG	77.67	323.5	12	1	1					23 7	
PRAGUE	77.69	332.3	11	59	-1	22	15	23		17 9	PPP
PRUHONICE	77.73	332.2	12	0	0	22	26	34			
DURHAM	77.73	343.4	11	58	-2	21	37	-15		12 11	PCP
JENA	77.85	334.3	12	0	-1	22	25	32		27 37	
BUCHAREST	77.89	322.3	12	6	5					23 15	
MUNSTER	78.09	337.1	12	1	-1						
LAWRENCE	78.19	46.1	12	0	-2						
HURBANOVO	78.24	328.9	12	10	7	22	4	6		15 2	
CHEB	78.34	333.4	12	4	1					16 45	PPP
RIVERVIEW	78.36	178.6	12	9A	6	22	2	3	12 19	22 8	SKS

BRATISLAVA	78.39	329.7	12	3A	-1	22	6	7			14	54 PP
VIENNA-H.	78.58	330.2	12	4A	-1	21	43	-18	12	25	14	57 PP
DE BILT	78.63	338.5	12	8	3							
KASPERSKE H.	78.78	332.3	12	5A	-1							
TIMISOARA	78.85	326.0	12	8	2	22	33	29			22	1
BENSBERG	79.12	336.9	12	7A	-1	22	11	4			12	54
ISTANBUL UN.	79.25	318.5	12	7A	-1							
WICHITA MTS.	79.58	51.0	12	8	-2	21	54	-18			30	51 PKKP
CHICAGO JSA.	79.60	39.6	12	13	3							
CHIHUAHUA	79.62	60.0									13	25
CANBERRA	79.84	180.5	12	9	-2	22	19	5	12	27	12	17 PCP
BELGRADE	79.92	325.9	12	11A	-1	22	16	1			23	0 PS
UCCLE	80.03	338.4	12	11	-2	22	9	-7				
HEIDELBERG	80.07	335.2	12	12A	-1							
ADELAIDE	80.09	189.0	12	11K	-2	22	9	-8			12	35 PCP
TULSA	80.21	48.5	12	12A	-1	22	17	-1			30	52 PKKP
STUTTGART	80.46	334.6	12	14A	-1							
SOFIA	80.47	322.9	12	21	6	22	14	-7			23	12 SCS
KARLSRUHE	80.51	335.2	12	14	-1	22	42	21				
KEW	80.55	341.4	12	15A	0	22	24	2			15	24 PP
DOURBES	80.60	338.0	12	13	-3	22	31	9				
TUBINGEN	80.74	334.6	12	16A	0							
FLORISSANT	80.76	43.2	12	15	-1							
ZAGREB	80.79	329.1	12	16A	-1	22	30	6				
FAYETTEVILLE	80.92	47.4	12	16	-1						14	20 PP
ST. LOUIS 1	80.95	43.3	12	16	-1	22	24	-2				
ANN ARBOR	81.04	37.0	12	17	-1	22	26	-1				
STRASBOURG	81.09	335.4	12	18A	0	22	38	11			28	39 SS
LJUBLJANA	81.12	330.1	12	17A	-1	22	24	-4			15	29 PP
RAVENSBURG	81.24	333.9	12	19A	0							
KSARA	81.26	309.5	12	18	-1							
LONDON ONT.	81.46	35.0	12	18A	-2							
OTTAWA	1.56	30.4	12	18	-3							
SHAWINIGAN	81.59	28.0	12	19	-2							
WELSCHBRUCH	81.65	336.2	12	19	-2							
SCARBOROUGH	81.67	33.5	12	20A	-1							
SEVEN FALLS	81.72	26.6	12	23	2							
TRIESTE	81.73	330.4	12	20	-1	22	28	-6			22	56 *SS
TERRE HAUTE	81.75	41.0	12	39	17	22	9	-25				
SKOPJE	81.87	323.7	12	22	0	22	40	4				
VALENTIA	82.00	347.5	12	22	-1						19	15
TOOLANGI	82.16	183.3	12	23	-1	22	41	2			17	25 PPP
BREBEUF	2.22	29.1	12	22	-2							
MUNDARING	82.29	208.1	12	22	-2	22	36	-4				
PARIS	82.34	338.7	12	25A	0							
TITOGRAD	82.39	325.3	12	25	0	22	33	-8			12	30 PCP
PADOVA	82.59	331.4	12	31A	5	22	53	10			23	53 PS
CLEVELAND	82.61	36.1	12	42A	16							
BESANCON	82.81	335.9	12	26	-1						13	13
JERSEY	83.10	341.7	12	35K	6	23	3	15				
JERUSALEM	83.16	308.6	12	30A	1							
BOLOGNA	83.57	331.3	12	39	8						23	33 PS
GARCHY	83.59	337.8	12	29A	-2							
PAVIA	83.69	333.0	12	36	4	23	9	15			23	32 PS
ROSELEND	84.03	334.9	12	34	1						13	25
ATHENS	84.15	319.9	12	32A	-2						13	26
PRATO	84.20	331.2	12	44	10	23	24	25				
FLORENCE X.	84.23	331.0	12	21	-13	22	42	-17			29	34
PENNSYLVANIA	84.68	34.2	12	35	-2							
AQUILA	84.72	329.0	12	38	1	22	43	-21	13	28	16	9 PP
MORGANTOWN	84.82	36.1	12	37	0	23	6	1				
PATRAS	84.83	321.3	12	43	6						13	25
TARANTO	84.85	325.5	11	54	-43	22	29	-37				
CLERMONT-FD.	84.97	337.1	12	38A	0	23	17	10				
ISOLA	85.26	333.9	12	39A	0							
ROME	85.45	329.3	12	40A	0	23	14	3			24	20 PS
MONACO	85.54	333.5	12	40	-1						15	43 PP
CUMBERLAND	85.63	42.1	12	40	-1	23	15	2				
KARAPIRO	85.71	159.7	12	46	4							
PALISADES	86.02	31.5	12	41A	-2	23	5	-12				
HALIFAX	86.14	23.0	12	44A	0							
FORDHAM	86.17	31.5	12	49	5	23	24	6				
PHILADELPHIA	86.47	32.8	12	19	-26						12	52
GEORGETOWN	86.62	34.6	12	44	-2							
BLACKSBURG	86.64	37.8	12	45	-1							
TARRALEAH	86.85	182.3	12	47	0							
CHATEAU	86.92	160.1	12	51	3							
MOORLANDS	86.97	181.8	12	48	0							

GUADALAJARA	87.08	63.6	12	57	9	23	21	-6			
MESSINA	87.48	325.4	12	53A	3	23	33	2		16	22 PP
REGGIO CALA.	87.52	325.3	12	43	-8	23	51	20		14	19
CHAPEL HILL	88.32	37.5	12	54	0						
WELLINGTON	88.71	161.3	13	0	4	23	41	-1		24	39 PS
COLUMBIA	89.05	39.9	12	57	-1					21	47
BARCELONA	89.25	336.1	13	6	7	23	44	-3			
TORTOSA	90.27	337.0	13	11	7	23	53	-4			
TACUBAYA	90.62	61.6	13	9	4	23	39	-21			
PUEBLA	91.52	61.2								14	29
ROXBURGH	91.67	166.2	13	14	4	24	15	6		14	4
TOLEDO	92.34	340.0	13	12A	-1	24	20	5		16	55 PP
VERA CRUZ	92.67	59.6				24	29	11		13	37
ALICANTE	92.84	336.8	13	14A	-1	24	27	8		17	15 PP
OAXACA	93.93	61.4				24	49	20		13	53
LISBON	94.59	343.4	13	26A	3	24	37	3	13 36	17	26 PP
GRANADA	94.78	338.8	13	28A	4	25	14	38		17	39 PP
ALMERIA	94.79	337.8	13	34A	10	24	39	3		17	12 PP
MALAGA	95.42	339.2	13	26	-1	24	53	50			
COMITAN	97.37	58.5				24	9	-4		14	49
PONTA DELGDA	97.65	356.2	13	43A	6	25	4	49			
ADDIS ABABA	98.02	291.2	13	46	7						
AVERROES	99.41	340.6	13	44K	-1	24	39	15		17	57 PP
SAN SALVADOR	101.13	57.9								18	56
SANTIAGO MA.	101.72	57.4								17	36
SAN JUAN	109.14	35.9	14	43	777					19	31 PP
BALBOA HTS.	110.54	52.9	14	39	-235						
GALERAZAMBA	111.39	48.1	14	55	-221					19	49 PP
TANANARIVE	111.51	264.4	14	53	-223					29	45
LWIRO	113.00	291.1	14	50	-229					36	25
ST. CLAUDE	113.04	32.8	14	46	-233					19	44 PP
FORT FRANCE	114.43	32.9	18	38	-4					39	52 *PPP
CARACAS	115.77	40.5	14	59A	-225	27	21	107			
BOGOTA	117.17	50.6	15	11	-216					20	17 PP
CAPE HALLETT	117.80	173.0	15	11	-217						
TRINIDAD	118.04	35.0	15	12	-217						
CHILEKA	118.27	275.9	18	56A	7						
MIRNY	119.20	202.5	15	17	-214					20	8 PP
M.BOUR	119.76	344.9	15	21	-211					20	24 PP
MOKA	120.66	312.9	18	46A	-8	25	50	-2			
BROKEN HILL	122.00	281.9	19	2	6						
SCOTT BASE	122.93	175.7	18	56	-2					15	39
CHANGALANE	127.10	268.4	19	3	-3	26	21	9		21	11 PP
NANA	128.67	65.2	19	12	3						
MAWSON	129.33	209.6	19	9	-1						
HUANCAYO	129.69	63.8	19	11	0						
PIETERMZBURG	130.35	266.2	19	12	0						
BANDEIRA	132.54	294.8	19	14A	-2				19 22	43	44 SSS
KIMBERLEY	133.83	271.0	19	10	-9						
BYRD STATION	133.99	166.0	19	7	-12					19	25
GRAHAMSTOWN	135.12	264.5	18	14	-67					18	25
AREQUIPA	135.44	63.9	19	23	1						
LA PAZ	137.58	60.4	19	23	-3				19 34		
HERMANUS	140.90	267.8	19	32	0						
ANTOFAGASTA	141.30	70.4	19	30	-2					20	46
COPIAPO	143.75	74.8	19	31	-6					43	20
N-LAZARVSKYA	146.92	204.1	19	42	0						
SANTA LUCIA	147.12	83.7	19	49K	7				20 31	42	27 SS
ARGENTINE I.	152.45	149.6	19	53	2					24	51
G. G. VIDELA	153.18	149.4	19	55	3					50	55 SSS

OCTOBER 13 7.H 3.M 17.S EPICENTRE 45.44 150.86 DEPTH= 0.KM

A=-0.61488 B= 0.34284 C= 0.71020 D= 0.4870 E= 0.8734
G=-0.6203 H= 0.3459 K=-0.7040 HT= -3.7

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
MATUSIRO	13.04	231.4	3	8	-1							
ABUYAMA	15.72	233.1	3	43A	-2							
BAGUIO CITY	38.46	231.1	7	25	0							
MANILA	39.64	228.9	7	36	1							
MOULD BAY	46.36	19.3	8	25K	-5							
KIPAPA	47.97	102.4	8	57	15							
ALERT	51.21	5.3	9	7	0							

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.

YELLOWKNIFE	52.90	35.5	9 21	1			
CHATRA	53.30	272.5	9 25A	2			
VICTORIA	55.57	53.5	9 40	0			
DEHRA DUN	57.54	281.8	9 55A	1			
APATITY	57.91	336.3	9 43	-13			
KEVO	58.04	340.1	9 53	-4			
NEW DELHI	59.19	280.7	10 5K	0			
PORT BLAIR	59.55	254.8	10 8K	0			
SODANKYLA	59.89	338.3	10 6	-4			
TROMSOE	59.96	342.5	10 6	-5			
DARWIN	60.33	202.6	10 11	-2			
KIRUNA	61.07	340.7	10 14K	-4			
BLUE MTS.	61.11	54.3	10 18	0			
MINERAL	61.24	60.6	10 18K	-1			
CALISTOGA	61.66	62.6	10 22A	0			
KAJAANI	62.05	335.4	10 24	-1			
LUGANVILLE	62.44	162.3	10 22	-5			
LICK	63.04	63.3	10 33A	2			
PARAISO	63.20	64.6	10 37	5			
SCORESBY SD.	64.27	357.3	10 41K	2			
UMEA	64.33	338.1	10 40K	0			
KAP TOBIN	64.33	357.3	10 41	1			
PRIEST	64.40	63.8	10 41K	1			
CHARTERS TS.	65.35	184.8	10 45	-1			
NURMIJARVI	65.70	334.0	10 48	-1			
HELSINKI	65.87	333.7	10 49	-1			
SKALSTUGAN	66.48	341.2	10 54	0			
BOULDER CITY	68.13	60.6	11 4	0			
UPPSALA	68.30	336.7	11 4	-1			
UINTA BASIN	68.39	54.2	11 6	0			
GLEN CANYON	69.44	58.0	11 12	0			
KONGSBERG	70.54	340.3	11 20	1			
TONTO FOREST	71.43	59.9	11 14	-10	11 25	11 35	PCP
GOTEBORG	71.68	338.2	11 25	-1			
KARLSKRONA	72.01	335.5	11 26	-2			
COPENHAGEN	73.32	336.9	11 36A	1			
SCHEFFERVLLE	75.14	21.4	11 47A	1			
KRAKOW	75.78	329.8	11 50	0			
COLLMBERG	76.99	334.4	11 57	1		12 42	
HALLE	77.13	335.1	11 57	0			
WITTEVEEN	77.41	338.7	12 2	3			
DURHAM	77.46	344.1	11 58A	-1			
PRUHONICE	77.66	332.8	12 0	0		12 30	
JENA	77.75	335.0	12 1	1			
MUNSTER	77.93	337.8	12 3	1			
BRATISLAVA	78.37	330.4	11 57	-7			
WICHITA MTS.	78.52	51.9	12 3	-2			
VIENNA-H.	78.55	330.9	12 8A	3		12 20	PCP
BENSBERG	78.97	337.6	12 8	1			
TULSA	79.15	49.4	12 8A	0			
ISTANBUL UN.	79.43	319.2	12 12	2			
FLORISSANT	79.72	44.1	12 11	0	12 27		
ST. LOUIS 1	79.92	44.1	12 12	0	12 28		
ANN ARBOR	80.04	37.8	12 14	1			
KEW	80.31	342.2	12 17	3			
STUTTGART	80.35	335.4	12 6	-9			
KARLSRUHE	80.39	336.0	12 17K	2			
CANBERRA	80.41	181.5	12 16	1	12 30		
DOURBES	80.43	338.7	12 15	0			
OTTAWA	80.62	31.2	12 14	-2			
SCARBOROUGH	80.70	34.3	12 17	1			
ADELAIDE	80.79	190.1	12 18K	1			
STRASBOURG	80.96	336.2	12 20	2		13 6	
BREBEUF	81.28	29.9	12 19	-1			
WELSCHBRUCH	81.51	337.0	12 21	0			
PARIS	82.15	339.5	12 28	4			
BESANCON	82.67	336.7	12 28	1			
TOOLANGI	82.78	184.3	12 28	1			
FOLINIERE	82.88	341.3	12 28	0			
JERUSALEM	83.52	309.4	12 33	2			
ROSELEND	83.91	335.7	12 35	2			
CUMBERLAND	84.60	43.0	12 36	-1			
CLERMONT-FD.	84.81	338.0	12 41	3			
PALISADES	85.07	32.3	12 38	-1			
KARAPIRO	85.92	160.7	12 43	0	12 57		
MOORLANDS	87.56	182.7	12 53	2			
TOLEDO	92.12	340.9	13 15	2			
CHANGALANE	128.03	269.7	19 10	2			

HUANCAYO	128.62	64.6	19	12	3									
BANDEIRA	133.13	296.6	19	15	-3								19	34
LA PAZ	136.50	61.3	19	27	3								19	42

OCTOBER 13 9.H 16.M 25.S EPICENTRE 44.61 149.59 DEPTH= 37.KM

A=-0.61603 B= 0.36162 C= 0.69981 D= 0.5062 E= 0.8624
G=-0.6035 H= 0.3543 K=-0.7143 HT= -3.4

DEPTH OF FOCUS= 0.001R

SE= 2.20

	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	
Y.-SAKHLINSK	5.37	299.1	1	21	2	2	22	1					
UGLEGORSK	6.83	313.6	1	47	7								
MIZUSAWA	8.35	232.0	2	1	0						3	23	
PETROPAVLOVK	10.32	32.1	2	26	-2								
MATUSIRO	11.81	230.9	2	46	-3	4	56	-4					
ABUYAMA	14.50	232.7	3	21A	-3								
BAGUIO CITY	37.23	230.3	7	9	0								
MANILA	38.41	228.0	7	21	2								
MOULD BAY	47.45	19.0	8	32	-1								
SHILLONG	49.84	267.7	8	52K	1								
ALMATA-2	50.41	295.5	8	56A	1								
CHITTAGONG	51.87	264.5	9	6	0								
ALERT	52.13	5.1	9	6	-2								
FRUNSE	52.39	296.2	9	11A	1								
CHATRA	52.43	272.3	9	11A	0								
RESOLUTE	53.64	17.3	9	18	-2								
TASHKENT	56.57	297.2	9	40A	-1								
DEHRA DUN	56.83	281.5	9	39A	-4						16	6	
APATITY	58.32	336.1	9	51K	-2								
NEW DELHI	58.46	280.4	9	53A	-1								
PORT BLAIR	58.46	254.3	9	54A	0								
KEVO	58.52	339.9	9	48	-7						10	44	PCP
WARSAK DAM	59.17	288.8	9	59	0								
SODANKYLA	60.34	338.1	10	5	-2						11	22	
TROMSOE	60.49	342.2	10	5	-3								
KIRUNA	61.56	340.4	10	13	-2								
HUNGRY HORSE	62.07	48.6	10	18	-1				10	31			
BLUE MTS.	62.33	53.3	10	20	-1								
KAJAANI	62.43	335.1	10	19	-2						11	35	
MINERAL	62.44	59.5	10	21K	0								
CALISTOGA	62.85	61.6	10	38A	14								
PARAISO	64.38	63.5	10	47	13								
VIBORG	64.55	332.1	10	33K	-2								
QUETTA	64.58	288.0	10	36	1								
UMEA	64.77	337.7	10	35	-2								
VANNOVSKAYA	65.55	299.8	10	43	1								
PRIEST	65.58	62.7	10	48K	6								
NURMIJARVI	66.06	333.6	10	44	-1						12	1	
HELSINKI	66.22	333.3	10	44	-2						12	1	
SKALSTUGAN	66.98	340.8	10	55	4								
POONA	67.17	273.9	10	51	-1								
PASADENA	68.42	63.0	11	12	12								
UPPSALA	68.71	336.2	11	0A	-2								
BOULDER CITY	69.33	59.6	11	6	1				11	19			
UINTA BASIN	69.62	53.2	11	6	-1								
GLEN CANYON	70.65	57.0	11	13	0								
BAKURIANI	71.57	310.7	11	21	2								
TONTO FOREST	72.63	58.9	11	26	1				11	39	14	19	PP
SIMFEROPOL	74.06	318.2	11	37	3								
TUCSON	74.28	60.2	11	35	0								
LWOW	74.69	326.9	11	38	1								
K+SHINEV	74.90	322.5	11	37	-1								
ALBUQUERQUE	75.07	55.6	11	40	1								
KRAKOW	76.05	329.2	11	45A	0								
SCHEFFERVLLE	76.24	20.7	11	46	0								
UZHGOROD	76.32	327.1	11	46	0								
RACIBORZ	76.65	330.2	11	49	1						12	0	PCP
SKALNATE PL.	76.65	328.6	11	50	2						12	7	PCP
COLLMBERG	77.35	333.8	11	52	0				12	5			
HALLE	77.51	334.4	11	54	1								
WITTEVEEN	77.86	338.0	11	56	1								
PRUHONICE	77.99	332.2	11	56	0						12	55	

JENA	78.12	334.4	11 56	-1	
MUNSTER	78.36	337.1	11 59	1	
VIENNA-H.	78.84	330.2	12 2	2	
KASPERSKE H.	79.04	332.3	12 1A	-1	
BENSBERG	79.39	336.9	12 3	0	
ISTANBUL UN.	79.47	318.5	12 5	1	
WICHITA MTS.	79.74	51.0	12 5	0	
ADELAIDE	79.81	189.1	12 6	0	
TULSA	80.39	48.5	12 9A	0	
STUTTGART	80.73	334.7	12 11	0	
KEW	80.83	341.5	12 12	1	
DOURBES	80.87	338.0	12 10	-1	
FLORISSANT	80.95	43.2	12 11	-1	12 24
ST. LOUIS 1	81.15	43.2	12 13	0	12 25
STRASBOURG	81.35	335.5	12 14	0	
KSARA	81.45	309.6	12 16	2	
OTTAWA	81.80	30.4	12 14	-2	
TOOLANGI	81.88	183.3	12 18	1	
WELSCHBRUCH	81.92	336.2	12 17	0	
BREBEUF	82.46	29.1	12 19	-1	
PARIS	82.61	338.8	12 25	5	
JERUSALEM	83.35	308.6	12 27A	3	
FOLINIERE	83.38	340.6	12 24	0	
GARCHY	83.86	337.8	12 27A	0	
ROSELEND	84.29	334.9	12 31	2	
ATHENS	84.38	319.9	12 29	0	
AQUILA	84.98	329.0	12 33	1	
CLERMONT-FD.	85.24	337.2	12 35	1	
ISOLA	85.52	334.0	12 36	1	
MONACO	85.81	333.5	12 37	1	
CUMBERLAND	85.82	42.1	12 37	0	13 46
PALISADES	86.26	31.5	12 37	-2	
CHAPEL HILL	88.54	37.5	13 3	13	
TOLEDO	92.61	340.0	13 9	0	
HUANCAYO	129.79	64.0	19 9	4	
LA PAZ	137.70	60.7	19 23	3	
N-LAZARVSKYA	146.67	203.9	19 38	2	

OCTOBER 13 12.H 42.M 13.S EPICENTRE 44.60 149.30 DEPTH= 44.KM

A=-0.61428 B= 0.36477 C= 0.69972 D= 0.5106 E= 0.8598
G=-0.6016 H= 0.3573 K=-0.7144 HT= -3.4

DEPTH OF FOCUS= 0.002R

SE= 2.26

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KURILSK	1.20	302.4	0 23A	2	0 41	5		
Y.-SAKHLINSK	5.20	300.1	1 20	3				
MIZUSAWA	8.18	230.9	1 52	-7	3 14	-17		
MATUSIRO	11.65	230.1	2 40	-6	5 30	34		
MAGADAN	15.00	3.0	3 31	0				
TIKSI	28.85	346.7	5 53	-3				
BAGUIO CITY	37.07	229.9	7 5	-3				
COLLEGE	39.49	36.7	7 28	0				
SEMIPALATNSK	45.48	303.0	8 16A	-1				
MOULD BAY	47.53	18.9	8 32	-1				
ALMATA-2	50.22	295.4	8 54	0				
ALERT	52.15	5.0	9 7	-1				
FRUNSE	52.20	296.1	9 9A	1				
SVERDLOVSK	53.58	316.9	9 19	0				
RESOLUTE	53.71	17.3	9 18	-2				
YELLOWKNIFE	54.23	34.7	9 23	0				
DUZHANBE	58.22	294.6	9 52A	0				
APATITY	58.24	336.0	9 55A	3				
NEW DELHI	58.25	280.2	9 50A	-2				
PORT BLAIR	58.26	254.0	9 50A	-2				
KEVO	58.45	339.8	10 6	12				
LAHORE	58.50	284.7	9 53	-1				
SODANKYLA	60.27	338.0	10 4	-2				
TROMSOE	60.44	342.1	10 7	0				
KIRUNA	61.50	340.4	10 13	-1			10 27	
HUNGRY HORSE	62.23	48.5	10 18	-1			10 34	
KAJAANI	62.35	335.0	10 19K	-1				
BLUE MTS.	62.50	53.2	10 19	-2				

MINERAL	62.63	59.4	10 25A	3				
CALISTOGA	63.03	61.4	10 28A	3				
BERKELEY	63.70	61.9	10 33A	4				
QUETTA	64.38	287.9	10 32A	-2				
CHARTERS TS.	64.43	183.2						10 59
VIBORG	64.46	332.0	10 32K	-2				
PARAISO	64.56	63.4	10 42	7				
MOSCOW	64.67	324.4	10 34	-1				
UMEA	64.70	337.6	10 34	-2		10 46		
SCORESBY SD.	65.06	356.8	10 39K	1				
VANNOVSKAYA	65.37	299.6	10 41	1				
KIZYL-ARVAT	65.72	301.7	10 42	0				
PRIEST	65.77	62.6	10 46A	4				
NURMIJARVI	65.97	333.5	10 43K	-1				
HELSINKI	66.14	333.2	10 44	-1				
SKALSTUGAN	66.92	340.6	10 49	-1				
DUGWAY	67.99	54.9	10 55K	-1				
SALT LAKE C.	68.18	53.9	10 48	-10				
PASADENA	68.60	62.9	11 2	2				
UPPSALA	68.64	336.1	10 59A	-1				
FLAMING GRGE	69.48	52.5	11 5	-1				
BOULDER CITY	69.51	59.5	11 4	-2		11 22		
UINTA BASIN	69.79	53.1	11 6	-2				
TEHERAN	70.92	301.5	11 16	2				
KONGSBERG	70.96	339.7	11 15	0		11 28		
BERGEN	71.31	342.1	11 18	1				
GORIS	71.38	307.3	11 19A	2				
GOTEBORG	72.04	337.5	11 20A	-1				
KARLSKRONA	72.32	334.9	11 22A	-1				
GOLDEN	72.58	51.2	11 23	-1				
TONTO FOREST	72.82	58.8	11 24	-2			14 22	PP
COPENHAGEN	73.65	336.2	11 31K	0			11 44	
SIMFEROPOL	73.93	318.0	11 32A	0				
SHIRAZ	74.28	296.1	11 35A	1				
TUCSON	74.47	60.0	11 33	-2				
LWOW	74.58	326.7	11 37	1				
KISHINEV	74.78	322.3	11 36A	-1				
ALBUQUERQUE	75.25	55.4	11 39	-1		11 57		
KRAKOW	75.95	329.1	11 44A	0				
SCHEFFERVLLE	76.32	20.5	11 46K	0				
SKALNATE PL.	76.55	328.4	11 49	2			12 2	PCP
RACIBORZ	76.55	330.1	11 47	0			12 1	PCP
COLLMBERG	77.27	333.6	11 52	1		12 5		
HALLE	77.42	334.3	11 52	0	21 37 -1			
WITTEVEEN	77.79	337.9	11 56	2				
PRUHONICE	77.90	332.0	11 55	0				
JENA	78.04	334.2	11 56	1				
MUNSTER	78.29	336.9	11 57	0				
BRATISLAVA	78.55	329.6	11 59	1				
VIENNA-H.	78.74	330.1	12 1	2			12 16	PCP
LUBBOCK	78.90	53.6	11 59	-1				
KASPERSKE H.	78.95	332.1	12 1A	0				
BENSBERG	79.32	336.7	12 2	-1		12 16		
ISTANBUL UN.	79.34	318.4	12 4	1				
CANBERRA	79.54	180.2	12 8	4				
WICHITA MTS.	79.91	50.8	12 4	-2				
BELGRADE	80.06	325.8	12 6A	-1			12 21	PCP
TULSA	80.55	48.3	12 8	-1				
SOFIA	80.59	322.8	12 11	2		12 22	15 32	PP
STUTTGART	80.65	334.5	12 10	0				
KARLSRUHE	80.70	335.1	12 10A	0				
KEW	80.77	341.3	12 11	1				
DOURBES	80.80	337.9	12 9	-1				
FLORISSANT	81.10	43.1	12 10	-2				
STRASBOURG	81.27	335.3	12 13A	0			12 36	
LJUBLJANA	81.28	330.0	12 13A	0				
ST. LOUIS 1	81.29	43.1	12 11	-2		12 29		
KSARA	81.30	309.4	12 8	-5				
TOOLANGI	81.86	183.1	12 23	7				
TRIESTE	81.90	330.3	12 15	-1				
VALENTIA	82.24	347.4	12 19	1				
PARIS	82.54	338.6	12 22K	3				
BREBEUF	82.56	28.9	12 18	-2				
BESANCON	83.00	335.8	12 22	0				
JERUSALEM	83.20	308.5	12 24A	1				
FOLINIERE	83.32	340.4	12 24	1				
GARCHY	83.79	337.6	12 26A	0				
ROSELEND	84.21	334.7	12 31	3				

ATHENS	84.25	319.8	12	28	0							
AQUILA	84.88	328.8	12	32	1							
MORGANTOWN	85.16	36.0	12	33	0							
CLERMONT-FD.	85.16	337.0	12	36	3						13	28
ISOLA	85.44	333.8	12	35	1							
CUMBERLAND	85.97	41.9	12	35	-2							
TOLEDO	92.55	339.8	13	9	1	23	50	-16				
BANGUI	114.28	303.9									19	24
BULAWAYO	125.60	276.4	19	15	18							
MAWSON	128.99	209.5	19	2	-1							
LA PAZ	137.88	60.4	19	21	1				19	37		

OCTOBER 13 12.H 58.M 23.5 EPICENTRE 45.16 150.20 DEPTH= 54.KM

A=-0.61399 B= 0.35162 C= 0.70667 D= 0.4970 E= 0.8678
G=-0.6132 H= 0.3512 K=-0.7075 HT= -3.6

DEPTH OF FOCUS= 0.003R

SE= 3.68

	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	3.79	242.8	0	53	-5	1	34	-8				
ABASHIRI	4.38	257.0	1	4A	-2							
KUSIRO	4.71	244.5	1	6	-5	1	57	-8				
OBIHIRO	5.52	248.6	1	18	-4							
Y.-SAKHLINSK	5.53	292.3	1	22K	0						1	43
HIROO	5.76	242.4	1	15	-10							
ASAHIGAWA	5.77	259.0	1	24	-1							
WAKKANAI	6.02	275.5	1	30	1	2	39	2				
URAKAWA	6.17	243.4	1	28	-3	2	35	-6				
SAPPORO	6.70	255.0	1	36	-2	3	0	6				
TOMAKOMAI	6.72	251.0	1	36	-3							
MURORAN	7.26	250.2	1	41A	-5	3	3	-5				
SUTTSU	7.57	255.4	1	58	8							
HAKODATE	7.63	247.3	1	46K	-5	3	10	-7				
MORI	7.63	249.8	1	49	-2	3	2	-15				
HATINOHE	7.87	237.1	1	55	0	3	9	-14				
AOMORI	8.15	241.2	1	54	-4							
MIYAKO	8.21	230.8	1	54	-5	3	14	-18				
MORIOKA	8.62	233.9	1	58	-7	3	25	-17				
MIZUSAWA	9.03	231.4	2	4	-7	3	37	-15				
AKITA	9.23	237.5				3	48	-9			2	33
OKHA	9.64	333.2	2	21	2						4	27
SENDAI	9.78	228.5	2	14	-7	3	54	-16				
SAKATA	9.93	234.6	2	38	15							
YAMAGATA	10.09	230.3	2	18	-7							
HUKUSIMA	10.39	228.0	2	17	-12	4	13	-12				
ONAHAMA	10.79	223.8									3	4
SHIRAKAWA	11.00	226.6	2	30	-7	4	24	-16				
NIIGATA	11.04	233.0									3	18
AIKAWA	11.43	235.6	2	36	-7							
MITO	11.45	223.4	2	36	-8							
UTUNOMIYA	11.62	225.8	2	41	-5							
KAKIOKA	11.71	223.9	2	36	-11	4	35	-22				
TAKADA	12.07	232.3	2	40	-12							
MAEBASI	12.14	227.8				4	57	-11			5	28
KUMAGAYA	12.17	226.1	2	49	-4	4	54	-14				
TOKYO C.M.O.	12.36	223.6	3	15	19							
NAGANO	12.41	231.1	3	0	4							
TITIBU	12.46	226.5	3	1	4							
OIWAKE	12.47	229.0	3	5	8							
MATUSIRO	12.50	230.6	2	50	-8	5	13	-3				
YOKOHAMA	12.61	223.2									4	22
WAZIMA	12.66	236.8	2	55	-5							
MERA	12.94	221.4									3	55
TOYAMA	12.95	233.8	3	7	3							
KOHU	12.97	227.1	3	1	-3	5	13	-14				
HUNATU	12.99	226.0	3	6	2	5	7	-21				
IIDA	13.46	228.6	3	7	-3							
SHIZUOKA	13.59	225.6				5	25	-17				
GIHU	14.13	231.0	3	12	-7							
HAMAMATU	14.14	226.8	3	23	4							
MAGADAN	14.42	1.2	3	23	0						6	31 SS
HIKONE	14.51	231.9	3	18	-6							
KAMEYAMA	14.70	230.3	3	30	4							

KYOTO	14.98	232.5	3 20	-10			
TOYOOKA	15.14	235.9	3 27	-5			
ABUYAMA	15.18	232.5	3 25A	-8			
OSAKA	15.37	232.0	3 39	4			
SUMOTO	15.94	232.6	3 42	0	6 50	13	
TAKAMATU	16.44	234.4	3 49	0	6 59	10	
TORISIMA	16.59	211.3			6 40	-12	8 55
HAMADA	17.22	239.8	3 50	-8	7 10	4	
HIROSIMA	17.36	237.8	3 59	-1	7 17	7	
MATUYAMA	17.52	235.9	4 1	-1	7 20	7	
OOITA	18.64	236.7	4 16	0	7 52	14	
HUKUOKA	19.14	239.7	4 21	-1	8 10	21	
SAGA	19.42	239.1	4 22	-3			
KUMAMOTO	19.47	237.5	4 21	-4	8 17	21	
NAGASAKI	20.03	238.7	4 27	-4	8 22	14	
KAGOSIMA	20.46	235.2	4 44	8	8 45	28	
YAKUSIMA	21.32	233.2	4 42	-2			
TIKSI	28.46	346.0	5 50	-2			6 54
BAGUIO CITY	37.92	230.5	7 11	-3			
PHU-LIEN	43.19	250.4	7 55	-2			
SEMIPALATNSK	45.71	302.9	8 16	-2			
SITKA	45.95	47.1	8 22	2		8 34	
MOULD BAY	46.79	19.2	8 26	0			
KIPAPA	48.36	101.6	8 37	-1		8 51	
RABAUL	49.17	177.4	8 42	-3			
SHILLONG	50.29	267.7	8 51A	-2			
ALMATA-2	50.57	295.4	8 55	0			
ALERT	51.54	5.2	9 1A	-2			
CHITTAGONG	52.36	264.5	9 7	-2	16 42	13	
FRUNSE	52.53	296.1	9 10A	0			
PORT HARDY	52.71	52.3	9 11	-1			
CHATRA	52.85	272.2	9 12A	0			
RESOLUTE	52.98	17.6	9 13	-1			
YELLOWKNIFE	53.41	35.2	9 18	1			
SVERDLOVSK	53.61	316.9	9 16	-2			
PORT MORESBY	54.37	183.7	9 12	-12			
CALCUTTA	54.69	267.3	9 26	0	17 11	11	
VICTORIA	56.11	53.1	9 35	-1			
TASHKENT	56.71	297.1	9 39A	-2	17 35	8	10 18
DEHRA DUN	57.15	281.5	8 42A	-62			17 37
SEATTLE	57.21	53.5	9 50	6			
KHOROG	57.40	292.2	9 45	-1	17 41	5	
APATITY	57.99	336.1	9 47K	-3			
KEVO	58.15	339.9	9 48	-3			10 58
LAHORE	58.98	285.0	9 55	-1			
PORT BLAIR	59.03	254.4	9 55A	-2			
SODANKYLA	59.99	338.1	10 1	-2			11 2
TROMSOE	60.10	342.3	10 2	-2			
KIRUNA	61.18	340.6	10 9	-3		10 25	
HUNGRY HORSE	61.38	49.1	10 12	-1			
UKIAH	61.51	62.1	10 12	-2			
BLUE MTS.	61.65	53.9	10 14	-1			
MINERAL	61.79	60.1	10 15K	-1			
KAJAANI	62.11	335.2	10 16	-2			11 28
CALISTOGA	62.20	62.2	10 19K	1			
BERKELEY	62.87	62.7	10 23K	0			
LICK	63.58	62.8	10 28K	0			
PARAISO	63.74	64.1	10 32	3			
TANGERANG	64.26	229.5	10 27	-5			
UMEA	64.42	337.9	10 31	-2			
SCORESBY SD.	64.54	357.1	10 34	0			
KAP TOBIN	64.60	357.1	10 34	0			
QUETTA	64.82	288.2	10 34	-2	19 16	5	
PRIEST	64.94	63.3	10 37K	1			
CHARTERS TS.	65.03	184.1	10 33	-4			
ASHKABAD	65.50	299.7	10 40	0			
NURMIJARVI	65.76	333.8	10 40	-2			
HELSINKI	65.92	333.4	10 41	-2			
SKALSTUGAN	66.60	340.9	10 45	-2		11 0	
KOUMAC	66.65	165.6	10 46K	-1			
MADRAS	66.82	265.2	10 59	11	19 47	12	13 30 PP
DUGWAY	67.15	55.6	10 49	-1			
SALT LAKE C.	67.33	54.6	10 52	0			
POONA	67.56	274.0	10 50A	-3			
PASADENA	67.78	63.6	10 53	-1		11 6	
BOMBAY	68.05	275.1	10 55	-1			11 16 PCP
AFIAMALU	68.13	139.9	10 54	-3			
UPPSALA	68.38	336.4	10 56A	-2			

FLAMING GRGE	68.63	53.2	11	0	0				11	13		
BOULDER CITY	68.68	60.2	11	0	0				11	13		
PRICE	68.69	55.0	11	1A	1							
NOUMEA	68.75	163.9	11	0K	0							
UINTA BASIN	68.94	53.7	11	1	-1							
GLEN CANYON	69.99	57.5	11	7	-1							
LARAMIE	70.50	50.8	11	11	0							
KONGSBERG	70.66	340.0	11	14	2				11	26		
BERGEN	70.97	342.4	11	14	0							
TEHERAN	71.17	301.9	11	17	2							
GORIS	71.55	307.6	11	19A	2	20	42	11				
GOTEBORG	71.77	337.9	11	19	0				11	34		
TONTO FOREST	71.98	59.4	11	19	-1				11	33	13	59 PP
KARLSKRONA	72.08	335.3	11	20	0							
COPENHAGEN	73.40	336.6	11	29K	1							
WARSAW	73.61	330.2	11	35	6	21	3	9			11	43 PCP
TUCSON	73.63	60.7	11	30	0							
SIMFEROPOL	73.94	318.4	11	31	0	21	4	6				
LWOW	74.46	327.1	11	35K	1							
SHIRAZ	74.60	296.5	11	35A	0	21	8	3				
SCHEFFERVLLE	75.57	21.1	11	42K	1							
KRAKOW	75.80	329.5	11	45A	3	21	6	-13			24	12
CHORZOW	75.93	330.2	11	44	1						11	58 PCP
UZHGOROD	76.09	327.4	11	43	-1							
RACIBORZ	76.38	330.5	11	46	1						11	56 PCP
SKALNATE PL.	76.40	328.8	11	45	-1						12	0 PCP
COLLMBERG	77.05	334.0	11	48A	-1						14	41 PP
HALLE	77.20	334.7	11	51	1	21	37	3				
DURHAM	77.60	343.7	12	5A	13							
PRAGUE	77.65	332.6	11	51	0							
LAWRENCE	77.67	46.5	11	52	-1							
PRUHONICE	77.70	332.5	11	53	0	22	4	25				
JENA	77.81	334.7	11	52	-1							
MUNSTER	78.02	337.4	11	55	0							
HURBANOVO	78.25	329.3	11	56	0						12	14 PCP
BRATISLAVA	78.38	330.1	11	55	-2							
VIENNA-H.	78.57	330.5	11	58A	0						14	55 PP
RIVERVIEW	78.62	179.2	11	57	-1						12	20
KASPERSKE H.	78.75	332.6	11	59A	0							
TIMISOARA	78.88	326.3	12	7	8	22	5	13				
BENSBERG	79.05	337.2	12	0A	0				12	13	13	38
WICHITA MTS.	79.06	51.5	11	59	-1						15	16 PP
TULSA	79.69	48.9	12	4K	0							
UCCLE	79.95	338.8	12	4	-1						23	31
BELGRADE	79.95	326.2	12	5K	0	21	51	-12			12	20 PCP
CANBERRA	80.11	181.0	12	6	0				12	20		
FLORISSANT	80.25	43.7	12	6	-1							
STUTTGART	80.41	335.0	12	8	0							
ADELAIDE	80.43	189.5	12	7	-1							
KEW	80.44	341.8	12	9	1							
ST. LOUIS 1	80.44	43.7	12	8	0				12	21		
KARLSRUHE	80.46	335.6	12	10K	2							
DOURBES	80.52	338.4	12	7	-1							
SOFIA	80.53	323.3	12	9	1	22	37	28	12	23	15	18 PP
ANN ARBOR	80.55	37.4	12	9	1							
STRASBOURG	81.03	335.8	12	11A	0	22	18	4			31	25 SSS
OTTAWA	81.10	30.8	12	9	-2							
LJUBLJANA	81.11	330.5	12	11	0							
SCARBOROUGH	81.20	33.9	12	12	0							
SEVEN FALLS	81.27	27.0	12	24	12							
KSARA	81.44	309.9	12	13A	0	22	27	8				
TRIESTE	81.72	330.8	12	13A	-1	22	25	4				
BREBEUF	81.76	29.5	12	15K	0				12	28		
SKOPJE	81.92	324.0	12	26	11							
PARIS	82.25	339.1	12	19	2							
TITOGRAD	82.43	325.7	11	59	-19						12	10 PCP
TOOLANGI	82.46	183.8	12	18	0				12	32		
PADOVA	82.57	331.8				22	52	22			14	27
MUNDARING	82.75	208.6	12	19	-1							
FOLINIERE	83.01	340.9	12	22	1							
JERUSALEM	83.35	309.0	12	24A	1							
GARCHY	83.52	338.2	11	24A	-60							
PAVIA	83.66	333.4	12	26	2						31	7
ROSELEND	83.97	335.3	12	28	2							
PRATO	84.18	331.6	12	28	1						16	27 PP
FLORENCE X.	84.22	331.4	12	24	-3	22	50	3			28	18 SS
ATHENS	84.23	320.3	12	27A	0							
MORGANTOWN	84.33	36.6	12	29K	1				12	39		

AQUILA	84.72	329.4	12 34	4						
CUMBERLAND	85.12	42.6	12 31	-1					16 15	PP
ISOLA	85.22	334.3	12 33	1						
ROME	85.45	329.7	12 34A	1	23 0	1			24 21	PS
MONACO	85.51	333.9	12 38	5						
PALISADES	85.56	31.9	12 33	-1	23 1	1				
KARAPIRO	85.81	160.2	12 34	-1			12 48			
BLACKSBURG	86.15	38.2	12 38	1						
MOORLANDS	87.25	182.2	12 43	1						
CHAPEL HILL	87.83	38.0	12 46	1						
COLUMBIA	88.55	40.4	12 48	0						
TOLEDO	92.24	340.5	13 5	0						
ALICANTE	92.78	337.3	13 19	11	24 15	9			16 54	PP
GRANADA	94.69	339.3	13 19A	2						
AVERROES	99.31	341.1	13 51	13						
BANGUI	114.50	305.0	18 32	-2					19 26	PP
MIRNY	119.62	202.8	18 57	13						
SCOTT BASE	123.16	175.9	18 49	-2						
BULAWAYO	126.17	277.5	18 59	2						
CHANGALANE	127.56	269.0	18 57	-2						
HUANCAYO	129.16	64.2	19 6	3						
MAWSON	129.79	209.9	19 3	-1			19 18			
BANDEIRA	132.84	295.7	19 11	1						
BYRD STATION	134.14	165.9	19 10	-2						
KIMBERLEY	134.28	271.7	19 12	0						
LA PAZ	137.05	60.8	19 19	2			19 34			
N-LAZARVSKYA	147.35	204.1	19 36	1					23 4	PP

OCTOBER 13 14.H 26.M 11.S EPICENTRE 44.50 149.67 DEPTH= 36.KM

A=-0.61767 B= 0.36144 C= 0.69846 D= 0.5051 E= 0.8631
G=-0.6028 H= 0.3528 K=-0.7156 HT= -3.4

DEPTH OF FOCUS= 0.001R

SE= 2.07

	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
KURILSK	1.47	300.5	0	27	3	0	45	2				
Y.-SAKHLINSK	5.48	299.9	1	22A	1							
UGLEGORSK	6.94	314.0	1	44A	2							
MIZUSAWA	8.33	232.9	2	1	0	3	30	-5				
MATUSIRO	11.79	231.5	2	45	-3	5	7	7				
ABUYAMA	14.48	233.2	3	22	-2							
MAGADAN	15.09	2.2	3	30	-2							
ULAN-BATOR	29.51	292.0	6	1	-2							
ESEN BULAK	36.93	292.4	6	58	-9							
BAGUIO CITY	37.21	230.5	7	9	0							
MOULD BAY	47.54	18.9	8	34K	1							
KIPAPA	48.61	100.6	8	42	0							
SHILLONG	49.89	267.8	8	52A	0							
ALMATA-2	50.51	295.6	8	57A	1							
ALERT	52.23	5.1	9	7	-2							
FRUNSE	52.49	296.4	9	11	0							
CHATRA	52.49	272.4	9	13A	2							
RESOLUTE	53.73	17.3	9	17	-3							
SVERDLOVSK	53.84	317.1	9	24	3							
DEHRA DUN	56.91	281.6	9	35K	-9							
APATITY	58.44	336.2	9	53	-1							
PORT BLAIR	58.48	254.4	9	55A	0							
NEW DELHI	58.53	280.5	9	54A	-1							
KEVO	58.64	339.9	9	55	-1							
LAHORE	58.78	285.0	9	57	0							
SODANKYLA	60.46	338.1	10	6	-2							
TROMSOE	60.61	342.3	10	7	-2							
KIRUNA	61.68	340.5	10	14	-2							
HUNGRY HORSE	62.10	48.6	10	19	0							
BLUE MTS.	62.35	53.3	10	21	0							
MINERAL	62.45	59.5	10	21A	-1							
KAJAANI	62.55	335.2	10	21	-1						13	23
CHARTERS TS.	64.34	183.6	10	33	-1							
QUETTA	64.66	288.1	10	36A	0	19	14	2				
VIBORG	64.67	332.2	10	35A	-1							
PULKOVO	64.85	330.8	10	35	-2							
UMEA	64.89	337.8	10	35	-3							
MOSCOW	64.91	324.6	10	36	-2							

VANNOVSKAYA	65.65	299.8	10	43	1							
KIZYL-ARVAT	66.00	301.9	10	46	1							
NURMIJARVI	66.18	333.7	10	44	-2							
HELSINKI	66.34	333.3	10	45	-2							
POONA	67.23	274.0	10	51	-1							
DUGWAY	67.84	55.1	10	58K	2							
SALT LAKE C.	68.03	54.1	10	58	1							
PASADENA	68.42	63.0	10	59	-1							
UPPSALA	68.84	336.3	11	1	-1							
BOULDER CITY	69.34	59.6	11	6	0					11	19	
UINTA BASIN	69.64	53.2	11	7	0							
TIFLIS	71.00	310.1	11	18	2	20	35	7				
TEHERAN	71.19	301.7	11	19	2							
GORIS	71.65	307.5	11	22A	2							
BAKURIANI	71.69	310.8	11	22	2							
GOTEBORG	72.24	337.7	11	22	-1							
KARLSKRONA	72.52	335.1	11	25	0							
TONTO FOREST	72.64	58.9	11	26	1					11	41	14 2
SIMFEROPOL	74.18	318.2	11	34	0							
LWOW	74.81	326.9	11	38	0							
KISHINEV	75.02	322.5	11	38	-1							
ALBUQUERQUE	75.09	55.6	11	40	0							
IASI	75.43	323.4	11	43	1							
KRAKOW	76.17	329.3	11	46	0							
UZHGOROD	76.44	327.2	11	48	1							
RACIBORZ	76.77	330.3	11	51	2						12	9 PCP
COLLMBERG	77.48	333.8	11	53	0				12	6		
HALLE	77.63	334.5	11	54	0				12	6		
PRAGUE	78.07	332.4	12	0	4							
PRUHONICE	78.11	332.3	11	57A	0							
JENA	78.24	334.4	11	57	0							
BRATISLAVA	78.77	329.8	12	1	1							
VIENNA-H.	78.96	330.3	12	3	2						12	16 PCP
KASPERSKE H.	79.16	332.4	12	3A	1						14	10
BENSBERG	79.51	336.9	12	5A	1				12	17		
ADELAIDE	79.72	189.1	12	7A	2							
WICHITA MTS.	79.77	51.0	12	5	-1						13	1
TULSA	80.42	48.5	12	9K	0							
STUTTGART	80.85	334.7	12	12	1							
KARLSRUHE	80.90	335.3	12	19	7							
DOURBES	81.00	338.1	12	11	-1							
STRASBOURG	81.47	335.5	12	16	1							
LJUBLJANA	81.50	330.2	12	15	0				12	27		
KSARA	81.57	309.6	12	15	0							
TOOLANGI	81.77	183.4	12	18A	2							
TRIESTE	82.11	330.5	12	17A	-1				12	31		
BREBEUF	82.52	29.1	12	20	0							
JERUSALEM	83.46	308.7	12	27	2							
FOLINIERE	83.51	340.6	12	26	1							
GARCHY	83.99	337.9	12	28A	0							
ROSELEND	84.41	334.9	12	32	2							
ATHENS	84.50	320.0	12	29	-1							
AQUILA	85.10	329.0	12	34	1							
KARA[illegible]	85.32	159.7	12	36	2							
CLERMONT-FD.	85.36	337.2	12	50	16							
ISOLA	85.64	334.0	12	37	1				12	50		
CUMBERLAND	85.87	42.2	12	37	0							
BANGUI	114.56	304.2	18	51	15						20	9 *PPP
LA PAZ	137.70	60.9	19	21	1							
N-LAZARVSKYA	146.59	203.8	19	38	2							

OCTOBER 13 15.H 59.M 53.S EPICENTRE 45.47 150.62 DEPTH= 41.KM

A=-0.61315 B= 0.34522 C= 0.71054 D= 0.4906 E= 0.8714
G=-0.6192 H= 0.3486 K=-0.7037 HT= -3.7

DEPTH OF FOCUS= 0.001R

SE= 2.79

	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	1.95	263.8	0	36	4							
NEMURO	4.20	241.1	1	4A	0	1	50	-2				
ABASHIRI	4.74	254.4	1	16	5	2	17	11				
KUSIRO	5.12	243.1	1	17A	0	2	13	-2				
Y.-SAKHLINSK	5.69	288.6	1	27K	2	2	38	8				

OBIHIRO	5.91	247.1	1	30A	2						
ASAHIGAWA	6.13	256.9	1	34A	3	2	44	4			
HIROO	6.16	241.4	1	32A	1	2	41	0			
WAKKANAI	6.29	272.7	1	38K	5				3	24	
URAKAWA	6.57	242.4	1	38A	1	2	52	0			
RUMOE	6.59	259.8	1	40A	3						
UGLEGORSK	6.84	304.9	1	31	-10						
SAPPORO	7.07	253.4	1	47A	3	3	11	7			
TOMAKOMAI	7.11	249.6	1	47	3	3	21	16			
MURORAN	7.64	249.1	1	52	0	3	16	-2			
SUTTSU	7.94	254.0	1	58	2	3	41	16			
MORI	8.01	248.7	1	58	1	3	19	-8			
HAKODATE	8.03	246.4	1	57K	0	3	29	1			
HATINOHE	8.29	236.6	1	58	-3	3	26	-8			
AOMORI	8.56	240.6	2	0	-5	3	33	-8			
MIYAKO	8.63	230.7	2	2	-4	3	27	-16			
MORIOKA	9.04	233.7	2	8	-3	3	43	-10			
PETROPAVLOVK	9.19	31.9	2	17	4						
MIZUSAWA	9.46	231.3	2	14	-3	3	53	-10			
OKHA	9.50	331.1	2	18	0				5	4	
AKITA	9.65	237.1	2	22	2	4	4	-4			
ISINOMAKI	9.87	227.8	2	18	-5	4	4	-9			
SENDAI	10.21	228.6	2	24	-3	4	12	-10			
SAKATA	10.35	234.4	2	29	0	4	16	-9			
YAMAGATA	10.52	230.3	2	28	-4	4	17	-12			
HUKUSIMA	10.82	228.1	2	33	-3	4	16	-21			
ONAHAMA	11.22	224.0	2	37	-4	4	37	-9			
SHIRAKAWA	11.43	226.7	2	42	-2	4	42	-9			
NIIGATA	11.47	232.9	2	49	5						
AIKAWA	11.86	235.4	2	47A	-3	4	52	-10			
MITO	11.88	223.7	2	48A	-2	4	52	-10			
UTUNOMIYA	12.05	226.0	2	50	-2	4	35	-31			
KAKIOKA	12.14	224.1	2	48	-6	5	1	-8			
TUKUBASAN	12.19	224.4	2	48A	-6	4	58	-12			
TYOSI	12.24	220.6	2	51	-4	4	58	-13	6	31	
TAKADA	12.50	232.3	2	54	-4						
MAEBASI	12.57	227.9	2	52	-7	5	10	-9			
KUMAGAYA	12.61	226.3	2	57	-3	5	11	-9			
HONGO	12.76	223.9	3	10A	8				6	19	
TOKYO C.M.O.	12.79	223.9	3	1	-1	5	4	-20			
NAGANO	12.84	231.1	3	1	-2	5	23	-2			
TITIBU	12.89	226.7	3	2	-2	5	17	-10			
OIWAKE	12.90	229.1	3	3	-1	5	14	-13			
MATUSIRO	12.93	230.7	3	1A	-3	5	22	-5			
YOKOHAMA	13.04	223.5	3	7	2	5	26	-4			
MATUMOTO	13.27	230.5	3	2	-7	5	28	-8			
MERA	13.37	221.7	3	18	8						
KOHU	13.40	227.2	3	8	-2	5	31	-8			
HUNATU	13.42	226.2	3	9	-1	5	30	-9			
AJIRO	13.61	224.1	3	10	-3	5	31	-13			
TAKAYAMA	13.74	232.0	3	7	-8						
IIDA	13.89	228.8	3	16	-1						
SHIZUOKA	14.02	225.8	3	21	3						
MAGADAN	14.10	0.4	3	20	1	5	54	-1			
HUKUI	14.39	234.2	3	22	-1						
OMAESAKI	14.41	225.4	3	26	3						
GIHU	14.55	231.1	3	24	-1						
HAMAMATU	14.57	227.0	3	25	0	6	20	14			
NAGOYA	14.62	230.0	3	23	-3	6	15	7			
HIKONE	14.94	232.0	3	31	1	6	29	14			
KAMEYAMA	15.13	230.4	3	37	4	6	20	0			
TU	15.21	229.9	3	41	7						
KYOTO	15.41	232.5	4	3	27						
TOYOOKA	15.56	235.9	3	38	0						
NARA	15.60	231.5	3	36	-3						
ABUYAMA	15.61	232.5	3	36A	-3	6	46	15			
OSAKA	15.79	232.1	3	41	0	6	45	10			
OWASE	15.86	229.1	3	47	5						
TOTTORI	15.95	237.1	3	42A	-1				5	31	
KOBE	15.97	232.9	3	48	4						
SAIGO	16.00	240.7	3	47	3						
WAKAYAMA	16.30	231.8	3	55	7	6	46	-1			
SUMOTO	16.37	232.7	3	46	-3	6	58	10	16	10	SCS
YONAGO	16.50	238.6	3	49A	-1	6	37	-14			
SIOMISAKI	16.57	228.7	3	54	3	7	7	14			
MATSUE	16.66	239.2	3	55	3	7	12	17			
TOKUSIMA	16.75	232.7	3	58	5	7	11	14			
TAKAMATU	16.87	234.4	3	54	-1	7	12	12			
TORISIMA	17.01	211.9	3	56A	-1	7	12	9			

MUROTO	17.58	231.7	4	7	3	7	28	12			
+AMADA	17.63	239.7	4	3	-1	7	30	13			
KOTI	17.72	233.7	3	50	-16				10	2	
HIROSIMA	17.78	237.7	4	5	-1	7	29	9			
MATUYAMA	17.95	235.9	4	7	-1	7	31	7			
ASHIZURI	18.63	233.0	4	16	-1	7	48	8			
OOITA	19.06	236.7	4	24A	2	7	59	10			
HUKUOKA	19.56	239.6	4	28	1	7	51	-9			
ASOSAN	19.62	237.0	4	31	3	8	16	15			
SAGA	19.83	239.1	4	32A	2	9	4	58			
KUMAMOTO	19.89	237.5	4	42	11	8	5	-2			
MIYAZAKI	20.12	234.4	4	35	2	8	27	15			
UNZENDAKE	20.22	238.1	4	44	10						
NAGASAKI	20.45	238.7	4	39A	2	8	32	14			
YAKUTSK	20.51	331.3	4	36A	-1	8	20	0			
KAGOSIMA	20.88	235.3	4	44K	3	8	40	13			
YAKUSIMA	21.74	233.3	4	52	2						
TIKSI	28.22	345.6	5	48A	-3	10	26	-7			
IRKUTSK	30.76	299.7	6	11	-3	11	15	2		9	11 PCP
ESEN BULAK	37.19	291.5	7	8A	-1						
HONG KONG	37.60	244.4	7	14	1	12	57	-2		8	41 PP
COLLEGE	38.22	37.4	7	18	0						
BAGUIO CITY	38.35	230.7	7	19	0	13	11	1			
MANILA	39.53	228.6	7	30	1	13	47	19			
PHU-LIEN	43.57	250.5	8	3	1						
SITKA	45.52	47.4	8	20	2						
SEMIPALATNSK	45.79	302.8	8	17	-3						
MOULD BAY	46.39	19.3	8	24A	-1						
KIPAPA	48.14	102.2	8	39	1				9	1	
HONOLULU	48.16	102.4	8	41	3	16	3	30			
RABAUL	49.47	178.0	8	49A	0						
SHILLONG	50.60	267.7	8	58A	1						
ALMATA-2	50.70	295.3	8	57A	-1				10	8	PCP
ALERT	51.20	5.3	9	1A	-1						
RESOLUTE	52.59	17.7	9	11	-1						
FRUNSE	52.66	296.1	9	12A	-1	16	36	0			
YELLOWKNIFE	52.98	35.4	9	15A	0						
CHATRA	53.13	272.3	9	18A	2	16	46	4			
SVERDLOVSK	53.59	316.9	9	17K	-3						
PORT MORESBY	54.71	184.2	9	28A	0						
CALCUTTA	55.00	267.4	9	31	1	17	13	6			
HONIARA	55.29	168.8	9	40	8						
VICTORIA	55.69	53.4	9	34A	-1						
SEATTLE	56.79	53.8	9	48	5						
TASHKENT	56.83	297.2	9	42A	-1	17	30	-2	10	39	PCP
DEHRA DUN	57.37	281.6	9	48A	1	17	39	0	17	56	PPS
KHOROG	57.56	292.2	9	58	10	17	41	0			
APATITY	57.82	336.2	9	47K	-3	17	41	-4	10	41	PCP
KEVO	57.96	340.0	9	50	-1	17	41	-5	10	41	PCP
NEW DELHI	59.02	280.5	9	58A	0	17	58	-2			
LAHORE	59.18	285.0	9	59	0						
PORT BLAIR	59.40	254.6	10	0A	-1	18	3	-2			
WARSAK DAM	59.58	288.9	10	3	1						
SODANKYLA	59.80	338.2	10	1	-3				10	49	PCP
TROMSOE	59.89	342.4	10	2	-2						
DARWIN	60.29	202.4	10	7	0						
HUNGRY HORSE	60.95	49.4	10	12	0						
KIRUNA	60.99	340.6	10	9	-3	18	26	0			
UKIAH	61.10	62.4	10	13	0				10	38	
BLUE MTS.	61.23	54.2	10	14A	1	18	32	3			
MINERAL	61.38	60.5	10	14A	0						
VISHAKHAPTNM	61.73	266.9	10	20K	3	18	41	6	18	59	PS
CALISTOGA	61.80	62.5	10	17A	0						
BERKELEY	62.46	63.0	10	22A	0	18	49	5	22	43	SS
LUGANVILLE	62.52	162.0	10	20K	-2						
BUTTE	63.16	50.8	10	24	-2						
LICK	63.18	63.2	10	27A	1						
PARAISO	63.34	64.5	10	32	4						
SCORESBY SD.	64.24	357.2	10	33A	0						
UMEA	64.24	338.0	10	30A	-3	18	57	-9	19	29	
KAP TOBIN	64.30	357.2	10	33A	-1						
PULKOVO	64.33	331.0	10	31	-3				19	22	SCS
MOSCOW	64.50	324.8	10	33A	-2	19	11	1	11	8	PCP
PRIEST	64.54	63.7	10	36A	1						
QUETTA	65.00	288.3	10	39A	1	19	16	0			
EUREKA	65.32	58.2	10	41	1	19	17	-3	39	16	PKPPKP
HYDERABAD	65.34	270.1	10	40	-1	19	21	1	13	5	PP
CHARTERS TS.	65.37	184.5	10	40	-1	19	21	1			

ASHKABAD	65.60	299.8	10	42	0	19	25	2			20	37 SCS
NURMIJARVI	65.60	333.9	10	39	-3						11	12 PCP
HELSINKI	65.77	333.5	10	40	-3						11	13 PCP
SKALSTUGAN	66.40	341.1	10	46A	-1						11	15 PCP
DUGWAY	66.72	55.9	10	50A	1	19	40	3				
KOUMAC	66.88	166.1	10	51K	1							
SALT LAKE C.	66.91	54.9	10	51	1							
MADRAS	67.14	265.4	10	52K	0	19	45	3			13	19 PP
PASADENA	67.37	63.9	10	52	-1	19	47	2	11	4		
POONA	67.84	274.2	10	55A	-1	19	50	0				
AFIAMALU	68.18	140.3	10	37	-21	19	57	3			11	7 PCP
FLAMING GRGE	68.21	53.5	10	59	0							
UPPSALA	68.21	336.6	10	55A	-4						20	49
BOULDER CITY	68.26	60.5	11	0	1	19	56	1			39	14 PKPPKP
PRICE	68.27	55.3	10	55K	-4							
BOMBAY	68.31	275.2	10	59	0	19	58	2			13	29 PP
UINTA BASIN	68.51	54.1	11	1A	0	20	1	3			24	27 SS
NOUMEA	68.97	164.3	11	6K	3							
GLEN CANYON	69.57	57.9	11	7	0							
LARAMIE	70.07	51.1	11	3	-7							
KONGSBERG	70.46	340.2	11	11	-1							
BERGEN	70.76	342.6	11	14	0							
TIFLIS	70.88	310.3	11	16	1	20	25	-1				
TEHERAN	71.25	302.0	11	19A	2	20	32	2				
GOLDEN	71.30	52.2	11	18	1	20	35	4				
TONTO FOREST	71.56	59.8	11	19	0	20	38	4			11	39 PCP
GOTEBORG	71.59	338.0	11	17	-2							
GORIS	71.59	307.8	11	20A	1	20	39	5				
KARLSKRONA	71.92	335.4	11	21A	0							
TUCSON	73.22	61.1	11	30	1							
COPENHAGEN	73.23	336.8	11	29A	0	20	50	-3				
WARSAW	73.48	330.4	11	30	0	20	58	2			11	42 PCP
SIMFEROPOL	73.90	318.6	11	32A	-1	20	57	-3			16	2 PPP
ALBUQUERQUE	73.98	56.4	11	34	1						12	6
LWOW	74.36	327.3	11	34	-1	21	6	1			16	16 PPP
SHIRAZ	74.73	296.7	11	38A	0	21	7	-3			26	19 SS
IASI	75.05	323.7									14	41
SCHEFFERVLLE	75.17	21.3	11	40A	0							
KRAKOW	75.67	329.7	11	43	0	21	18	-2				
CHORZOW	75.80	330.4	11	45	1						11	56 PCP
RACIBORZ	76.25	330.7	11	47	1						12	7 PCP
SKALNATE PL.	76.29	329.0	11	45	-2						14	44 PP
COLLMBERG	76.89	334.2	11	48A	-2	21	27	-6				
HALLE	77.04	334.9	11	50	-1						14	39 PP
LAWRENCE	77.24	46.8	11	51	-1							
DURHAM	77.38	343.9	11	50K	-3	21	9	-30			12	4 PCP
PRAGUE	77.52	332.8	11	52	-1							
PRUHONICE	77.56	332.7	11	53	-1	21	38	-3				
JENA	77.65	334.9	11	54	0	21	37	-5				
MUNSTER	77.84	337.6	11	55	0							
BRATISLAVA	78.26	330.3	11	58A	0							
VIENNA-H.	78.44	330.7	11	59A	0						14	54 PP
KASPERSKE H.	78.61	332.8	11	59A	0							
WICHITA MTS.	78.63	51.8	11	59	-1	21	52	0			14	46 PP
TIMISOARA	78.78	326.5	12	1	1	21	54	0				
BENSBERG	78.88	337.4	12	0A	-1						12	36
RIVERVIEW	78.93	179.6	12	4A	3	22	3	8	12	16	27	13 SS
TULSA	79.26	49.2	12	3A	0	21	58	-1			27	17 SS
ISTANBUL UN.	79.30	319.0	12	3A	0							
UCCLE	79.76	339.0	12	5	-1	22	1	-3				
FLORISSANT	79.82	44.0	12	6	0				12	20		
HEIDELBERG	79.85	335.8	12	6A	0							
BELGRADE	79.86	326.5	12	7A	1	22	6	1			25	34
FAYETTEVILLE	79.97	48.1	12	7	0							
ANN ARBOR	80.12	37.7	12	8	0	22	7	-1				
KEW	80.23	342.0	12	8	0	22	10	1				
STUTTGART	80.25	335.2	12	8	0							
KARLSRUHE	80.29	335.8	12	9A	0							
DOURBES	80.34	338.6	12	7	-2	22	30	20				
CANBERRA	80.43	181.3	12	11A	2	22	16	5			22	41 SCS
SOFIA	80.45	323.5	12	10	1	22	12	1			15	17 PP
TUBINGEN	80.53	335.2	12	9A	-1							
LONDON ONT.	80.55	35.7	12	10A	0							
OTTAWA	80.68	31.1	12	9A	-2							
SCARBOROUGH	80.77	34.2	12	11A	0							
ADELAIDE	80.79	189.9	12	12A	1	22	19	4				
SEVEN FALLS	80.86	27.3	12	11K	-1							
STRASBOURG	80.86	336.0	12	12A	0						27	37 SS

LJUBLJANA	80.98	330.7	12	12A	0				12	47
BREBEUF	81.34	29.8	12	13A	-1	22	18	-2		
WELSCHBRUCH	81.42	336.8	12	13	-1					
FELDBERG	81.43	335.6	12	15A	0					
KSARA	81.46	310.1	12	17A	2				20	30
VALENTIA	81.59	348.2	12	15	0	22	22	-1		
TRIESTE	81.59	331.0	12	15A	0	22	19	-4	12	51
SKOPJE	81.84	324.3	12	18	1					
PARIS	82.06	339.4	12	19A	1					
TITOGRAD	82.33	325.9	12	19	0	22	29	-2	22	9
PADOVA	82.43	332.1	12	25	5	22	37	5	23	37 PS
TOOLANGI	82.79	184.1	12	23A	1	22	41	6	12	43 *SP
FOLINIERE	82.80	341.2	12	22	0					
MUNDARING	83.16	208.9	12	24	1	22	40	1		
GARCHY	83.33	338.4	12	25A	1					
JERUSALEM	83.38	309.2	12	26	1					
PAVIA	83.51	333.7	12	26	1				33	51
PENNSYLVANIA	83.77	34.9	12	27A	0					
ROSELEND	83.81	335.5	12	29	2					
MORGANTOWN	83.90	36.9	12	28A	1	22	45	-1		
PRATO	84.04	331.8	12	31	3	23	7	19		
FLORENCE XH	84.08	331.7	12	37	9	22	20	-28	16	14 PP
ATHENS	84.18	320.6	12	28A	-1					
AQUILA	84.60	329.6	12	32	1	22	52	-1	32	42
CUMBERLAND	84.69	42.9	12	31A	0	22	48	-6	12	59
CLERMONT-FD.	84.72	337.8	12	33	2					
ISOLA	85.06	334.6	12	33	0	22	58	0		
PALISADES	85.13	32.2	12	33	0	23	7	9	22	51 SKS
HALIFAX	85.30	23.8	12	35	1					
ROME	85.32	330.0	12	34A	0	22	56	-4	16	14 PP
MONACO	85.35	334.2	12	34	0					
MC COMB-TEST	85.69	35.3	12	42	6	23	11	7		
BLACKSBURG	85.72	38.5	12	37	1					
KARAPIRO	86.00	160.5	12	9	-29					
CHATEAU	87.22	160.9	12	42	-2					
CHAPEL HILL	87.40	38.3	12	37	-7					
MOORLANDS	87.58	182.5	12	48	3					
WELLINGTON	89.03	162.0	12	52	0					
TOLEDO	92.04	340.8	13	6A	0	23	40	-22	16	52 PP
ALICANTE	92.60	337.6	13	9A	0	24	12	5	16	49 PP
LISBON	94.24	344.3	13	14A	-2					
GRANADA	94.50	339.6	13	20A	3				17	23 PP
ADDIS ABABA	98.50	292.0	13	38	2					
AVERROES	99.11	341.5	13	38A	0				17	47 PP
GALERAZAMBA	110.44	48.8							29	34 PS
TANANARIVE	112.31	265.4	18	36	4				19	25
LWIRO	113.48	292.2	19	28K	54					
CARACAS	114.84	41.3	19	7	30				19	33 PP
BOGOTA	116.22	51.4	18	42	3	25	29	3	35	43 SS
TRINIDAD	117.13	35.8	18	42	1					
MIRNY	120.02	203.0	18	45	-2				20	12 PP
BROKEN HILL	122.61	283.2	18	54A	2					
BULAWAYO	126.42	278.1	19	1A	2					
NANA	127.75	65.7	19	3	1					
CHANGALANE	127.86	269.5	19	3A	1				21	5 PP
HUANCAYO	128.75	64.4	19	7	3					
MAWSON	130.21	210.1	19	6	0				23	19 SKP
BANDEIRA	132.97	296.4	19	7A	-5				21	28 PP
LA PAZ	136.64	61.0	19	9	-9			19 22		
N-LAZARVSKYA	147.76	204.2	19	37	-1				23	8 PP

OCTOBER 13 17.H 25.M 51.S EPICENTRE 44.59 150.92 DEPTH= 0.KM

A=-0.62445 B= 0.34734 C= 0.69958 D= 0.4861 E= 0.8739
G=-0.6114 H= 0.3401 K=-0.7146 HT= -3.4

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
KURILSK	2.26	287.6	0	39A	0							
Y.-SAKHLINSK	6.22	295.9	1	35A	-1	2	39	-10				
UGLEGORSK	7.55	309.7	1	52A	-2						3	29
MIZUSAWA	9.11	236.6	2	15	-1	3	47	-14				
PETROPAVLOVK	9.86	28.4				4	24	5			2	53
OKHA	10.38	332.6	2	34	0						4	45
MATUSIRO	12.56	234.6	3	0	-3							

MAGADAN	14.99	359.8	3	31	-4					6	33
YAKUTSK	21.39	332.1	4	47	-5	8	38	-7			
TIKSI	29.13	345.9	6	0	-5					6	50 PP
ULAN-BATOR	30.31	292.2	6	13	-3						
ESEN BULAK	37.72	292.7	7	18	-1						
BAGUIO CITY	37.96	232.0	7	19	-2						
COLLEGE	38.80	36.7	7	27	-2						
PHU-LIEN	43.48	251.7	8	8	1	14	44	8			
SEMIPALATNSK	46.45	303.6	8	28	-3						
MOULD BAY	47.16	19.1	8	35	-1						
HONOLULU	47.77	101.9				15	47	9			
SHILLONG	50.78	268.6	9	3A	-1						
ALMATA-2	51.27	296.1	9	7A	-1						
ALERT	52.06	5.3	9	11A	-3						
FRUNSE	53.24	296.9	9	22A	-1					16	56
RESOLUTE	53.38	17.6	9	22	-2						
CHATRA	53.38	273.2								10	2
SVERDLOVSK	54.38	317.4	9	28	-3						
CALCUTTA	55.17	268.2	9	50	13	17	27	8			
SEATTLE	57.14	53.5								10	35
TASHKENT	57.42	297.8	9	51A	-2					18	15 PS
DEHRA DUN	57.76	282.3	9	54	-1					15	11
APATITY	58.72	336.5	9	58A	-4	17	56	-10		12	27 PPP
EDMONTON	58.83	44.2	10	1	-2						
KEVO	58.86	340.3	9	59	-4					19	49 SCS
PORT BLAIR	59.37	255.4	10	5A	-2						
NEW DELHI	59.39	281.2	10	8	1	18	11	-4			
LAHORE	59.62	285.7	10	6	-2						
WARSAK DAM	60.07	289.6	10	10	-2						
SODANKYLA	60.71	338.5	10	12	-4						
TROMSOE	60.80	342.7	10	12	-4						
UKIAH	61.33	62.2	10	16	-4						
HUNGRY HORSE	61.37	49.2	10	22	2						
BLUE MTS.	61.58	53.9	10	20	-2						
MINERAL	61.63	60.2	10	20A	-2						
KIRUNA	61.89	340.9	10	20	-4						
CALISTOGA	62.02	62.3	10	23K	-2						
BERKELEY	62.68	62.8	10	37A	8						
KAJAANI	62.84	335.6	10	27	-3						
LICK	63.39	62.9	10	43K	9						
PARAISO	63.53	64.2	10	40	5						
PRIEST	64.74	63.5	10	44K	1						
SCORESBY SD.	65.13	357.4	10	44	-1						
UMEA	65.14	338.2	11	42A	-3						
KAP TOBIN	65.19	357.4	10	44K	-2						
MOSCOW	65.35	325.1	10	46	-1						
QUETTA	65.48	288.8	10	45A	-2						
EUREKA	65.61	58.1	10	47	-1				10	59	
ASHKABAD	66.23	300.3	10	51	-1						
NURMIJARVI	66.49	334.2	10	50	-4						
HELSINKI	66.66	333.8	10	51	-4						
DUGWAY	67.05	55.8	10	56A	-1						
SALT LAKE C.	67.25	54.8	11	1	2						
MADRAS	67.28	265.9	11	13	14	20	1	7		11	43 PCP
PASADENA	67.58	63.8	11	2	1				11	26	
POONA	68.12	274.8	11	1	-3						
BOULDER CITY	68.52	60.4	11	6	-1				11	17	
BOMBAY	68.61	275.8	11	37	30	21	0	51		21	44 PPS
UINTA BASIN	68.86	53.9	11	7	-2					11	37
UPPSALA	69.11	336.8	11	25A	-3						
GLEN CANYON	69.86	57.8	11	13	-2						
TONTO FOREST	71.83	59.7	11	26	-1				11	38	12 6
TEHERAN	71.90	302.4	11	27	0						
GORIS	72.30	308.2	11	29A	-1					20	58
TUCSON	73.47	61.0	11	35	-1						
ALBUQUERQUE	74.30	56.4	11	40	-1						
WARSAW	74.35	330.7	11	43	1	21	16	0			
SIMFEROPOL	74.70	318.9	11	42	-2						
SHIRAZ	75.31	297.1	11	46A	-1	21	22	-4			
IASI	75.89	324.0								17	51
KRAKOW	76.54	330.0	11	54	0	21	37	-3			
RACIBORZ	77.13	331.0	11	57	0						
COLLMBERG	77.78	334.5	11	59A	-2	21	54	1			
PRAGUE	78.40	333.1								12	57
PRUHONICE	78.44	333.0	12	2	-3						
JENA	78.54	335.1	12	2	-3						
WICHITA MTS.	79.01	51.8	12	6	-2					12	37
VIENNA-H.	79.32	331.0	12	9	0						

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.

KASPERSKE H.	79.49	333.1	12	9	-1					
TIMISOARA	79.64	326.8				23	15	62		
TULSA	79.68	49.3	12	11	0					
BENSBERG	79.78	337.7	12	10	-2					
UCCLE	80.66	339.2	12	15	-2					
BELGRADE	80.71	326.7	12	9A	-8	22	23	-1	25	52
DOURBES	81.24	338.8	12	18	-2					
STRASBOURG	81.76	336.3	12	23	1				12	47
LJUBLJANA	81.86	331.0	12	3	-20					
KSARA	82.19	310.4	12	26	1	22	51	11		
TRIESTE	82.47	331.2	12	24	-2	22	40	-2		
PARIS	82.97	339.6	12	29	0					
TITOGRAD	83.19	326.1	12	49	19				21	15
FOLINIERE	83.71	341.4	12	33	1					
JERUSALEM	84.10	309.5	12	34	0					
GARCHY	84.23	338.6	12	34A	-1					
PAVIA	84.39	333.9	12	36	0					
ROSELEND	84.71	335.7	12	38	1					
PRATO	84.92	332.1	12	37	-1	23	22	15		
FLORENCE X.	84.96	331.9	12	42	3	23	12	5		
CUMBERLAND	85.20	43.0	12	37	-3				13	9
AQUILA	85.47	329.9	12	40	-1					
CLERMONT-FD.	85.62	338.0	12	41	-1				22	58
ISOLA	85.95	334.8	12	43	-1					
ROME	86.20	330.2	12	42A	-3	23	12	-7	35	0 SSS
BLACKSBURG	86.28	38.7	12	44	-1					
MESSINA	88.27	326.4				23	12	-27	18	33
BANGUI	115.24	305.4	19	2	18				20	8 PP
N-LAZARVSKYA	147.03	203.5	19	44	1					

OCTOBER 13 19.H 27.M 32.S EPICENTRE 45.81 151.75 DEPTH= 0.KM

A=-0.61611 B= 0.33110 C= 0.71469 D= 0.4734 E= 0.8809
G=-0.6295 H= 0.3383 K=-0.6994 HT= -3.9

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
MIZUSAWA	10.29	233.3	2	40	8	4	18	-12				
MATUSIRO	13.76	232.4	3	19	0	5	39	-15				
BAGUIO CITY	39.18	231.8	7	30	-2							
KIPAPA	47.44	103.5	8	38	0							
RABAUL	49.79	179.4	8	54	-3							
ALERT	50.79	5.5	9	3K	-1							
ALMATA-2	51.27	295.6	9	8	0							
YELLOWKNIFE	52.24	35.9	9	15	0							
SVERDLOVSK	53.88	317.1	9	26	-1							
VICTORIA	54.85	54.1	9	34	-1							
PORT MORESBY	55.11	185.5	9	35	-1							
SEATTLE	55.95	54.5	9	48	6							
TASHKENT	57.37	297.5	9	52	-1	17	34	-15				
EDMONTON	57.55	45.0	9	54K	0							
APATITY	57.83	336.5	9	54	-2							
KEVO	57.91	340.3	9	55A	-1							
SODANKYLA	59.78	338.5	10	7	-2							
TROMSOE	59.80	342.7	10	8	-2							
LAHORE	59.85	285.5	10	10	0							
HUNGRY HORSE	60.13	50.1	10	12	0							
WARSAK DAM	60.22	289.4	10	12	0							
UKIAH	60.25	63.2	10	12	-1							
BLUE MTS.	60.39	54.9	10	14A	0							
MINERAL	60.52	61.2	10	14K	0							
KIRUNA	60.93	341.0	10	15A	-2							
CALISTOGA	60.94	63.3	10	17A	0							
BERKELEY	61.60	63.8	10	22A	0							
KAJAANI	61.97	335.6	10	23A	-1							
LICK	62.32	64.0	10	26A	-1							
BUTTE	62.33	51.5	10	27	0							
PARAISO	62.48	65.3	10	32	4							
PRIEST	63.68	64.5	10	36A	0							
SCORESBY SD.	63.93	357.6	10	38	1							
KAP TOBIN	63.99	357.6	10	38	0							
VIBORG	64.19	332.7	10	38	-1							
UMEA	64.22	338.4	10	37	-2							
PULKOVO	64.41	331.4	10	39	-1							
MOSCOW	64.68	325.2	10	42	0							

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.

QUETTA	65.64	288.8	10	48K	0	19	34	0			
NURMIJARVI	65.65	334.3	10	47A	-1						
CHARTERS TS.	65.77	185.7	10	47	-2						
HELSINKI	65.82	334.0	10	48	-2						
SALT LAKE C.	66.07	55.7	10	51	0						
ASHKABAD	66.11	300.3	10	52	1						
VANNOVSKAYA	66.27	300.5	10	53	1						
SKALSTUGAN	66.34	341.5	10	52A	-1						
PASADENA	66.52	64.7	10	52	-2						
KIZYL-ARVAT	66.55	302.5	10	57	3						
FLAMING GRGE	67.37	54.2	11	0	1						
BOULDER CITY	67.41	61.3	11	0	0						
UINTA BASIN	67.67	54.8	11	2A	1						
UPPSALA	68.21	337.0	11	3	-2						
GLEN CANYON	68.72	58.6	11	8	0						
BERGEN	70.67	343.1	11	20	0						
TONTO FOREST	70.71	60.5	11	20A	0				11	36	13 58 PP
TIFLIS	71.26	310.9	11	24	1						
GOTEBORG	71.56	338.6	11	24A	-1						
TEHERAN	71.74	302.6	11	28	2						
KARLSKRONA	71.93	335.9	11	24	-3						
GORIS	72.01	308.3	11	28K	0						
TUCSON	72.36	61.8	11	30	0						12 28
ALBUQUERQUE	73.13	57.2	11	35	1						
SIMFEROPOL	74.16	319.2	11	41	1						
LWOW	74.49	327.9	11	42	0						
SCHEFFERVLLE	74.56	22.0	11	43	0						
KISHINEV	74.86	323.5	11	45	1						
SHIRAZ	75.28	297.3	11	47K	0				11	57	12 46
UZHGOROD	76.12	328.1	11	51	-1						
RACIBORZ	76.34	331.3	11	55	2						12 16
SKALNATE PL.	76.40	329.6	11	54	1						12 20
LAWRENCE	76.43	47.6	11	48	-5						
COLLMBERG	76.93	334.9	11	55	-1				12	7	
HALLE	77.06	335.5	11	57	0				12	12	
WITTEVEEN	77.29	339.1	12	0A	2						
PRUHONICE	77.61	333.3	12	0	0						12 54
JENA	77.67	335.5	12	0	0						
WICHITA MTS.	77.80	52.5	12	1	0	22	10	17			
MUNSTER	77.83	338.2	12	1	0						
BRATISLAVA	78.35	330.9	12	4	0						
TULSA	78.44	50.0	12	4	0						
VIENNA-H.	78.53	331.4	12	7	2						
KASPERSKE H.	78.66	333.5	12	6K	0						
BENSBERG	78.86	338.1	12	7K	0						
ISTANBUL UN.	79.56	319.7	12	11	0						
UCCLE	79.72	339.7	12	12	1						
KEW	80.15	342.7	12	15	1						
STUTTGART	80.27	335.9	12	14	0						
KARLSRUHE	80.30	336.5	12	15	0						
DOURBES	80.31	339.2	12	14	-1						
SOFIA	80.65	324.2	12	20	4	22	25	2			
CANBERRA	80.79	182.3	12	18	1						
STRASBOURG	80.87	336.7	12	18	0						12 58
LJUBLJANA	81.07	331.4	12	18	-1						
ADELAIDE	81.26	190.8	12	19K	-1						
TRIESTE	81.67	331.7	12	22	0						
KSARA	81.84	310.8	12	23A	0						
PARIS	82.02	340.0	12	26K	2						
BESANCON	82.57	337.3	12	29	3						
FOLINIERE	82.73	341.9	12	28	1						
PENNSYLVANIA	83.04	35.6	12	29A	0						
MORGANTOWN	83.15	37.6	12	31A	2						
TOOLANGI	83.19	185.0	12	30K	0						
GARCHY	83.30	339.1	12	30K	0						
JERUSALEM	83.77	310.0	12	34	1						
ROSELEND	83.83	336.2	12	35	2						
CUMBERLAND	83.90	43.6	12	33	0						
ATHENS	84.41	321.3	12	35A	-1						
CLERMONT-FD.	84.70	338.5	12	42	5						
AQUILA	84.71	330.3	12	39	2	23	0	-5			
BLACKSBURG	84.96	39.3	12	39	0						
ISOLA	85.09	335.3	12	40	1						
MONACO	85.39	334.9	12	41	0						
ROME	85.42	330.7	12	43	2	23	5	-7			
KARAPIRO	86.07	161.4	12	43	-1						
MOORLANDS	87.96	183.4	13	6	13						
TOLEDO	91.98	341.6	12	12	-60						

MAWSON	130.91	210.5	19 14	0	
LA PAZ	135.78	61.9	19 23	0	19 35
N-LAZARVSKYA	148.39	204.0	19 48	3	

OCTOBER 13 21.H 54.M 57.S EPICENTRE 45.53 152.44 DEPTH= 0.KM

A=-0.62317 B= 0.32530 C= 0.71122 D= 0.4627 E= 0.8865
G=-0.6305 H= 0.3291 K=-0.7030 HT= -3.7

SE= 4.29

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
NEMURO	5.38	248.3	1 12	-12	2 3	-24		
ABASHIRI	6.00	258.3	1 25K	-7				
KUSIRO	6.31	249.0	1 27	-10	2 26	-25		
Y.-SAKHLINSK	6.90	286.0	1 43	-2				
OBIHIRO	7.13	251.8	1 34	-14				
ASAHIGAWA	7.39	259.9	1 46	-6				
WAKKANAI	7.56	273.0	1 52K	-2				
URAKAWA	7.75	247.6			3 5	-21		
SAPPORO	8.32	256.8	1 27	-38				
TOMAKOMAI	8.33	253.5	2 5	0				
PETROPAVLOVK	8.53	26.2	2 2	-6				
MURORAN	8.87	252.9	2 0A	-13	3 32	-22		
SUTTSU	9.19	257.1	2 29	12				
MORI	9.24	252.4	1 38	-40				
HAKODATE	9.24	250.4	2 6	-12	3 36	-28		
HATINOHE	9.42	241.8			3 36	-31		
MIYAKO	9.69	236.4	2 12	-12	3 40	-35		
AOMORI	9.73	245.2	2 11	-13	3 47	-29		
MORIOKA	10.14	238.9	2 15	-15	3 52	-34		
MIZUSAWA	10.53	236.6	2 20	-15	4 2	-33		
AKITA	10.78	241.8			4 9	-32		
ISINOMAKI	10.89	233.3	2 22	-18	4 7	-37		
SENDAI	11.24	233.9	2 31	-14				
SAKATA	11.45	239.1	2 53	5				
YAMAGATA	11.57	235.3	2 33	-17	4 29	-32		
HUKUSIMA	11.84	233.2	2 30	-23	4 38	-30		
ONAHAMA	12.19	229.4			4 40	-34		
SHIRAKAWA	12.43	231.8	2 46	-15	4 46	-36		
MITO	12.84	228.8	2 51	-16	4 56	-36		
UTUNOMIYA	13.04	230.9	2 43	-26				
KAKIOKA	13.11	229.2	2 52	-18	5 2	-36		
TAKADA	13.57	236.6	3 7	-9				
MAEBASI	13.59	232.5	3 1	-16	5 19	-31		
KUMAGAYA	13.60	231.0	3 1	-16	5 17	-33		
TOKYO C.M.O.	13.75	228.8			5 12	-41		
TITIBU	13.89	231.3	3 5	-16				
NAGANO	13.89	235.4	3 13	-8				
MATUSIRO	13.98	235.0	3 6K	-16	5 16	-43		
YOKOHAMA	14.00	228.4			5 25	-34		
MAGADAN	14.08	356.6	3 29	6				
WAZIMA	14.20	240.5	3 12	-13				
MERA	14.30	226.6			5 35	-31		
KOHU	14.40	231.7	3 15	-12				
HUNATU	14.41	230.7					5 4	
MISIMA	14.60	229.3	3 29	-1				
IIDA	14.92	233.0	3 22	-12				
HAMAMATU	15.57	231.2			6 11	-25		
GIHU	15.61	235.1	3 31	-12				
NAGOYA	15.66	234.0	3 36	-8				
HIKONE	16.00	235.8	3 37	-11				
KAMEYAMA	16.17	234.3					5 1	
KYOTO	16.48	236.3	3 38	-16				
ABUYAMA	16.68	236.2	3 43A	-14				
OSAKA	16.86	235.8	4 11	12				
HAMADA	18.78	242.7	4 20	-3	7 43	-7		
MATUYAMA	19.05	239.1	4 15	-11			5 59	
OOITA	20.17	239.7	4 32	-7				
HUKUOKA	20.70	242.5	4 43	-2	8 35	3		
SAGA	20.97	241.9	5 4	17				
KUMAMOTO	21.01	240.4	4 40	-8	8 31	-7		
YAKUTSK	21.10	329.6	4 49K	0	8 46	7		
NAGASAKI	21.58	241.5	4 45	-9	8 43	-6		
TIKSI	28.50	344.6	6 0	1				
ULAN-BATOR	30.96	291.1	5 17	-4				

IRKUTSK	31.84	299.9	6 26	-3				
COLLEGE	37.40	37.4	7 20	3				
ESEN BULAK	38.36	292.1	7 23	-2				
BAGUIO CITY	39.39	233.0	7 23	-10				
SITKA	44.54	47.9	8 20	5				
PHU-LIEN	44.80	252.2						10 7
MOULD BAY	45.92	,19.5	8 30K	4				
SEMIPALATNSK	46.83	303.3	8 32	-2				
KIPAPA	46.90	103.8	8 32	-2				
HONOLULU	46.93	104.0			15 29	3		
ALERT	51.02	5.6	9 8K	2				
SHILLONG	51.88	269.0	9 7K	-6				
ALMATA	52.09	296.3	9 11K	-3				
RESOLUTE	52.15	18.1	9 17K	2				
YELLOWKNIFE	52.19	35.9	9 18A	3				
FRUNSE	53.78	297.0	9 25K	-2	17 2	1		
CHATRA	54.40	273.5	9 28K	-3				
SVERDLOVSK	54.41	317.5	9 32A	1				
VICTORIA	54.62	54.2	9 33K	0				
EDMONTON	57.41	45.2	9 55	2				
TASHKENT	57.93	298.1	9 54K	-3	17 57	1		
APATITY	58.28	336.7	9 59K	0	17 57	-4		24 43 SSS
KEVO	58.33	340.5	10 0	1				
DEHRA DUN	58.61	282.7	9 58K	-3				
KHOROG	58.71	293.2	10 0K	-2	17 53	-13		
DUZHANBE	59.84	295.7	10 8K	-2	18 10	-11		
HUNGRY HORSE	59.94	50.3	10 12	1				
BLUE MTS.	60.15	55.1	10 13K	1				
TROMSOE	60.22	343.0	10 13	1				
SODANKYLA	60.22	338.8	10 13K	1				11 13
MINERAL	60.23	61.4	10 12K	-1				
NEW DELHI	60.26	281.6	10 8K	-5				
LAHORE	60.39	286.1	10 10	-4				
CALISTOGA	60.63	63.5	10 16K	1				
PORT BLAIR	60.65	256.1	10 8A	-7				
WARSAK DAM	60.77	289.9	10 13	-3				
DARWIN	60.85	204.3	10 7	-10				
BERKELEY	61.29	64.1	10 20K	0				
KIRUNA	61.35	341.3	10 20	0				
LICK	62.01	64.2	10 25K	0				
BUTTE	62.13	51.7	10 16	-9			10 51	
PARAISO	62.16	65.5	10 30	4				
LUGANVILLE	62.20	164.0	10 14A	-12				
KAJAANI	62.43	336.0	10 28K	1				12 44 PP
PRIEST	63.36	64.7	10 34K	0				
EUREKA	64.20	59.2	10 40	1				
SCORESBY SD.	64.24	357.9	10 41	2				
KAP TOBIN	64.30	357.9	10 41K	1				
UMEA	64.66	338.7	10 42K	0				
VIBORG	64.66	333.1	10 41K	-1				
PULKOVO	64.89	331.8	10 44K	0				
MOSCOW	65.19	325.5	10 46K	1				
CHARTERS TS.	65.54	186.4	10 39	-9				
DUGWAY	65.63	56.9	10 48K	0				18 49
SALT LAKE C.	65.83	55.9	10 51	1				
NURMIJARVI	66.11	334.7	10 51K	0				13 13 PP
QUETTA	66.19	289.3	10 49K	-3				
PASADENA	66.20	65.0	10 51	-1				
HELSINKI	66.29	334.3	10 53	1				
ASHKABAD	66.67	300.8	10 53	-2				
SKALSTUGAN	66.76	341.8	10 56	0				
KIZYL-ARVAT	67.11	303.0	10 58K	0	19 52	1		
BOULDER CITY	67.12	61.6	10 59	1			11 13	12 57
FLAMING GRGE	67.14	54.5	10 59	1				
AFIAMALU	67.43	142.1	10 55	-5	19 39	-16		
UINTA BASIN	67.44	55.1	11 1	1				
GLEN CANYON	68.45	58.9	11 6	0				
UPPSALA	68.66	337.4	11 7K	0				
LARAMIE	69.04	52.1	11 1	-9				
POONA	69.10	275.4	10 4	-66				
GOLDEN	70.25	53.2	11 18	1				
TONTO FOREST	70.43	60.9	11 19K	1			11 34	11 39 PCP
BERGEN	71.08	343.5	11 23	1				
KIROVOBAD	71.75	309.7	11 25	-1	20 46	0		
TIFLIS	71.81	311.3	11 26	-1				
GOTEBORG	72.00	338.9	11 28K	0				
TUCSON	72.07	62.2	11 28K	0				
TEHERAN	72.30	303.1	11 29K	-1	21 0	8		13 10

KARLSKRONA	72.39	336.3	11	30	0					
BAKURIANI	72.48	312.1	11	31	0					
GORIS	72.56	308.8	11	30K	-1					
COPENHAGEN	73.67	337.7	11	38	0					
SCHEFFERVLLE	74.64	22.3	11	44K	1					
SIMFEROPOL	74.69	319.6	11	43	0	21	18	-1		
KISHINEV	75.38	323.9	11	47	0	21	29	2		
SHIRAZ	75.84	297.8	11	48K	-2	21	26	-6		
KRAKOW	76.26	330.7	11	53	1					
LAWRENCE	76.27	47.9	11	52	0					
RACIBORZ	76.82	331.7	11	56	0				12	1 PCP
COLLMBERG	77.39	335.3	11	59	0				12 15	
HALLE	77.52	336.0	11	59	0					
WICHITA MTS.	77.59	52.9	12	0	0	21	59	8	23	40
PRAGUE	78.04	333.9	12	1	-1					
PRUHONICE	78.08	333.7	12	3	0				13	42
JENA	78.13	335.9	12	3	0					
TULSA	78.25	50.4	12	4K	1					
MUNSTER	78.27	338.6	12	4	0					
FLORISSANT	78.88	45.1	12	7	0					
KASPERSKE H.	79.13	333.9	12	9	1				13	47
BENSBERG	79.31	338.5	12	9	0				13	48
OTTAWA	79.96	32.2	12	11K	-2					
ISTANBUL UN.	80.09	320.2	12	13	0					
UCCLE	80.15	340.1	12	17	3					
BELGRADE	80.51	327.6	12	15A	-1	22	12	-10	13	56
CANBERRA	80.53	182.8	12	9	-7					
KEW	80.56	343.1	12	16	0					
BREBEUF	80.65	30.9	12	16K	0					
STUTTGART	80.73	336.3	12	17	0					
DOURBES	80.74	339.7	12	16	-1					
KARLSRUHE	80.75	336.9	12	27A	10					
ADELAIDE	81.08	191.4	12	11A	-8					
SOFIA	81.16	324.6	12	20	1	22	34	5		
STRASBOURG	81.32	337.1	12	20	0				14	0
LJUBLJANA	81.55	331.8	12	21K	0				13	59
WELSCHBRUCH	81.86	337.9	12	20	-3					
TRIESTE	82.15	332.1	12	23K	-1	22	39	0		
KSARA	82.39	311.3	12	24	-2					
PARIS	82.45	340.5	12	27K	1					
TOOLANGI	82.95	185.6	12	21	-7					
PENNSYLVANIA	82.99	36.1	12	29K	0					
BESANCON	83.02	337.7	12	29	0					
MORGANTOWN	83.08	38.0	12	30K	1					
FOLINIERE	83.15	342.3	12	31	2					
GARCHY	83.74	339.6	12	33K	1					
CUMBERLAND	83.77	44.1	12	33K	0					
MUNDARING	83.84	210.3	12	26	-7					
ROSELEND	84.28	336.7	12	37	2					
JERUSALEM	84.32	310.4	12	35K	0					
PALISADES	84.40	33.4	12	31	-5					
PRATO	84.59	333.0	12	44	7	23	21	18		
FLORENCE X.	84.63	332.9	12	43	6				23	34
BLACKSBURG	84.87	39.7	12	38	0					
ATHENS	84.94	321.8	12	37A	-1					
CLERMONT-FD.	85.14	339.0	12	36	-3					
AQUILA	85.19	330.8	12	40	0	23	3	-6	16	0 PP
ISOLA	85.54	335.8	12	42	1					
MONACO	85.85	335.4	12	43	0					
ROME	85.90	331.2	12	44	1	23	14	-2	16	12 PP
MOORLANDS	87.71	183.9	12	45	-7					
MESSINA	88.07	327.4				23	35	-2	26	31
TOLEDO	92.40	342.1	12	13	-61	24	43	27	30	51 SS
BANGUI	115.55	307.1	18	41	-3				19	44 PP
CHILEKA	120.21	278.5	18	51	-2					
SCOTT BASE	123.42	176.4	18	54	-6					
BROKEN HILL	123.84	284.7	18	59	-1					
HUANCAYO	127.57	66.0	19	8	0					
BYRD STATION	134.12	165.9	19	12	-8					
LA PAZ	135.48	62.9	19	17	-6				19	23
N-LAZARVSKYA	148.33	203.6	19	43	-2					
ARGENTINE I.	151.93	147.7	19	51	0					

OCTOBER 13 23.H 52.M 21.S EPICENTRE 45.51 150.89 DEPTH= 0.KM

A=-0.61433 B= 0.34208 C= 0.71105 D= 0.4865 E= 0.8737
G=-0.6212 H= 0.3459 K=-0.7031 HT= -3.7

SE= 4.26

	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
NEMURO	4.39	242.0	0	54	-16							
ABASHIRI	4.94	254.7	1	7K	-11							
KUSIRO	5.30	243.8	0	54	-29	1	49	-36				
Y.-SAKHLINSK	5.86	287.8	1	30	-1	2	39	0				
OBIHIRO	6.10	247.6	1	24	-10							
ASAHIGAWA	6.32	257.1	1	28	-9							
HIROO	6.35	242.1	1	30	-7							
WAKKANAI	6.48	272.5	1	42	3							
URAKAWA	6.76	243.0	1	30K	-13							
RUMOE	6.79	260.0									2	46
UGLEGORSK	6.98	303.9	1	52K	6						3	39
SAPPORO	7.27	253.7	1	36	-14	2	52	-23				
TOMAKOMAI	7.30	250.0	1	52	1							
MURORAN	7.83	249.5	1	45	-13							
SUTTSU	8.13	254.3	2	16	14							
MORI	8.21	249.1	1	12	-51							
HAKODATE	8.22	246.8	1	50	-14							
HATINOHE	8.47	237.3	2	7	0							
AOMORI	8.75	241.1	2	9	-2							
MIYAKO	8.81	231.4	2	26	14							
PETROPAVLOVK	9.06	31.2	2	24	9						4	51
MORIOKA	9.22	234.4	2	1	-17	3	26	-37				
MIZUSAWA	9.64	232.0	2	6	-17	3	29	-45				
AKITA	9.83	237.7				3	41	23				
ISINOMAKI	10.04	228.5	2	7	-22	3	44	-39				
SENDAI	10.38	229.3	2	30	-3	3	52	-40				
SAKATA	10.53	235.0	2	49	13							
YAMAGATA	10.69	230.9	2	17	-21							
HUKUSIMA	10.99	228.8	2	27	-15	4	8	-39				
ONAHAMA	11.38	224.8									4	12
SHIRAKAWA	11.60	227.4	2	25	-25	4	24	-38				
NIIGATA	11.65	233.5	3	21	30							
AIKAWA	12.04	236.0	2	41	-15							
MITO	12.04	224.4	2	38	-18	4	33	-39				
UTUNOMIYA	12.21	226.7	2	26	-32							
KAKIOKA	12.31	224.8	2	38	-22	4	34	-45				
TAKADA	12.67	232.9	2	53	-12							
MAEBASI	12.74	228.5	2	43	-23						6	24
KUMAGAYA	12.77	226.9	2	49	-17	4	54	-36				
NAGANO	13.01	231.7	3	3	-6							
TITIBU	13.06	227.3	3	4	-6							
MATUSIRO	13.10	231.3	2	49	-21	5	7	-31				
YOKOHAMA	13.20	224.2									4	20
WAZIMA	13.26	237.1	3	5	-7							
MERA	13.53	222.4									4	29
TOYAMA	13.55	234.3	2	56	-20							
KOHU	13.56	227.8	3	23	7	5	10	-39				
HUNATU	13.59	226.8	3	2	-15	5	13	-37				
MISIMA	13.79	225.3									4	41
IIDA	14.06	229.3	3	18	-5							
SHIZUOKA	14.19	226.4									6	57
GIHU	14.73	231.6	3	22	-10							
HAMAMATU	14.73	227.6	3	59	27							
NAGOYA	14.79	230.5	3	39	6							
HIKONE	15.11	232.5	3	33	-4							
KAMEYAMA	15.30	230.9									4	47
KYOTO	15.59	233.0	3	19	-24							
TOYOOKA	15.74	236.3									6	11
ABUYAMA	15.78	233.0	4	26K	40							
OSAKA	15.97	232.5	4	3	15	7	13	27				
OWASE	16.04	229.6									8	50
SUMOTO	16.54	233.1	4	16	21							
SIOMISAKI	16.74	229.2									5	0
TAKAMATU	17.05	234.9	3	41	-21	6	59	-12				
TORISIMA	17.15	212.6	3	45	-18	7	18	5				
HAMADA	17.82	240.1	4	2	-9							
KOTI	17.90	234.2	4	7	-5							
MATUYAMA	18.13	236.3	4	7	-8	7	9	-26				
ASHIZURI	18.81	233.4									10	22
OOITA	19.24	237.1	4	26	-3	7	51	-10				

HUKUOKA	19.74	240.0	4	20	-14	7	58	-14				
ASOSAN	19.80	237.4	4	28	-7							
SAGA	20.01	239.4	5	3	26							
KUMAMOTO	20.07	237.9	4	41	3	9	7	48				
MIYAZAKI	20.30	234.8	4	41	1	8	8	-16				
YAKUTSK	20.57	331.0	4	44A	1	8	32	3				
NAGASAKI	20.63	239.1	4	29	-15	8	18	-12				
KAGOSIMA	21.06	235.7	5	4	16	8	41	2				
TIKSI	28.23	345.4	5	56	-1						6	53 PP
ULAN-BATOR	29.95	290.7	6	7	-5							
IRKUTSK	30.91	299.7	6	17	-4	11	21	-4				
HONG KONG	37.79	244.6	7	9	-11	12	52	-19			7	47
BAGUIO CITY	38.52	231.0	7	13	-13							
PHU-LIEN	43.77	250.7	8	2	-7							
SEMIPALATNSK	45.93	302.8	8	25	-2							
MOULD BAY	46.29	19.4	8	33	4							
KIPAPA	47.96	102.5	8	40	-3							
HONOLULU	47.98	102.7	8	42	-1	15	49	8				
RABAUL	49.51	178.3	8	42	-13							
SHILLONG	50.79	267.9	8	56A	-8							
ALMATA-2	50.85	295.4	9	2A	-3							
ALERT	51.14	5.3	9	9	2							
RESOLUTE	52.50	17.8	9	20	3							
FRUNSE	52.81	296.2	9	16A	-4						16	48 PS
YELLOWKNIFE	52.83	35.5	9	22	2							
CHATRA	53.32	272.5	9	17A	-6							
SVERDLOVSK	53.68	317.0	9	25	-1							
PORT MORESBY	54.76	184.5	9	21	-13	16	47	-27				
CALCUTTA	55.19	267.5	9	38	1	17	18	-2				
HONIARA	55.29	169.1	9	9	-29							
VICTORIA	55.51	53.5	9	35	-4							
TASHKENT	56.98	297.3	9	46A	-4	17	43	0			21	27 SS
DEHRA DUN	57.55	281.7	9	48	-6	17	51	0			20	31
KHOROG	57.72	292.4	9	51	-4	17	52	-1				
APATITY	57.86	336.3	9	57K	1	17	55	0			13	26 PPP
KEVO	57.98	340.1	9	57	0	18	1	4			13	39 PPP
EDMONTON	58.18	44.5	10	0	2							
NEW DELHI	59.20	280.7	9	57A	-8							
LAHORE	59.35	285.2	10	1	-6							
PORT BLAIR	59.59	254.8	10	13A	5							
WARSAK DAM	59.75	289.1	10	5	-4							
SODANKYLA	59.84	338.3	10	9	-1							
TROMSOE	59.91	342.5	10	10	0							
HUNGRY HORSE	60.78	49.6	10	17	1				10	31		
UKIAH	60.92	62.6	10	29	12							
KIRUNA	61.01	340.7	10	18	0	18	45	9				
BLUE MTS.	61.05	54.3	10	19	1	18	48	12			10	39
MINERAL	61.19	60.6	10	20K	1							
CALISTOGA	61.61	62.7	10	23K	1							
KAJAANI	61.99	335.4	10	24	-1							
BERKELEY	62.27	63.2	10	27K	1	18	59	7			19	59
BUTTE	62.99	51.0	10	34	3							
LICK	62.99	63.3	10	32K	1							
SCORESBY SD.	64.20	357.3	10	42	3							
KAP TOBIN	64.27	357.3	10	43	3							
UMEA	64.27	338.1	10	38	-2				10	49	19	23
PRIEST	64.35	63.8	10	40A	0							
PULKOVO	64.38	331.1	10	40	0	19	22	4			12	52 PP
MOSCOW	64.58	324.9	10	42	0	19	24	3			11	12 PCP
EUREKA	65.14	58.4	10	45	0				10	59		
QUETTA	65.17	288.4	10	40	-5	19	23	-5				
NURMIJARVI	65.65	334.0	10	49	1	19	39	5			20	39 SCS
ASHKABAD	65.74	300.0	10	48	-1	19	39	4			20	7 PS
HELSINKI	65.82	333.7	10	49	-1						11	16
DUGWAY	66.54	56.1	10	55A	1							
SALT LAKE C.	66.73	55.1	10	58	3							
PASADENA	67.19	64.1	10	58	0				11	10		
MADRAS	67.33	265.5				19	45	-9			11	3
BOULDER CITY	68.08	60.7	11	4	0						11	51
AFIAMALU	68.09	140.6	10	42	-22	19	53	-10				
UPPSALA	68.25	336.7	11	4K	-1							
UINTA BASIN	68.34	54.2	11	6	1	20	29	23			14	12 PP
BOMBAY	68.50	275.4	11	2	-5	20	6	-2			15	14 PPP
GLEN CANYON	69.39	58.0	11	13	1							
TIFLIS	71.00	310.5	11	20	-2							
TONTO FOREST	71.38	59.9	11	25	1				11	39	14	5 PP
TEHERAN	71.39	302.2	11	24	0							
GORIS	71.72	307.9	11	24K	-2							
TUCSON	73.04	61.2	11	34	0							

COPENHAGEN	73.26	336.9	11	46	11	21	16	13			
WARSAW	73.54	330.5	11	36	-1	21	12	5		12	7 PCP
ALBUQUERQUE	73.80	56.6	11	40	2				11	52	
SIMFEROPOL	73.99	318.7	11	40A	1	21	15	3		11	52 PCP
LWOW	74.42	327.5	11	43	1	21	19	3			
SHIRAZ	74.88	296.9	11	40A	-5	22	17	55		14	28 PP
KRAKOW	75.73	329.8	11	51	1	21	33	2			
CHORZOW	75.86	330.5	11	52	2					12	5 PCP
RACIBORZ	76.31	330.8	11	53	0					12	6 PCP
SKALNATE PL.	76.35	329.2	11	53	0					15	58 PPP
COLLMBERG	76.94	334.4	11	56	0	21	58	14			
PRAGUE	77.57	333.0	11	59	-1						
PRUHONICE	77.61	332.8	11	59	-1	21	44	-7			
JENA	77.69	335.0	12	0	0	21	55	3			
CHEB	78.20	334.1								12	31
BRATISLAVA	78.32	330.4	12	2	-2						
WICHITA MTS.	78.46	51.9	12	4	-1	22	7	6		27	23 SS
VIENNA-H.	78.50	330.9	12	6	1	21	47	-14			
KASPERSKE H.	78.66	333.0	12	5	-1					12	32
TIMISOARA	78.85	326.7	12	25	18	22	9	4			
BENSBERG	78.91	337.6	12	7	0					12	34
TULSA	79.09	49.4	12	9	1	22	9	2			
ISTANBUL UN.	79.40	319.2	12	6	-4	22	14	4			
UCCLE	79.79	339.2	12	11	-1						
BELGRADE	79.93	326.6	12	12	-1	22	21	5		12	26 PCP
KEW	80.25	342.2	12	17	3	22	26	7			
STUTTGART	80.30	335.4	12	16	1						
KARLSRUHE	80.33	336.0	12	24A	9						
DOURBES	80.37	338.7	12	15	0	22	33	12			
CANBERRA	80.48	181.6	12	7	-9						
SOFIA	80.53	323.7	12	14	-2	22	26	4			
ZAGREB	80.73	329.9	12	39	22	22	20	-4			
STRASBOURG	80.90	336.2	12	20	2	22	32	6		23	16 SP
LJUBLJANA	81.04	330.9	12	18	-1					12	57
BREBEUF	81.21	29.9	12	20	1						
KSARA	81.58	310.3	12	18	-3						
TRIESTE	81.65	331.2	12	19	-3	22	36	2		12	50
PAR+S	82.09	339.5	12	26	2						
TITOGRAD	82.41	326.1								12	40 PCP
BESANCON	82.61	336.7	12	26	-1						
FOLINIERE	82.83	341.4	12	30	2						
GARCHY	83.36	338.6	12	31K	0						
JERUSALEM	83.50	309.4	12	31	0						
PAVIA	83.55	333.8	12	34	2	23	9	16			
PENNSYLVANIA	83.63	35.1	12	34A	2						
MORGANTOWN	83.75	37.0	12	34	1						
ROSELEND	83.85	335.7	12	35	2						
PRATO	84.10	332.0	12	53	19	23	5	6			
FLORENCE X.	84.14	331.9	12	27	-8	23	14	15		15	33 PP
ATHENS	84.27	320.7	12	33A	-2						
CUMBERLAND	84.53	43.0	12	36	0	23	4	1		12	59
AQUILA	84.66	329.8	12	37	0	23	15	11			
CLERMONT-FD.	84.75	338.0	12	44	6					13	35
PALISADES	85.00	32.4	12	41	2	23	15	7	12	51	
ISOLA	85.10	334.8	12	40	1						
ROME	85.38	330.2	12	26A	-15	22	56	-15		15	50 PP
MONACO	85.40	334.3	12	40	-1						
KARAPIRO	85.98	160.7	12	36	-8						
MESSINA	87.49	326.3								15	11 PP
WELLINGTON	89.01	162.2								24	39 SP
TOLEDO	92.07	341.0	12	12	-61	23	19	-54		16	9 PP
ALICANTE	92.63	337.8	13	21	6						
MALAGA	95.16	340.3	13	42	15	24	36	34			
CARACAS	114.68	41.6								19	49 PP
BANGUI	114.69	305.7	17	57	-46					19	59
BOGOTA	116.04	51.6								20	21 PP
SCOTT BASE	123.48	176.0	18	53	-7						
BYRD STATION	134.37	165.9	19	13	-8						
LA PAZ	136.45	61.2	19	15	-9	26	32	-2			
N-LAZARVSKYA	147.87	204.1	19	35	-9						

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.

OCTOBER 14 4.H 6.M 6.S EPICENTRE 45.19 150.22 DEPTH= 78.KM

A=-0.61378 B= 0.35129 C= 0.70702 D= 0.4967 E= 0.8679
G=-0.6136 H= 0.3512 K=-0.7072 HT= -3.6

DEPTH OF FOCUS= 0.007R

SE= 4.28

	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
KURILSK	1.66	272.4	0	33	5						0	55
NEMURO	3.81	242.5	0	49	-9	1	30	-12				
ABASHIRI	4.40	256.7	1	3A	-3	1	52	-5				
KUSIRO	4.73	244.3	1	2	-9	1	52	-13				
Y.-SAKHLINSK	5.53	292.0	1	19K	-3	2	28	3				
OBIHIRO	5.54	248.3	1	16	-6							
HIROO	5.78	242.2	1	16	-9	2	19	-12				
ASAHIGAWA	5.79	258.7	1	21K	-4							
WAKKANAI	6.03	275.2	1	28	0	3	0	23				
URAKAWA	6.19	243.2	1	25	-6	2	32	-9				
RUMOE	6.26	261.7									1	57
SAPPORO	6.72	254.8	1	33A	-5	2	51	-3				
TOMAKOMAI	6.74	250.8	1	39	1							
UGLEGORSK	6.78	307.9	1	38K	-1						3	7
MURORAN	7.27	250.1	1	39	-7	2	57	-11				
SUTTSU	7.59	255.2	1	35	-15							
MORI	7.65	249.6	1	49	-2	3	6	-11				
HAKODATE	7.66	247.2	1	43	-8	3	5	-12				
AOMORI	8.17	241.0	1	50	-8	3	13	-17				
MIYAKO	8.23	230.7	1	49	-10	3	11	-20				
MORIOKA	8.64	233.8	2	20	15	3	25	-16				
MIZUSAWA	9.06	231.3	1	59	-11	3	32	-19				
AKITA	9.26	237.4				3	42	-16				
ISINOMAKI	9.46	227.6	2	4	-12	3	43	-18				
PETROPAVLOVK	9.59	32.1	2	14K	-3	4	4	0				
OKHA	9.62	333.1	2	20	2						4	22
SENDAI	9.80	228.4	2	32	12	4	49	39				
SAKATA	9.95	234.5	2	19	-3							
YAMAGATA	10.11	230.2	2	13	-12	3	57	-20				
HUKUSIMA	10.42	227.9	2	22	-7	4	5	-19				
SHIRAKAWA	11.02	226.5	2	26	-11	4	19	-20				
NIIGATA	11.07	232.9									3	11
AIKAWA	11.46	235.5	2	33	-10	4	41	-8				
MITO	11.48	223.4	2	42	-1	4	30	-20				
UTUNOMIYA	11.64	225.8	2	35	-10	4	36	-18				
KAKIOKA	11.74	223.8	2	36	-10	4	33	-23				
TYOSI	11.83	220.2	2	45	-3	4	38	-20				
TAKADA	12.10	232.3	3	4	13	5	11	6				
MAEBASI	12.17	227.7	2	43A	-9	4	51	-15				
KUMAGAYA	12.20	226.0	2	44	-8	4	50	-17				
TOKYO C.M.O.	12.39	223.6									4	33
NAGANO	12.44	231.0	2	59	3							
TITIBU	12.49	226.4	2	59	3							
MATUSIRO	12.52	230.6	2	47K	-10	4	51	-24				
YOKOHAMA	12.64	223.2				4	45	-34				
WAZIMA	12.68	236.7	2	54	-5							
MATUMOTO	12.87	230.3	3	5	4							
MERA	12.96	221.3				4	52	-34				
TOYAMA	12.97	233.7	2	52	-11							
KOHU	12.99	227.0	3	8	5	5	10	-16				
HUNATU	13.02	226.0	2	53	-10	5	12	-15				
AJIRO	13.21	223.8	2	55	-11	5	11	-20				
MISIMA	13.23	224.4				5	20	-12				
IIDA	13.49	228.6	3	4	-5	5	20	-12			3	26
GIHU	14.15	231.0	3	9	-9							
HAMAMATU	14.16	226.8									4	8
NAGOYA	14.21	229.9	3	2	-17	5	59	4				
MAGADAN	14.39	1.2	3	21	0	6	7	8			8	33
HIKONE	14.54	231.9	3	17	-6							
KAMEYAMA	14.73	230.2	3	38	13						7	5
KYOTO	15.01	232.4	3	21	-8							
NARA	15.20	231.3	3	29	-3							
ABUYAMA	15.21	232.4	3	22A	-10							
OSAKA	15.39	231.9	3	40	6							
SUMOTO	15.97	232.6	3	40	-1	7	0	24				
HAMADA	17.24	239.7	3	51	-6	7	13	8				
KOTI	17.32	233.6	3	53	-5							
HIROSIMA	17.38	237.7	3	37	-22							
MATUYAMA	17.55	235.8	4	0	-1						9	14

OOITA	18.66	236.6	4	5	-9	7	45	9		
HUKUOKA	19.16	239.6	4	18	-2	8	5	18		
SAGA	19.44	239.1	4	15	-8				9	10
KUMAMOTO	19.50	237.4	4	20	-3	8	0	6		
NAGASAKI	20.05	238.7	4	25A	-4	8	12	7		
KAGOSIMA	20.48	235.2							5	2
TIKSI	28.43	346.0	5	47	-3				6	34
ULAN-BATOR	29.63	291.0	5	57	-3					
ESEN BULAK	37.03	291.7	7	3	-1					
HONG KONG	37.22	244.3	7	4	-2	12	21	-25		
BAGUIO CITY	37.95	230.5	7	8	-4					
COLLEGE	38.62	37.1	7	18	1					
MANILA	39.13	228.3	7	19	-2	13	14	-1		
PHU-LIEN	43.21	250.4	7	56	1				13	9
SITKA	45.92	47.1	8	12	-5					
MOULD BAY	46.76	19.2	8	24	1					
KIPAPA	48.36	101.7	8	36	0				8	50
RABAUL	49.20	177.4	8	39	-3					
SHILLONG	50.31	267.6	8	49A	-2					
ALERT	51.51	5.2	8	59A	-1					
CHITTAGONG	52.37	264.5	9	5	-1	16	35	11		
FRUNSE	52.53	296.1	9	8A	0					
CHATRA	52.85	272.2	9	9K	-1				14	15
RESOLUTE	52.95	17.6	9	10	-1					
YELLOWKNIFE	53.38	35.2	9	12	-2					
SVERDLOVSK	53.60	316.9	9	13	-2				14	29 PCS
HONIARA	55.07	168.3	9	18	-8					
BOKARO	55.69	270.3	9	29	-2				15	59
VICTORIA	56.09	53.1	9	32	-2					
TASHKENT	56.70	297.1	9	37	-1	17	29	6	10	27 PCP
DEHRA DUN	57.15	281.5	9	41K	0				16	34
SEATTLE	57.19	53.5	9	48	7					
KHOROG	57.40	292.2	9	43	0					
APATITY	57.97	336.1	9	46K	-1					
KEVO	58.13	339.9	9	34	-14	17	38	-3		
EDMONTON	58.75	44.1	9	52A	0					
NEW DELHI	58.79	280.4	9	52	0				15	6
LAHORE	58.98	284.9	9	53	-1					
PORT BLAIR	59.05	254.4	9	49A	-5					
WARSAK DAM	59.40	288.9	9	55	-2					
SODANKYLA	59.96	338.1	9	59	-2					
KIRUNA	61.16	340.6	10	7	-2					
HUNGRY HORSE	61.35	49.1	10	10	0				10	23
BLUE MTS.	61.63	53.9	10	12A	0	18	40	14		
MINERAL	61.77	60.1	10	12A	-1					
KAJAANI	62.09	335.2	10	13	-2				10	50 PCP
CALISTOGA	62.18	62.2	10	16A	0					
BERKELEY	62.85	62.7	10	20K	0					
LICK	63.56	62.8	10	25K	0					
BUTTE	63.56	50.5	10	24	-1					
PARAISO	63.72	64.1	10	29	3					
TANGERANG	64.29	229.5	10	26	-3					
UMEA	64.40	337.9	10	29	-1					
SCORESBY SD.	64.51	357.1	10	31	0					
KAP TOBIN	64.57	357.1	10	31	0					
BOZEMAN	64.61	50.1	10	30	-2					
QUETTA	64.82	288.2	10	32A	-1					
PRIEST	64.92	63.3	10	32A	-2					
CHARTERS TS.	65.06	184.1	10	30	-4				15	42
EUREKA	65.71	57.9	10	39	0				10	52
NURMIJARVI	65.74	333.8	10	38	-1					
HELSINKI	65.90	333.4	10	39	-1					
MADRAS	66.83	265.2	10	43	-3	19	37	6	11	7 PCP
DUGWAY	67.12	55.6	10	48A	1					
SALT LAKE C.	67.31	54.6	10	50	1					
POONA	67.57	274.0	10	49K	-1					
PASADENA	67.76	63.6	10	51	0				11	3
UPPSALA	68.36	336.4	10	54	-1					
FLAMING GRGE	68.61	53.2	10	57	0					
BOULDER CITY	68.65	60.2	10	57	0				11	10
UINTA BASIN	68.91	53.8	10	59	0					
GLEN CANYON	69.96	57.5	11	5	0					
LARAMIE	70.48	50.8	11	10	2				18	36
TIFLIS	70.85	310.2	11	11	1					
TEHERAN	71.16	301.9	11	14	2					
GORIS	71.54	307.6	11	16	1				18	21
GOLDEN	71.70	51.9	11	16	1					
TONTO FOREST	71.95	59.5	11	17	0				11	29 13 57 PP

BRISBANE	72.26	177.6	11	17	-2						
TUCSON	73.61	60.7	11	26	-1						
SIMFEROPOL	73.92	318.4	11	29A	0	21	1	8			
ALBUQUERQUE	74.38	56.1	11	31	0				11	46	
LWOW	74.44	327.1	11	32K	0	21	8	9			
SHIRAZ	74.60	296.5	11	32A	0	21	6	6			
SCHEFFERVLLE	75.54	21.1	11	39K	1						
KRAKOW	75.78	329.5	11	40	1						
RACIBORZ	76.36	330.5	11	44	2						11 54 PCP
COLLMBERG	77.03	334.0	11	48A	2				12	0	
HALLE	77.17	334.7	11	46	-1				12	2	
PRAGUE	77.64	332.6	11	51	1						
LAWRENCE	77.65	46.5	11	49	-1						
PRUHONICE	77.68	332.5	11	50	0						
JENA	77.79	334.7	11	51	1						
MUNSTER	78.00	337.4	11	53	1						
LUBBOCK	78.03	54.3	11	54	2						
VIENNA-H.	78.55	330.5	11	54	-1				12	12	
RIVERVIEW	78.65	179.2	12	1	6						
KASPERSKE H.	78.73	332.6	11	56A	0						
BENSBERG	79.03	337.2	12	0	3						
WICHITA MTS.	79.03	51.5	11	57	0						14 55 PP
ISTANBUL UN.	79.33	318.8	12	0	1	22	1	9			
TULSA	79.67	48.9	12	0A	-1						
UCCLE	79.92	338.8	12	2	0						
BELGRADE	79.94	326.2	12	3K	1	22	6	8			12 17 PCP
CANBERRA	80.14	181.0	12	2	-1				12	17	
FLORISSANT	80.22	43.7	12	3	-1						
STUTTGART	80.39	335.0	12	5	0						
KEW	80.42	341.8	12	6	1						
ADELAIDE	80.46	189.6	12	3A	-2				12	17	17 41
DOURBES	80.50	338.4	12	4	-1						
ANN ARBOR	80.52	37.4	12	6	1						17 19
LONDON ONT.	80.95	35.5	12	8A	1						
STRASBOURG	81.01	335.8	12	10	2	22	34	25			
OTTAWA	81.07	30.8	12	7A	-1						
LJUBLJANA	81.09	330.5	12	8	0						12 32
SCARBOROUGH	81.17	33.9	12	9	0						
KSARA	81.43	309.9	12	11	1	22	26	13			
TRIESTE	81.70	330.8	12	12	1	22	22	6			12 36
BREBEUF	81.73	29.5	12	11	-1						
PARIS	82.23	339.1	12	17A	3						
TITOGRAD	82.41	325.7	12	17	2	22	28	5			22 45 SCS
PADOVA	82.55	331.8									16 24
FOLINIERE	82.98	341.0	12	20	2						
JERUSALEM	83.34	309.0	12	23	3						
GARCHY	83.49	338.2	12	22A	1						
ROSELEND	83.95	335.3	12	26	3						
PRATO	84.16	331.6	12	29	5	22	54	13			
PENNSYLVANIA	84.17	34.6	12	17	-7						
ATHENS	84.22	320.3	12	24A	0						
MORGANTOWN	84.30	36.6	12	25K	0						
AQUILA	84.71	329.4	12	27	0						
CLERMONT-FD.	84.87	337.6	12	31	4						
CUMBERLAND	85.09	42.6	12	29	0	22	57	7			12 52
ISOLA	85.19	334.4	12	31	2						
ROME	85.43	329.8	12	32	2	22	56	3			23 52 PS
MONACO	85.48	333.9	12	32	2						
PALISADES	85.53	31.9	12	30	-1	23	0	6			
KARAPIRO	85.83	160.2	12	33	1				12	46	
BLACKSBURG	86.12	38.2	12	34	0						
MESSINA	87.49	325.9				23	13	0			16 5 PP
WELLINGTON	88.85	161.7									24 55 SP
TOLEDO	92.22	340.5	12	3	-59						15 56 PP
BANGUI	114.49	305.0									19 24
CARACAS	115.24	41.0									19 35 PP
HUANCAYO	129.14	64.2	19	2	3						
LA PAZ	137.03	60.8	19	14	0				19	32	
SANTA LUCIA	146.62	83.8	19	33	2						
N-LAZARVSKYA	147.38	204.1	19	34	2						

OCTOBER 14 4.H 11.M 14.5 EPICENTRE 44.99 150.78 DEPTH= 32.KM

A=-0.61932 B= 0.34638 C= 0.70460 D= 0.4881 E= 0.8728
G=-0.6150 H= 0.3439 K=-0.7096 HT= -3.5

SE= 2.27

	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
KURILSK	2.08	277.7				1	0	-1			1	20
Y.-SAKHLINSK	5.97	292.7	1	30	1						2	58
MIZUSAWA	9.26	234.1	2	16	1	3	39	-20				
MATUSIRO	12.72	232.8	2	55	-7	5	15	-8				
ULAN-BATOR	30.07	291.5	6	6	-3							
IRKUTSK	31.10	300.4	6	13	-5						7	23 PP
ESEN BULAK	37.48	292.1	7	13	0							
BAGUIO CITY	38.14	231.4	7	15	-3							
COLLEGE	38.54	37.0	7	23	2							
MANILA	39.30	229.2	7	26	-2	13	26	0				
MOULD BAY	46.81	19.2	8	29	0							
KIPAPA	47.92	102.0	8	37	0							
RABAUL	48.98	178.2	8	44	-2							
SHILLONG	50.70	268.2	8	57A	-2						10	48 PP
ALMATA-2	51.01	295.8	9	1A	0							
HAWAII V.OB.	51.16	101.6	9	2	0							
ALERT	51.67	5.3	9	5A	-1							
CHITTAGONG	52.76	265.1	9	12	-2							
FRUNSE	52.98	296.5	9	16A	0	16	49	7				
RESOLUTE	53.02	17.7	9	16	0							
CHATRA	53.26	272.8	9	17K	-1							
YELLOWKNIFE	53.30	35.3	9	18	0							
SVERDLOVSK	54.02	317.2	9	21	-3							
PORT MORESBY	54.23	184.4	9	21	-4	16	58	-1				
CALCUTTA	55.09	267.8	9	46	15	17	16	6				
TASHKENT	57.15	297.5	9	44A	-2	17	42	4			11	48 PP
KHOROG	57.85	292.6	9	51	0						16	50
APATITY	58.31	336.4	9	53K	-1							
KEVO	58.45	340.2	9	53	-2							
EDMONTON	58.61	44.3	9	57A	1							
NEW DELHI	59.22	280.9	10	11	10	18	5	0				
PORT BLAIR	59.38	255.0	9	59A	-3							
LAHORE	59.42	285.4	10	1	-1							
WARSAK DAM	59.85	289.3	10	3	-2							
SODANKYLA	60.30	338.4	10	6	-2							
HUNGRY HORSE	61.18	49.3	10	14	0				10	27		
BLUE MTS	61.42	54.1	10	16	0	18	40	7			10	38
KIRUNA	61.48	340.8	10	15	-1				10	27		
MINERAL	61.51	60.3	10	16A	0							
CALISTOGA	61.92	62.4	10	19A	0							
KAJAANI	62.44	335.5	10	22	-1							
BERKELEY	62.58	62.9	10	24K	1							
LICK	63.29	63.1	10	28K	0							
PARAISO	63.44	64.3	10	33	4							
TANGERANG	64.47	230.1	10	33	-3							
PRIEST	64.65	63.6	10	37A	0							
SCORESBY SD.	64.72	357.3	10	38A	1							
UMEA	64.73	338.1	10	36A	-2							
KAP TOBIN	64.78	357.3	10	38	0	19	27	12				
PULKOVO	64.80	331.2	10	37A	-1							
MOSCOW	64.96	325.0	10	37	-2						20	32 SCS
QUETTA	65.26	288.6	10	39	-2	19	26	5				
EUREKA	65.48	58.1	10	42	0				10	55		
NURMIJARVI	66.09	334.1	10	45	-1							
HELSINKI	66.26	333.7	10	46	-1							
SKALSTUGAN	66.90	341.2	10	50	-1							
SALT LAKE C.	67.09	54.9	10	54	1							
PASADENA	67.48	63.8	10	55	0				11	7		
BOULDER CITY	68.40	60.4	11	1	0				11	13		
FLAMING GRGE	68.40	53.4	11	0	-1							
BOMBAY	68.47	275.5	10	57	-4	19	58	-1			13	26 PP
UPPSALA	68.70	336.7	11	2A	-1							
UINTA BASIN	68.70	54.0	11	2	-1						11	24
GLEN CANYON	69.73	57.8	11	8	-1							
BERGEN	71.25	342.7	11	19	1							
TIFLIS	71.28	310.5	11	9	-9							
GOLDEN	71.50	52.2	11	20	0	20	46	11				
TEHERAN	71.61	302.2	11	22A	2							
TONTO FOREST	71.71	59.7	11	21	0				11	34	11	41 PCP
GORIS	71.98	308.0	11	23	1						13	13

BRISBANE	72.05	178.1	11	20	-3							
GOTEBORG	72.08	338.2	11	22A	-1							
TUCSON	73.35	61.0	11	31	0				11	45	13	31
COPENHAGEN	73.71	336.9	11	34A	1							
WARSAW	73.95	330.5	11	36	2	21	6	3				
ALBUQUERQUE	74.15	56.4	11	34	-1				11	46		
SIMFEROPOL	74.34	318.8	11	36A	0	21	12	5			11	49 PCP
LWOW	74.82	327.5	11	40	1	21	13	0			12	4 PCP
SHIRAZ	75.05	296.9	11	40A	0	21	16	1	11	53	11	59 *SP
KRAKOW	76.15	329.9	11	47	0							
CHORZOW	76.28	330.5	11	47	0						12	0 PCP
RACIBORZ	76.73	330.8	11	51	1						12	0 PCP
SKALNATE PL.	76.76	329.2	11	51	1						12	32 PCP
COLLMBERG	77.38	334.4	11	54A	0				12	7		
HALLE	77.52	335.1	11	54	0				12	7		
PRAGUE	78.00	333.0	11	58	1							
PRUHONICE	78.04	332.8	11	57	0	21	51	3				
JENA	78.13	335.0	11	58	0	21	52	3				
MUNSTER	78.33	337.7	11	59	0							
RIVERVIEW	78.45	179.7									21	59
WICHITA MTS.	78.84	51.8	12	1	-1							
VIENNA-H.	78.92	330.9	12	3	1	21	43	-14				
KASPERSKE H.	79.09	333.0	12	4A	1						13	52
BENSBERG	79.37	337.6	12	5	0							
TULSA	79.49	49.3	12	4A	-1							
ISTANBUL UN.	79.74	319.2	12	7A	0	22	11	5				
CANBERRA	79.95	181.5	12	12	4							
FLORISSANT	80.09	44.0	12	8	0				12	21		
UCCLE	80.25	339.1	12	11	2							
BELGRADE	80.32	326.6	12	11	1	22	18	6			23	16 PPS
KEW	80.73	342.2	12	12	0	22	21	5				
STUTTGART	80.74	335.3	12	12	0							
KARLSRUHE	80.78	336.0	12	24A	12							
DOURBES	80.83	338.7	12	11	-1	22	30	13				
OTTAWA	81.03	31.2	12	12	-1							
STRASBOURG	81.35	336.2	12	16	1							
LJUBLJANA	81.46	330.9	12	15A	-1							
BREBEUF	81.70	29.8	12	17K	0				12	30		
KSARA	81.86	310.3	12	18	0							
TRIESTE	82.07	331.1	12	18A	-1	22	33	3			12	24 PCP
VALENTIA	82.08	348.3	12	20	1							
TOOLANGI	82.32	184.2	12	20	0						12	52
PARIS	82.55	339.5	12	23A	2							
PADOVA	82.91	332.2									11	16
FOLINIERE	83.30	341.3	12	27	2							
JERUSALEM	83.77	309.4	12	29	1							
GARCHY	83.82	338.5	12	28A	0							
MORGANTOWN	84.22	36.9	12	30K	0						14	19
ROSELEND	84.30	335.6	12	33	3							
ATHENS	84.62	320.7	12	30	-2							
CUMBERLAND	84.96	42.9	12	33	-1	23	0	1			13	24
AQUILA	85.08	329.7	12	34	0	23	12	12				
CLERMONT-FD.	85.21	337.9	12	35	0							
PALISADES	85.48	32.3	12	36	0	23	12	8	12	49		
KARAPIRO	85.51	160.6	12	35	-1				12	47		
ISOLA	85.54	334.7	12	38	2							
ROME	85.80	330.1	12	39	1	23	12	5			32	58 SSS
MONACO	85.84	334.3	12	37	-1							
BLACKSBURG	86.03	38.6	12	38	-1							
BANGUI	114.93	305.4	18	49	11						19	55 PP
BOGOTA	116.43	51.7									20	9 PP
HUANCAYO	128.86	64.9	19	7	2							
LA PAZ	136.77	61.6	19	22	2							
SANTA LUCIA	146.24	84.6	19	38	2							

OCTOBER 14 13.H 21.M 37.S EPICENTRE 44.79 151.13 DEPTH= 0.KM

A=-0.62355 B= 0.34382 C= 0.70212 D= 0.4829 E= 0.8757
G=-0.6148 H= 0.3390 K=-0.7121 HT= -3.5

SE= 2.81

	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
NEMURO	4.26	251.9	1	7	-1	1	52	-7				
ABASHIRI	4.97	263.5	1	21K	3							
KUSIRO	5.19	251.9	1	20	-1	2	17	-5				

OBIHIRO	6.03	254.7	1 34	1			
HIROO	6.20	248.9	1 35	0	2 40	-8	
Y.-SAKHLINSK	6.28	293.8	1 37A	1	2 44	-6	
ASAHIGAWA	6.37	263.9	1 35K	-3			
URAKAWA	6.62	249.4	1 41	0	2 51	-7	
WAKKANAI	6.72	278.7	1 46	3	3 7	6	
RUMOE	6.87	266.3	1 46A	1	2 4	-60	
TOMAKOMAI	7.25	256.0	1 56	6			
SAPPORO	7.27	259.7	1 50	0	3 8	-6	
UGLEGORSK	7.54	307.9	1 56A	2	3 24	3	
MURORAN	7.77	255.0	1 56	-1	3 16	-11	
HAKODATE	8.13	252.1	2 1	-1	3 26	-10	
SUTTSU	8.13	259.7	1 53	-9			
HATINOHE	8.25	242.3	2 11	7	3 27	-12	
MIYAKO	8.52	236.1	2 9	1	3 32	-14	
AOMORI	8.58	246.1	2 10	1	3 35	-12	
MORIOKA	8.96	238.9	2 12	-2	3 44	-13	
MIZUSAWA	9.35	236.2	2 18A	-1	3 51	-15	
PETROPAVLOVK	9.60	28.3	2 20A	-3			4 53
AKITA	9.62	242.0	2 41	18			
ISINOMAKI	9.71	232.5	2 19	-5	4 0	-15	
SENDAI	10.06	233.2	2 30	1	4 9	-15	
SAKATA	10.28	239.0	1 35	-57			
YAMAGATA	10.39	234.7	2 30	-4	4 17	-15	
HUKUSIMA	10.66	232.4	2 33	-4	4 29	-10	
ONAHAMA	11.01	228.2	2 47	5	4 32	-15	
SHIRAKAWA	11.25	230.8	2 40	-5	4 39	-14	
NIIGATA	11.37	237.1	2 57	10			
MITO	11.66	227.6	2 47	-4	4 48	-15	
AIKAWA	11.79	239.5	2 51K	-2			
UTUNOMIYA	11.86	229.9	2 48	-6	4 50	-18	
KAKIOKA	11.93	228.0	2 44	-11	4 55	-15	
TAKADA	12.39	236.1	2 47	-14	4 53	-28	
MAEBASI	12.41	231.7	2 57	-4	5 12	-9	
KUMAGAYA	12.42	230.0	2 57	-4	5 10	-11	
TITIBU	12.71	230.3	3 3	-2	5 20	-8	
NAGANO	12.71	234.8	3 4	-1			
OIWAKE	12.75	232.8	3 5	-1			
MATUSIRO	12.80	234.4	3 2K	-4	5 17	-14	
YOKOHAMA	12.82	227.1	3 12	6			6 14
WAZIMA	13.03	240.3	3 9	0			
KLYUCHI	13.08	24.6	3 20	10			6 33
MERA	13.12	225.2	3 19	8			
MATUMOTO	13.14	234.0	3 16	5	5 27	-12	
KOHU	13.22	230.8	3 16	4	5 31	-10	
HUNATU	13.23	229.7	3 8	-4	5 20	-21	
TOYAMA	13.28	237.3	3 16	3			
AJIRO	13.40	227.6	3 11	-3	5 27	-18	
MISIMA	13.42	228.2	3 15	1	5 26	-20	
SHIZUOKA	13.83	229.2	3 34	14			5 43
HUKUI	14.30	237.5	3 41	15			
HAMAMATU	14.39	230.2	3 36	9			
GIHU	14.43	234.4	3 26	-2			
NAGOYA	14.48	233.3	3 25	-3			
TSURUGA	14.67	236.7	3 29	-2			
MAGADAN	14.79	359.3	3 31A	-1			6 29
HIKONE	14.82	235.2	3 31	-2	6 37	18	
KAMEYAMA	14.99	233.6	3 34	-1	6 58	35	
KYOTO	15.30	235.7	3 36	-3			
NARA	15.48	234.5	3 39	-2			
ABUYAMA	15.50	235.6	3 38	-4	6 48	13	
TOYOOKA	15.50	239.0	3 41	-1	6 37	2	
OSAKA	15.68	235.1	3 39	-5	6 20	-19	4 6
OWASE	15.71	232.2	3 45	1			
SUMOTO	16.26	235.6	3 55A	3	7 5	12	
SIOMISAKI	16.41	231.6	4 14	21	7 16	20	
YONAGO	16.47	241.6	3 53	-1			
MATSUE	16.64	242.1	3 56	0			
TORISIMA	16.64	214.5	3 59	3	7 23	22	
TOKUSIMA	16.64	235.6	3 57	1			
TAKAMATU	16.78	237.3	3 59	1	7 30	25	
MUROTO	17.46	234.5	3 52	-15	7 37	17	
HAMADA	17.62	242.5	4 8K	-1	7 30	6	
KOTI	17.63	236.5	3 47	-22			9 5
HIROSIMA	17.74	240.5	4 11	1	7 19	-8	
MATUYAMA	17.88	238.6	4 14	2	7 16	-14	
OOITA	19.00	239.3	4 29A	3	7 30	-25	
HUKUOKA	19.54	242.2	4 32	0	8 7	0	

ASOSAN	19.56	239.5	4 33	1						
SAGA	19.81	241.6	4 36	1					9 52	
KUMAMOTO	19.85	240.0	4 35	0	8 21	7				
MIYAZAKI	20.03	236.8	4 38	0	8 38	20				
UNZENDAKE	20.18	240.5	4 38	-1						
NAGASAKI	20.41	241.1	4 42K	0	8 37	11				
KAGOSIMA	20.80	237.6	4 47	1	8 44	10				
YAKUTSK	21.29	331.7	4 46A	-5						
YAKUSIMA	21.64	235.6	4 55	1	9 4	14				
MAWASHI	26.43	233.4	5 42	2					6 4	
TIKSI	28.97	345.6	6 0A	-3	10 40	-14			6 47	PP
ULAN-BATOR	30.37	291.9	6 14	-2						
TAIPEI	31.01	240.4	6 38	16						
IRKUTSK	31.42	300.7	6 23	-2					7 40	PPP
HSINKONG	32.53	238.2	6 37	2						
ALISHAN	32.57	239.4	6 45	10						
TAITUNG	32.93	238.1	6 46	8						
TAWU	33.38	237.9	7 3	21						
HONG KONG	37.64	245.7	7 19	0	12 55	-14				
ESEN BULAK	37.78	292.5	7 19A	-1						
BAGUIO CITY	38.21	232.1	7 22	-1	13 1	-17				
COLLEGE	38.55	36.8	7 26	0						
MANILA	39.36	229.8	7 34	1	13 58	23				
PHU-LIEN	43.69	251.7			14 38	-1			18 6	SCS
SITKA	45.72	47.1	8 27	2						
SEMIPALATNSK	46.47	303.5	8 28	-3						
MOULD BAY	46.92	19.1	8 35	1						
KIPAPA	47.64	102.1	8 41	1						
HONOLULU	47.66	102.3	8 42	2	15 27	-9				
RABAUL	48.78	178.6	8 48K	-1	16 1	9				
HAWAII V.OB.	50.88	101.7	9 6	1						
SHILLONG	50.94	268.6	9 5K	0						
ALMATA-2	51.32	296.1	9 9A	1						
ALERT	51.84	5.3	9 11A	-1						
CHITTAGONG	52.99	265.5	9 20	-1	16 47	-3				
FRUNSE	53.29	296.8	9 23A	0	16 55	1				
YELLOWKNIFE	53.33	35.3	9 21	-2						
CHATRA	53.52	273.2	9 26A	1	16 55	-2			17 16	
PORT MORESBY	54.05	184.9	9 28K	-1	16 54	-10				
SVERDLOVSK	54.33	317.4	9 28K	-3	16 57	-11			20 35	SS
HONIARA	54.55	169.3	9 30K	-2						
CALCUTTA	55.33	268.2	9 46	8	17 16	-5				
VICTORIA	55.81	53.3	9 40K	-1						
BOKARO	56.34	271.2	9 46	1	17 34	-1			24 15	
SEATTLE	56.90	53.7	9 55	6						
TASHKENT	57.46	297.8	9 53A	0	17 50	0			10 51	PCP
DEHRA DUN	57.87	282.3	9 57A	1	17 51	-4			10 27	
KHOROG	58.15	292.9	9 58A	0	17 58	-1				
EDMONTON	58.58	44.3	10 1K	0						
APATITY	58.59	336.5	9 59A	-2	18 1	-4			13 24	PPP
KEVO	58.72	340.3	10 0A	-2	18 1	-5			13 38	PPP
NEW DELHI	59.50	281.2	10 6A	-1	18 11	-5				
PORT BLAIR	59.57	255.4	10 7K	-1	18 16	-1				
LAHORE	59.71	285.7	10 8	-1	18 16	-3				
WARSAK DAM	60.14	289.6	10 11	-1						
SODANKYLA	60.57	338.5	10 12A	-3					39 22	PKPPKP
TROMSOE	60.65	342.7	10 13	-2					10 41	
UKIAH	61.10	62.4	10 19	1			10 33			
HUNGRY HORSE	61.12	49.4	10 17	-2			10 34			
BLUE MTS.	61.34	54.1	10 20K	0	18 43	3	10 36		12 57	PP
MINERAL	61.40	60.4	10 20K	0						
KIRUNA	61.75	340.9	10 21A	-2	18 37	-8				
LUGANVILLE	61.76	162.4	10 20A	-3						
CALISTOGA	61.79	62.5	10 23K	0						
BERKELEY	62.45	63.0	10 27K	-1	18 59	5			12 41	PP
KAJAANI	62.72	335.6	10 26A	-3						
SEHORE	62.95	276.5	10 43	12						
LICK	63.16	63.1	10 33K	1						
PARAISO	63.31	64.4	10 37	4						
BUTTE	63.31	50.8	10 33	0			10 48			
BOZEMAN	64.37	50.4	10 38	-2						
PRIEST	64.52	63.7	10 41K	0						
CHARTERS TS.	64.72	185.1	10 40	-2	19 12	-10				
SCORESBY SD.	64.93	357.4	10 43K	-1						
KAP TOBIN	65.00	357.4	10 44A	0						
UMEA	65.01	338.3	10 42A	-2	19 19	-7				
PULKOVO	65.10	331.4	10 43A	-2	19 19	-8			13 5	PP
MOSCOW	65.27	325.2	10 43A	-3	19 21	-8			12 53	PP
EUREKA	65.37	58.2	10 47	0	19 27	-3	11 3		13 27	PP

QUETTA	65.56	288.9	10	48K	0	19	28	-5						
KOUMAC	66.13	166.5	10	51K	0									
ASHKABAD	66.25	300.4	10	53	1	19	42	1						
NURMIJARVI	66.38	334.3	10	51A	-2	19	37	-6				13	13	PP
HELSINKI	66.55	333.9	10	53	-1									
DUGWAY	66.81	56.0	10	55K	-1									
SALT LAKE C.	67.01	55.0	10	57	0									
SKALSTUGAN	67.16	341.4	10	56A	-2				11	11				
PASADENA	67.35	64.0	10	59	0	19	55	1	11	13				
AFIAMALU	67.43	140.6	10	59K	-1	19	53	-2						
MADRAS	67.45	266.0	11	0	0	19	54	-2				13	28	PP
NOUMEA	68.22	164.7	11	5K	0									
POONA	68.25	274.8	11	5A	0	20	1	-4						
BOULDER CITY	68.29	60.6	11	6	1				11	21				
FLAMING GRGE	68.33	53.5	11	5	0									
PRICE	68.36	55.4	11	6K	0									
UINTA BASIN	68.62	54.1	11	7K	0	20	10	0	11	26		39	11	PKPPKP
BOMBAY	68.74	275.8	11	11	3	20	4	-7				20	52	
UPPSALA	68.98	336.9	11	7A	-2	20	5	-9	11	22				
RAPID CITY	69.63	47.7	11	13	0									
LARAMIE	70.22	51.2	11	17	0									
KONGSBERG	71.22	340.5	11	23A	0	20	34	-6	11	32				
GOLDEN	71.43	52.3	11	25	1	20	45	3						
TONTO FOREST	71.59	59.9	11	26K	1	20	45	1	11	42		13	57	PP
TIFLIS	71.60	310.8	11	26	1	20	45	1						
BRISBANE	71.85	178.5	11	26	-1							17	50	
TEHERAN	71.92	302.5	11	29A	2	20	49	1						
GORIS	72.30	308.3	11	30A	1	20	54	2				14	9	PP
GOTEBORG	72.35	338.4	11	29A	-1				11	43				
KARLSKRONA	72.68	335.8	11	27	-5				11	42				
TUCSON	73.24	61.2	11	35K	0				11	51				
COPENHAGEN	73.99	337.1	11	38A	-1	21	10	-2						
ALBUQUERQUE	74.06	56.5	11	40	0				11	56				
WARSAW	74.25	330.7	11	39	-2	21	11	-3				22	5	PPS
SIMFEROPOL	74.65	319.0	11	43A	0	21	16	-3				11	56	PCP
LWOW	75.12	327.7	11	46	0	21	19	-5				12	1	PCP
SHIRAZ	75.36	297.2	11	47A	0	21	20	-7				14	37	PP
SCHEFFERVLLE	75.67	21.5	11	48K	-1									
IASI	75.81	324.1	11	50A	0	21	30	-2				12	29	
KRAKOW	76.44	330.1	11	54	1	21	37	-2						
BACAU	76.59	324.1				22	7	27						
RACIBORZ	77.02	331.0	11	57	0							12	12	PCP
SKALNATE PL.	77.06	329.4	12	6	9									
FOCSANI	77.16	323.4				21	51	5						
LAWRENCE	77.45	47.0	11	57	-2									
COLLMBERG	77.67	334.6	12	0A	0	21	48	-4						
WITTEVEEN	78.09	338.9	12	3	0									
DURHAM	78.14	344.2	12	1K	-2	21	50	-7				12	16	PCP
RIVERVIEW	78.25	180.0	12	4K	1	22	5	7				22	53	PS
PRAGUE	78.29	333.2	12	4	0									
PRUHONICE	78.33	333.1	12	4	0	21	52	-7						
CAMPULUNG	78.41	324.4				22	3	3						
JENA	78.42	335.2	12	4	0	21	53	-7						
MUNSTER	78.61	338.0	12	6	1									
BUCHAREST	78.65	323.2				22	1	-1						
WICHITA MTS.	78.77	52.0	12	6	0	22	1	-3	12	23		15	32	PP
VIENNA-H.	79.21	331.1	12	10	1							14	59	PP
KASPERSKE H.	79.38	333.2	12	9A	-1							13	45	
TULSA	79.43	49.4	12	9K	-1	22	3	-8						
TIMISOARA	79.55	326.9	12	13	3							22	10	
BENSBERG	79.64	337.8	12	11A	0				12	26				
CANBERRA	79.76	181.8	12	13K	1	22	19	5						
ISTANBUL UN.	80.06	319.4	12	15A	2	22	19	2						
FAYETTEVILLE	80.16	48.3	12	13	-1									
ADELAIDE	80.18	190.3	12	14K	0				12	30		22	23	
ANN ARBOR	80.44	37.9	12	16	1									
UCCLE	80.52	339.4	12	15	-1									
HEIDELBERG	80.62	336.2	12	16	0									
BELGRADE	80.62	326.8	12	17A	1	22	21	-2				12	32	PCP
LONDON ONT.	80.89	36.0	12	17	-1									
KEW	80.99	342.4	12	20	2	22	22	-5						
STUTTGART	81.02	335.6	12	19	1	22	25	-2						
KARLSRUHE	81.06	336.2	12	21	2									
OTTAWA	81.07	31.4	12	16K	-3									
DOURBES	81.10	338.9	12	17	-2	22	28	0						
SCARBOROUGH	81.13	34.4	12	19	0									
SHAWINIGAN	81.14	29.0	12	18K	-1									
SOFIA	81.22	323.9	12	23	4	22	29	0				12	52	
SEVEN FALLS	81.30	27.5	12	18	-2									

TUBINGEN	81.30	335.6	12	21	1								
ZAGREB	81.44	330.1	12	21A	0	22	30	-2					
STRASBOURG	81.63	336.4	12	24A	2	22	33	-1			28	35	
LJUBLJANA	81.75	331.1	12	23	1						15	29	PP
BREBEUF	81.75	30.0	12	21K	-1	22	30	-5					
TOOLANGI	82.14	184.5	12	25	1				12	41	13	4	
KSARA	82.18	310.5	12	28	4	22	41	2					
WELSCHBRUCH	82.19	337.2	12	24	0								
FELDBERG	82.20	335.9	12	25	1								
VALENTIA	82.33	348.5	12	26	1								
TRIESTE	82.36	331.4	12	24	-1	22	35	-6			28	3	SS
MUNDARING	82.74	209.4	12	26	-1	22	41	-4					
PARIS	82.83	339.7	12	30	2								
TITOGRAD	83.10	326.3	12	31	2	22	46	-3					
PADOVA	83.21	332.4	12	36	6	22	48	-2					
BESANCON	83.35	336.9	12	31	1								
FOLINIERE	83.57	341.5	12	33	1								
JERUSALEM	84.09	309.6	12	36A	2								
GARCHY	84.10	338.8	12	36K	2								
PENNSYLVANIA	84.13	35.2	12	29K	-5								
MORGANTOWN	84.23	37.1	12	35A	0				12	51			
PAVIA	84.28	334.0	12	42	7	23	9	9			20	12	
PRATO	84.82	332.2	12	51	13	22	58	-8					
FLORENCE X.	84.85	332.1	12	43	5	23	11	5			29	55	
CUMBERLAND	84.94	43.1	12	37	-1	23	10	3	12	54	15	44	PP
KARAPIRO	85.24	160.9	12	40	0								
AQUILA	85.37	330.0	12	44	3	23	6	-5	13	40	15	59	PP
CLERMONT-FD.	85.48	338.2	12	43	2								
PALISADES	85.52	32.5	12	41	0	23	7	-6					
HALIFAX	85.78	24.1	12	44A	1								
ISOLA	85.83	335.0	12	45	2	23	13	-3					
BLACKSBURG	86.03	38.8	12	44	0								
WASHINGTON	86.06	35.7	11	45	-59				12	1	17	1	
ROME	86.10	330.4	12	45	1	23	11	-7			24	29	PS
MONACO	86.12	334.5	12	46	2								
CHATEAU	86.45	161.2	12	54	8								
TARRALEAH	86.81	183.5	12	49	1								
MOORLANDS	86.92	182.9	12	49	1								
CHAPEL HILL	87.71	38.6	12	53	1								
MESSINA	88.18	326.5	12	55A	1	23	28	-10	13	9	16	30	PP
WELLINGTON	88.27	162.4	12	54	-1	23	23	-16			16	23	PP
ROXBURGH	91.32	167.3	13	10	1	23	41	-25					
TOLEDO	92.80	341.1	13	16A	0	23	50	-30	13	19	17	10	PP
ALICANTE	93.36	338.0	13	20	2	24	27	3					
ALMERIA	95.30	339.0	13	29	2						16	57	PP
MALAGA	95.90	340.5	13	32	2	24	13	7					
LWIRO	114.07	292.4	18	57	16						19	39	PP
CARACAS	115.11	42.0									19	37	PP
BOGOTA	116.36	52.1	19	53	67						35	59	SS
TRINIDAD	117.47	36.6	18	48	0								
CAPE HALLETT	117.57	173.5	18	47	-1						20	1	
MIRNY	119.54	203.0	18	51	-1						20	34	PP
SCOTT BASE	122.75	176.1	18	57	-1								
BULAWAYO	126.87	278.0	19	7	1								
NANA	127.69	66.7	19	8	0								
CHANGALANE	128.21	269.4	19	10K	1								
HUANCAYO	128.72	65.3	19	10	0								
MAWSON	129.80	209.9	19	11K	-1				19	27	22	31	SKP
BANDEIRA	133.59	296.3	19	18A	-1				19	36	21	48	PP
BYRD STATION	133.63	166.1	19	7	-12								
AREQUIPA	134.47	65.6	19	23	2								
SOUTH POLE	134.60	180.0	19	5	-16						19	21	
KIMBERLEY	134.95	272.0	19	23	1								
LA PAZ	136.64	62.2	19	26	1						22	47	PKS
SANTA LUCIA	146.01	85.1	19	43	2								
N-LAZARVSKYA	147.28	203.6	19	43A	0						23	12	PP
ARGENTINE I.	151.79	148.9	19	56	6						22	1	

OCTOBER 14 17.H 50.M 16.S EPICENTRE 45.57 151.32 DEPTH= 48.KM

A=-0.61631 B= 0.33715 C= 0.71168 D= 0.4799 E= 0.8773
G=-0.6244 H= 0.3416 K=-0.7025 HT= -3.8

DEPTH OF FOCUS= 0.002R

SE= 1.80

	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
Y.-SAKHLINSK	6.13	286.8	1	29	-1							
UGLEGORSK	7.20	302.5	1	48K	3							
PETROPAVLOVK	8.86	30.0	2	8	0							
MIZUSAWA	9.91	233.1	2	17	-5	3	59	-14				
MATUSIRO	13.37	232.2	3	2K	-7	5	24	-13				
ABUYAMA	16.06	233.8	3	38	-6							
YAKUTSK	20.67	330.5	4	37	-1	8	31	10				
TIKSI	28.26	345.2	5	48K	-3							
COLLEGE	37.85	37.4	7	14	0							
BAGUIO CITY	38.79	231.5	7	19	-3							
MOULD BAY	46.14	19.4	8	22	1							
ALERT	51.06	5.4	8	59	0							
SHILLONG	51.10	268.1	8	59A	-1							
ALMATA	51.37	295.8	9	1	-1							
RESOLUTE	52.36	17.9	9	9K	0							
YELLOWKNIFE	52.62	35.7	9	11	0							
CHITTAGONG	53.18	265.1	9	23	8							
CHATRA	53.62	272.7	9	19A	0							
SVERDLOVSK	53.85	317.1	9	18	-2							
TASHKENT	57.22	297.5	9	44	-1							
DEHRA DUN	57.84	282.0	9	49A	0							
APATITY	57.93	336.4	9	49K	-1							
EDMONTON	57.94	44.7	9	50K	0							
KEVO	58.04	340.2	9	49	-1							
NEW DELHI	59.49	280.9	9	58A	-2							
LAHORE	59.63	285.4	10	1	0							
PORT BLAIR	59.90	255.1	10	2A	-1							
SODANKYLA	59.90	338.4	10	2	-1							
TROMSOE	59.95	342.6	10	3	-1							
WARSAK DAM	60.01	289.3	10	4	0							
HUNGRY HORSE	60.51	49.8	10	13	6							
BLUE MTS.	60.77	54.6	10	9	0						10	36
KIRUNA	61.06	340.9	10	10A	-1							
KAJAANI	62.07	335.5	10	17K	-1						10	57
BOZEMAN	63.77	50.8	10	28	-1							
VIBORG	64.27	332.6	10	31	-1							
UMEA	64.34	338.2	10	32	-1				10	45		
EUREKA	64.85	58.7	10	36	0				10	52	11	1 *SP
QUETTA	65.44	288.7	10	40	0				10	50		
CHARTERS TS.	65.50	185.2	10	37	-3							
NURMIJARVI	65.74	334.2	10	41K	-1							
HELS+NKI	65.91	333.8	10	42	-1							
VANNOVSKAYA	66.13	300.3	10	48	4							
DUGWAY	66.26	56.3	10	45K	0							
KIZYL-ARVAT	66.43	302.4	10	47A	1							
SKALSTUGAN	66.47	341.3	10	47	0							
BOULDER CITY	67.79	60.9	10	55	0							
UINTA BASIN	68.06	54.5	10	57	1							
POONA	68.32	274.7	10	57K	-1							
UPPSALA	68.32	336.9	10	57A	-1							
RAPID CITY	69.01	48.1	11	1	-1							
BERGEN	70.82	342.9	11	14	1							
TONTO FOREST	71.09	60.2	11	15	0						12	32
TIFLIS	71.20	310.7	11	17	1							
TEHERAN	71.62	302.4	11	19	1							
GOTEBORG	71.68	338.4	11	18A	-1							
BAKURIANI	71.87	311.4	11	21	1							
GORIS	71.92	308.2	11	21	1							
TUCSON	72.75	61.5	11	25	0							
COPENHAGEN	73.33	337.1	11	28A	0							
ALBUQUERQUE	73.52	56.9	11	29	0							
SIMFEROPOL	74.15	319.0	11	34	1							
KISHINEV	74.88	323.3	11	37A	0							
SCHEFFERVLLE	74.90	21.7	11	37	0							
SHIRAZ	75.12	297.1	11	39A	0	21	8	-4				
KRAKOW	75.84	330.1	11	43	0							
RACIBORZ	76.41	331.1	11	47	1						12	6 PCP
COLLMBERG	77.02	334.6	11	50	1				12	4		
HALLE	77.16	335.3	11	50	0							
WITTEVEEN	77.42	338.9	11	53	1							
PRUHONICE	77.70	333.1	11	53A	0							
JENA	77.77	335.3	11	53	-1							
MUNSTER	77.94	338.0	11	56	1							
WICHITA MTS.	78.19	52.2	11	55	-1							
VIENNA-H.	78.60	331.1	12	0	2							
KASPERSKE H.	78.75	333.2	12	0	1							

BENSBERG	78.98	337.8	12	2A	2							
ISTANBUL UN.	79.55	319.5	12	4	1							
UCCLE	79.85	339.4	12	2	-3							
KEW	80.29	342.5	12	8	1							
STUTTGART	80.37	335.6	12	8	0							
DOURBES	80.43	339.0	12	6	-2							
STRASBOURG	80.98	336.5	12	12	1						12	52
BREBEUF	81.01	30.2	12	11K	0							
TRIESTE	81.75	331.4	12	14	-1							
PARIS	82.15	339.8	12	19K	2							
FOLINIERE	82.87	341.6	12	22	1							
GARCHY	83.43	338.9	12	24A	1							
CUMBERLAND	84.29	43.3	12	27	-1							
AQUILA	84.77	330.1	12	27	-3							
CLERMONT-FD.	84.81	338.3	12	33	3							
ISOLA	85.18	335.1	12	34	2							
KARAPIRO	85.93	161.0	12	34	-2							
TOLEDO	92.11	341.3	13	6K	1				13	16		
N-LAZARVSKYA	148.04	204.0	19	39	2							

OCTOBER 14 21.H 12.M 38.S EPICENTRE 37.49 71.81 DEPTH= 121.KM

A= 0.24827 B= 0.75575 C= 0.60598 D= 0.9501 E=-0.3121
G= 0.1891 H= 0.5757 K=-0.7955 HT= -0.8

DEPTH OF FOCUS= 0.014R

SE= 1.75

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KHOROG	0.23	268.6	0	19A	2	0	32	1				
DZERGETAL	1.79	345.3	0	33	2							
MURGAB	1.89	61.5	0	35	3	0	59	2				
GARM	1.93	322.2	0	34A	1	0	58	0				
OBI-GARM	2.06	306.6	0	35A	1	1	2	1				
FERGANA	2.89	359.5	0	46A	1	1	20	0				
ANDIJAN	3.29	7.4	0	52A	1	1	31	1				
WARSAK DAM	3.48	183.6	0	54	1	1	21	-13				
TASHKENT	4.30	333.6	1	4A	0	1	52	-2				
SAMARKAND	4.37	301.4	1	6	1	1	55	-1				
NARYN	5.10	38.1	1	13	-2							
TCHIMKENT	5.10	341.2	1	15	0	2	10	-3			1	40 *SP
FRUNSE	5.75	21.0	1	25A	1	2	28	-1				
LAHORE	6.27	159.9	1	29	-2	2	30	-12				
FABRICHNAYA	6.65	30.6	1	36	0							
ALMATA	6.98	32.5	1	41A	0	3	0	1			3	40
PRZHEVALSK	7.10	43.3	1	42A	0	3	2	0			3	52
ALMATA-2	7.17	34.5	1	42A	-1							
KURMENTY	7.40	39.9	1	45	-1							
CHILIK	7.88	37.6	1	52	0							
QUETTA	8.33	210.4	1	58A	-1	3	28	-4				
DEHRA DUN	8.83	142.3	2	4	-1	3	41	-3			2	11 PP
NEW DELHI	9.96	151.5	2	16A	-5						17	8
ASHKABAD	10.68	276.6	2	27	-3							
VANNOVSKAYA	10.88	276.6	2	31	-2							
KIZYL-ARVAT	12.33	282.7	2	50	-2						5	0
SEMIPALATNSK	14.25	22.4	3	15	-2							
CHATRA	16.77	124.9	3	45A	-3	6	38	-11				
SHIRAZ	17.86	249.7	4	3K	2	7	1	-13				
BOKARO	18.14	134.7	4	7	2	7	11	-9				
POONA	18.97	174.0	4	14A	0							
GORIS	20.03	283.6	4	27K	2	8	4	6				
SHILLONG	20.77	119.1	4	19	-13						8	10
TIFLIS	21.20	289.9	4	40	3							
VISHAKHAPTNM	22.13	149.7	4	49	3	8	49	12				
BAKURIANI	22.16	289.9	4	50	4						9	23
CHITTAGONG	22.90	125.5	4	56	3							
MADRAS	25.50	160.8	5	50	32	10	7	33				
MOSCOW	29.31	319.5	5	54	1							
PORT BLAIR	31.82	138.5	6	18A	3							
KISHINEV	32.85	300.7	6	24K	0							
PULKOVO	34.50	323.7	6	39	1							
APATITY	36.97	336.6	6	59K	0							
HELSINKI	37.17	322.9	7	1	1							
UZHGOROD	37.24	303.5	7	3	2							
KAJAANI	37.31	329.7	7	2K	0						7	45

NURMIJARVI	37.41	323.3	7	3	1				7	41	
ATHENS	37.70	285.9	7	8	3						
SODANKYLA	39.13	334.2	7	17K	0						
UMEA	40.32	327.5	7	27K	0						
UPPSALA	40.70	321.1	7	30K	0						
KIRUNA	41.49	333.4	7	37K	1						
KASPERSKE H.	42.95	304.9	7	23A	-25						
COLLMBERG	43.09	308.2	7	51K	2				9	29	PP
TRIESTE	43.36	299.9	7	52	1						
GOTEBORG	43.46	317.6	7	52K	0						
SKALSTUGAN	43.75	326.1	7	55	1				9	38	PP
JENA	44.02	307.8	7	58	1				8	28	
FOLINIERE	52.09	307.0	9	0	1						
BANGUI	58.59	249.3	9	44	-2				11	21	
CHILEKA	63.22	220.3							10	50	
MOULD BAY	66.34	2.9	10	37K	0						
COLLEGE	73.36	16.5	11	20	0						
YELLOWKNIFE	80.23	3.0	11	59	1						

OCTOBER 15 8.H 0.M 6.S EPICENTRE 45.08 151.15 DEPTH= 0.KM

A=-0.62054 B= 0.34187 C= 0.70573 D= 0.4825 E= 0.8759
G=-0.6181 H= 0.3405 K=-0.7085 HT= -3.6

SE= 1.76

	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
Y.-SAKHLINSK	6.18	291.3	1	37	2	2	31	-16				
PETROPAVLOVK	9.34	29.1	2	17	-2							
MIZUSAWA	9.52	234.9	2	21	-1	4	0	-11				
MATUSIRO	12.98	233.4	3	7	-2	5	43	8				
MAGADAN	14.49	359.3	3	30	1							
ABUYAMA	15.68	234.8	3	43A	-1							
ULAN-BATOR	30.28	291.4	6	14	-1							
COLLEGE	38.31	37.1	7	26	2							
MOULD BAY	46.64	19.2	8	32	0							
SHILLONG	50.96	268.4	9	6	0							
ALMATA-2	51.20	295.9	9	9K	2							
ALERT	51.55	5.3	9	9A	-1							
RESOLUTE	52.85	17.7	9	18	-2							
FRUNSE	53.17	296.6	9	23K	1							
SVERDLOVSK	54.13	317.3	9	29	0							
TASHKENT	57.34	297.7	9	52	-1							
EDMONTON	58.36	44.5	9	59	-1							
NEW DELHI	59.46	281.1	10	6K	-1							
LAHORE	59.64	285.6	10	9	0							
WARSAK DAM	60.06	289.4	10	11	0							
SODANKYLA	60.31	338.5	10	12	-1							
TROMSOE	60.37	342.6	10	13	-1							
BLUE MTS.	61.15	54.3	10	19	0						10	58
MINERAL	61.24	60.5	10	19A	0							
KIRUNA	61.48	340.9	10	20	-1							
KAJAANI	62.46	335.6	10	27	-1							
EUREKA	65.21	58.4	10	46	0				10	58	11	2 *SP
QUETTA	65.48	288.8	10	48	1	19	29	-3				
NURMIJARVI	66.12	334.2	10	49	-2							
VANNOVSKAYA	66.27	300.4	10	53	1							
HELSINKI	66.29	333.8	10	48	-5							
KIZYL-ARVAT	66.58	302.5	10	57K	3							
SKALSTUGAN	66.89	341.3	10	55	-1							
BOULDER CITY	68.13	60.7	11	6	2				11	17		
UINTA BASIN	68.44	54.2	11	6	0						13	42 PP
UPPSALA	68.72	336.9	11	6	-2							
GLEN CANYON	69.46	58.0	11	12	0							
GOLDEN	71.24	52.4	11	26	3							
KIROVOBAD	71.33	309.1	11	24K	0							
TIFLIS	71.42	310.7	11	25	1							
TONTO FOREST	71.44	60.0	11	25	1				11	38	14	4 PP
TEHERAN	71.78	302.4	11	28	1							
GOTEBORG	72.09	338.3	11	27	-1							
BAKURIANI	72.10	311.4	11	30	2							
GORIS	72.13	308.2	11	29A	0	20	54	3				
ALBUQUERQUE	73.89	56.6	11	39	0							
LWOW	74.89	327.7	10	47	-58							
KISHINEV	75.19	323.3	11	47K	1							
SHIRAZ	75.24	297.1	11	47	0	21	14	-12	11	59	14	34 PP

SCHEFFERVLLE	75.40	21.6	11	48	0							
UZHGOROD	76.51	327.9	11	54	0							
RACIBORZ	76.78	331.0	11	55	0					12	7	PCP
SKALNATE PL.	76.81	329.4	11	56	0					12	8	PCP
COLLMBERG	77.41	334.6	11	59K	0	12	10					
HALLE	77.55	335.3	11	59	-1	12	11					
WITTEVEEN	77.82	338.9	12	3	2							
PRUHONICE	78.07	333.0	12	2	-1							
JENA	78.16	335.2	12	3	0							
MUNSTER	78.35	337.9	12	4	0							
WICHITA MTS.	78.58	52.0	12	6	1					12	29	
BRATISLAVA	78.78	330.6	12	8	2							
VIENNA-H.	78.97	331.1	12	8	1					12	22	PCP
KASPERSKE H.	79.13	333.2	12	8	0							
TULSA	79.23	49.5	12	20	11							
BENSBERG	79.38	337.8	12	11	1	12	22					
BELGRADE	80.39	326.8	12	15	0					12	27	PCP
KEW	80.72	342.4	12	17	0							
STUTTGART	80.76	335.6	12	17	0							
OTTAWA	80.82	31.4	12	16	-1							
DOURBES	80.84	338.9	12	16	-1							
STRASBOURG	81.37	336.4	12	21	1							
BREBEUF	81.49	30.1	12	20K	-1			12	32			
FOLINIERE	83.29	341.5	12	31	1							
JERUSALEM	83.91	309.6	12	35	2							
ATHENS	84.72	320.9	12	38	1							
CUMBERLAND	84.72	43.2	12	37	0							
CLERMONT-FD.	85.22	338.2								13	24	
PALISADES	85.26	32.5	12	39	-1	12	52					
ISOLA	85.57	335.0	12	44	2							
BLACKSBURG	85.79	38.8	12	43	0							
N-LAZARVSKYA	147.55	203.7	19	47	3							

OCTOBER 15 9.H 2.M 5.S EPICENTRE 45.33 150.18 DEPTH= 23.KM

A=-0.61204 B= 0.35078 C= 0.70877 D= 0.4973 E= 0.8676
G=-0.6149 H= 0.3524 K=-0.7054 HT= -3.7

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
MIZUSAWA	9.13	230.5	2	16	3	3	48	-9				
PETROPAVLOVK	9.48	32.7	2	24	6							
MATUSIRO	12.60	230.0	2	59A	-2	5	22	1				
MAGADAN	14.25	1.3	3	20	-2							
ABUYAMA	15.28	231.9	3	36K	0							
ULAN-BATOR	29.55	290.8	6	6	1							
ESEN BULAK	36.96	291.5	7	10	1							
COLLEGE	38.53	37.3	7	25	3							
MOULD BAY	46.63	19.2	8	29K	1							
SHILLONG	50.29	267.5	8	58K	1							
ALMATA-2	50.48	295.2	9	1K	3							
CHATRA	52.83	272.1	9	18A	2							
RESOLUTE	52.83	17.6	9	15	-1							
SVERDLOVSK	53.48	316.8	9	20	-1							
TASHKENT	56.62	297.0	9	44	1							
DEHRA DUN	57.10	281.4	9	50K	3							
EDMONTON	58.67	44.2	9	59K	1							
LAHORE	58.92	284.8	10	1	1							
PORT BLAIR	59.06	254.3	10	2A	1							
WARSAK DAM	59.33	288.8	10	4	2							
SODANKYLA	59.82	338.1	10	8	2							
TROMSOE	59.93	342.3	10	7	0							
KIRUNA	61.02	340.5	10	14	0							
BLUE MTS.	61.56	53.9	10	19K	1							
MINERAL	61.71	60.2	10	20K	1							
KAJAANI	61.95	335.2	10	20	0							
VIBORG	64.11	332.2	10	35	1							
BOZEMAN	64.54	50.1	10	39	2							
QUETTA	64.75	288.1	10	40K	1				10	54		
CHARTERS TS.	65.20	184.1	10	42	0							
VANNOVSKAYA	65.56	299.8	10	46	2							
NURMIJARVI	65.60	333.8	10	46	2							
EUREKA	65.66	57.9	10	45	1							
HELSINKI	65.77	333.4	10	48	3							

KIZYL-ARVAT	65.87	301.9	10	50K	4									
SKALSTUGAN	66.44	340.9	10	50	1									
SALT LAKE C.	67.25	54.7	10	57	2									
POONA	67.54	274.0	10	58A	2									
PASADENA	67.72	63.6	10	58	0									
UPPSALA	68.22	336.4	11	1	0									
FLAMING GRGE	68.54	53.2	11	5	2									
BOULDER CITY	68.60	60.2	11	4	1						11	16		
UINTA BASIN	68.85	53.8	11	6K	1								11	28
GLEN CANYON	69.91	57.6	11	13	2									
LARAMIE	70.40	50.8	11	15	1									
KIROVOBAD	70.64	308.5	11	17K	1									
TIFLIS	70.74	310.1	11	18	2									
TEHERAN	71.07	301.8	11	21	3									
BAKURIANI	71.42	310.8	11	23K	3									
GOLDEN	71.63	51.9	11	23	2									
TONTO FOREST	71.90	59.5	11	25	2						11	36	14	5 PP
TUCSON	73.56	60.8	11	34	1									
SIMFEROPOL	73.80	318.4	11	36	2									
ALBUQUERQUE	74.32	56.1	11	39	2									
SHIRAZ	74.52	296.5	11	40K	2	21	10	-1					14	32 PP
KISHINEV	74.59	322.7	11	39K	0									
SCHEFFERVLLE	75.42	21.1	11	45A	1									
KRAKOW	75.64	329.5	11	47K	2								12	21
RACIBORZ	76.23	330.5	11	48	0									
COLLMBERG	6.89	334.0	11	53K	1						12	5		
HALLE	77.04	334.7	11	54	1	21	49	10						
PRUHONICE	77.54	332.5	11	57	1								12	20
JENA	77.65	334.6	11	58	2									
MUNSTER	77.86	337.4	12	0	3									
VIENNA-H.	78.42	330.5	12	3	3									
KASPERSKE H.	78.60	332.6	12	3K	2									
BENSBERG	78.89	337.2	12	5K	2									
WICHITA MTS.	78.96	51.5	12	5	2									
TULSA	79.59	48.9	12	8K	1									
BELGRADE	79.81	326.2	12	1K	-7								12	10 PCP
STUTTGART	80.25	335.0	12	7	-3									
KEW	80.27	341.8	12	12	2									
ANN ARBOR	80.42	37.4	12	13	2									
LOND-N ONT.	80.85	35.5	12	15	2									
STRASBOURG	80.87	335.8	12	16A	2									
OTTAWA	80.96	30.8	12	14	0									
WELSCHBRUCH	81.43	336.6	12	16	0									
BREBEUF	81.62	29.5	12	19	2									
FOLINIERE	82.84	340.9	12	26	2									
JERUSALEM	83.23	309.0	12	29K	3									
GARCHY	83.35	338.1	12	28K	2									
PENNSYLVANIA	84.07	34.6	12	27A	-3									
ATHENS	84.09	320.3	12	31	1									
MORGANTOWN	84.20	36.6	12	33A	2									
CLERMONT-FD.	84.73	337.5	12	41	8								13	11
CUMBERLAND	85.00	42.6	12	36	1									
ISOLA	85.06	334.3	12	38	3									
PALISADES	85.42	31.9	12	37	0									
HUANCAYO	129.10	64.1	19	11	5									
MAWSON	129.93	210.0	19	9	1									
BANDEIRA	132.75	295.8	19	11	-2									
KIMBERLEY	134.27	271.8											22	24
LA PAZ	136.98	60.7	19	25	4						19	41		
N-LAZARVSKYA	147.50	204.2	19	43	3									

OCTOBER 15 9.H 32.M 4.S EPICENTRE 45.42 150.25 DEPTH= 0.KM

A=-0.61148 B= 0.34945 C= 0.70991 D= 0.4962 E= 0.8682
G=-0.6164 H= 0.3522 K=-0.7043 HT= -3.7

SE= 1.97

	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	1.69	264.4	0	34	3							
UGLEGORSK	6.66	306.2	1	51	9							
MIZUSAWA	9.23	230.3	2	17	0	3	48	-15				
PETROPAVLOVK	9.38	32.8	2	20	0							
MATUSIRO	12.70	229.9	3	0	-5	5	19	-9				
COLLEGE	38.42	37.3	7	27	2							

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	46.53	19.3	8	31K	0							
SHILLONG	50.34	267.5	9	0K	-1							
ALMATA-2	50.49	295.2	9	3K	1							
RESOLUTE	52.72	17.7	9	18K	-1							
CHATRA	52.87	272.1	9	20K	0							
SVERDLOVSK	53.45	316.8	9	24	0							
VICTORIA	55.93	53.2	9	41K	-1							
DEHRA DUN	57.13	281.4	9	51K	0							
APATITY	57.76	336.1	9	2	-53							
KEVO	57.91	339.9	9	55	-1							
EDMONTON	58.56	44.3	10	1K	0							
NEW DELHI	58.77	280.3	10	1K	-1							
WARSAK DAM	59.35	288.7	10	7	1							
SODANKYLA	59.76	338.1	10	8	-1							
TROMSOE	59.86	342.3	10	8	-2							
KIRUNA	60.95	340.5	10	17	0							
BLUE MTS.	61.47	54.0	10	21K	0						15	1 SCP
MINERAL	61.63	60.2	10	21K	-1							
KAJAANI	61.89	335.2	10	23	-1							
CALISTOGA	62.05	62.3	10	24K	-1							
BERKELEY	62.72	62.8	10	29A	0							
BUTTE	63.39	50.6	10	33	-1							
LICK	63.43	63.0	10	34A	0							
PARAISO	63.59	64.2	10	39	4							
VIBORG	64.05	332.2	10	40	2							
UMEA	64.19	337.8	10	38	-1							
BOZEMAN	64.44	50.2	10	38	-3							
QUETTA	64.77	288.1	10	43K	0	19	19	-4				
PRIEST	64.79	63.5	10	43A	0							
CHARTERS TS.	65.29	184.1	10	46	0							
NURMIJARVI	65.54	333.8	10	46	-2							
VANNOVSKAYA	65.55	299.8	10	48	0							
EUREKA	65.57	58.0	10	48	0							
HELSINKI	65.70	333.4	10	47	-2							
KIZYL-ARVAT	65.87	301.9	10	51K	1							
SKALSTUGAN	66.37	340.9	10	51	-2							
SALT LAKE C.	67.15	54.7	10	59	1							
PASADENA	67.63	63.7	10	59	-2							
UPPSALA	68.16	336.4	11	3	-1						11	29 PCP
FLAMING GRGE	68.45	53.3	11	7	1							
BOULDER CITY	68.51	60.3	11	7	1				11	17		
UINTA BASIN	68.75	53.8	11	8K	0						13	41 PP
GLEN CANYON	69.81	57C6	11	15	1							
LARAMIE	70.31	50.9	11	16	-1							
KIROVOBAD	70.63	308.5	11	20	1							
TIFLIS	70.72	310.1	11	20	0							
BERGEN	70.73	342.4	11	20	0							
BAKURIANI	71.40	310.9	11	26	2							
GORIS	71.42	307.6	11	25	1	20	41	-1				
GOLDEN	71.53	52.0	11	25	0							
TONTO FOREST	71.81	59.5	11	27	0				11	38	14	6 PP
TUCSON	73.47	60.8	11	36	0							
ALBUQUERQUE	74.22	56.2	11	41	0						35	38
SHIRAZ	74.52	296.5	11	42K	0				11	51	12	17
SCHEFFERVLLE	75.31	21.1	11	47K	0							
KRAKOW	75.59	329.5	11	48K	0							
UZHGOROD	75.89	327.4	11	51	1							
COLLMBERG	76.83	334.0	11	55	0				12	3		
PRUHONICE	77.48	332.5	12	0	1						12	49
JENA	77.59	334.7	12	0	0							
VIENNA-H.	78.36	330.5	12	5	1							
KASPERSKE H.	78.54	332.6	12	6K	1							
BENSBERG	78.82	337.2	12	6K	0							
WICHITA MTS.	78.87	51.5	12	6	-1						15	9 PP
TULSA	79.49	49.0	12	10K	0							
BELGRADE	79.76	326.2									13	5
STUTTGART	80.19	335.0	12	14	0							
KEW	80.20	341.8	12	14	0							
DOURBES	80.29	338.4	12	14	0							
ANN ARBOR	80.32	37.5	12	15	0							
CANBERRA	80.37	181.0	12	26	11							
LONDON ONT.	80.74	35.5	12	17	0							
OTTAWA	80.86	30.9	12	16	-1							
SCARBOROUGH	80.96	33.9	12	18	0							
WELSCHBRUCH	81.36	336.6	12	19	-1							
TRIESTE	81.51	330.8									16	43
BREBEUF	81.51	29.5	12	20	-1				12	31		
TITOGRAD	82.23	325.7				22	53	13			31	40 SSS
FOLINIERE	82.77	341.0	12	29	2							

JERUSALEM	83.21	309.0	12	31K	1									
PENNSYLVANIA	83.96	34.6	12	19A	-14									
ATHENS	84.05	320.3	12	34	0									
MORGANTOWN	84.10	36.6	12	35K	1									
CUMBERLAND	84.90	42.6	12	38	0								13	8
ISOLA	84.99	334.4	12	40	1									
HUANCAYO	129.01	64.1	19	12	2									
MAWSON	130.04	210.0	19	12K	0									
LA PAZ	136.89	60.6	19	27	2						19	41		
N-LAZARVSKYA	147.61	204.2	19	45	1									

OCTOBER 15 9.H 59.M 26.S EPICENTRE 67.40 -18.65 DEPTH= 0.KM

A= 0.36625 B=-0.12360 C= 0.92227 D=-0.3198 E=-0.9475
G= 0.8739 H=-0.2949 K=-0.3865 HT=-11.1

SE= 2.61

	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	
SCORESBY SD.	3.32	340.5	0	56	2								
ABERDEEN	12.77	135.4				5	45	15			6	30	
GODHAVN	12.91	294.2									6	46	
SKALSTUGAN	13.30	92.0	3	11	-2								
TROMSOE	13.80	63.6	3	16	-3						3	36	PP
KONGSBERG	14.68	108.3	3	28	-3	6	17	2			3	47	PP
KIRUNA	14.73	70.3	3	32A	0	6	36	19					
DURHAM	15.03	139.0	3	40K	4	6	25	1					
UMEA	16.25	84.3	3	49A	-2	6	40	-12			7	2	
KEVO	16.54	61.0	3	56	1	7	3	4			4	21	PPP
GOTEBORG	16.93	110.1	3	57	-3								
SODANKYLA	17.12	69.0	4	1	-1						7	25	
UPPSALA	17.55	97.9	4	4A	-4	7	24	2					
ALERT	18.01	342.9	4	12K	-1								
KEW	18.36	141.4	4	17A	-1	7	37	-4					
COPENHAGEN	18.64	113.8	4	19A	-2	7	49	2					
KAJAANI	18.97	78.0	4	23A	-2	8	5	11					
WITTEVEEN	19.08	127.4	4	23	-4								
DE BILT	19.26	130.9				8	6	5					
APATITY	19.48	65.3	4	30A	-1	8	7	1					
NURMIJARVI	19.84	89.3	4	34A	-1	8	14	0					
JERSEY	20.10	147.1									8	19	
MUNSTER	20.11	127.2	4	30	-8								
HELSINKI	20.18	89.8	4	37	-2								
UCCLE	20.19	134.1	4	38	-1	8	8	-13					
FOLINIERE	20.84	144.6	4	41	-5								
BENSBERG	20.86	129.3	4	44K	-2								
DOURBES	20.89	134.5	4	41	-5	8	29	-6					
VIBORG	21.31	85.3	4	46	-5								
PARIS	21.51	139.5	4	49	-4								
HALLE	21.90	121.4	4	53	-4	8	57	3					
JENA	22.26	122.8	4	57	-3	9	4	3			5	47	PPP
COLLMBERG	22.41	120.2	5	OK	-2	9	7	3					
PULKOVO	22.50	85.9	5	1	-2	9	8	3					
HEIDELBERG	22.70	128.9	5	4	-1								
WELSCHBRUCH	22.91	133.7	5	8	1								
KARLSRUHE	22.96	129.8	5	7	0	9	22	8					
GARCHY	23.08	140.0	5	4K	-4								
STRASBOURG	23.16	131.3	5	7	-2						6	19	
CHEB	23.25	122.7	5	14	4						9	17	
STUTTGART	23.43	128.8	5	10	-2	9	22	0					
TUBINGEN	23.58	129.4	5	14	1								
FELDBERG	23.86	131.7	5	16	0								
BESANCON	23.86	135.4	4	45	-31								
PRAGUE	23.94	119.9	5	15	-2	9	37	6			6	9	PPP
RESOLUTE	24.01	320.6	5	21	4								
PRUHONICE	24.06	119.9	5	15	-3	9	35	2					
WARSAW	24.47	108.6	5	23	1	9	40	0			10	16	SS
KASPERSKE H.	24.47	122.2	5	20A	-2								
CLERMONT-FD.	24.50	141.3	5	21	-1								
RACIBORZ	25.22	115.0	5	27	-2						5	58	PP
SCHEFFERVLLE	25.65	264.6	5	31	-2								
KRAKOW	25.86	112.8	5	34	-1						6	10	PP
VIENNA-H.	26.16	119.5	5	36	-2	10	15	7					
BRATISLAVA	26.47	118.7	5	39	-2								
PAVIA	26.65	132.6									10	51	
SKALNATE PL.	26.70	113.5	5	41	-2	10	7	-10					

ISOLA	26.99	136.6	5	45	0					
HURBANOVO	27.11	117.6	5	51	5	10	3	-21		
PADOVA	27.23	128.6							7	24
LJUBLJANA	27.48	124.3	5	48	-2				6	16
MONACO	27.50	136.4	6	0	10				6	57 PP
LWOW	27.54	108.2	5	48	-2	10	37	6		
TRIESTE	27.59	125.8	5	50	-1	10	30	-2		
UZHGOROD	27.90	111.7	5	52	-2					
MOSCOW	28.13	86.5	5	56	0	10	46	6		
ZAGREB	28.15	122.6							7	15
PRATO	28.39	131.0	5	58	0	10	59	14		
BARCEL-NA	28.40	145.9				11	33	48	6	56
FLORENCE X.	28.53	130.9	5	50	-9	10	29	-18		
MOULD BAY	28.57	330.5	6	3	3					
TOLEDO	28.74	156.2	5	58K	-3	10	54	4	6	58 PP
ROME	30.61	130.7	6	18	0	11	20	0	7	36 PP
ALICANTE	30.84	151.4	6	18	-2				6	55
GRANADA	31.45	156.6	6	29A	4	11	44	11	7	36 PP
KISHINEV	31.64	106.0	6	24	-3	11	36	0		
MALAGA	31.78	157.9	6	25	-3	11	44	6		
ALMERIA	31.95	155.0	6	28A	-2				13	56 SSS
BUCHAREST	32.86	111.6				11	59	4	9	50
AVERROES	34.76	163.4	6	54	0				8	1 PP
MESSINA	34.93	129.3	6	51	-5	12	25	-2	8	16 PP
SIMFEROPOL	35.37	102.4	7	0K	1	12	37	3		
BREBEUF	35.74	260.4	7	1	-2	12	44	4		
SVERDLOVSK	35.91	67.1	7	4K	0	12	37	-5		
OTTAWA	36.63	262.4	7	8	-2					
ISTANBUL UN.	36.85	111.2	7	7	-5	13	0	3		
ATHENS	37.74	119.5				13	19	9		
PALISADES	39.69	256.9	7	34	-2	13	44	4		
PENNSYLVANIA	41.37	260.7	7	49A	0					
BAKURIANI	41.70	95.7	7	52	0					
TIFLIS	42.20	94.5	7	56	0					
COLLEGE	43.14	331.0	8	7	3					
MORGANTOWN	43.18	261.9	8	5K	1					
KIROVOBAD	43.71	93.8	8	5	-4					
EDMONTON	44.00	300.7	8	12A	1					
GORIS	44.70	94.6	8	15A	-2					
BLACKSBURG	45.47	260.7	8	22	-1					
KSARA	45.76	108.8	8	24	-1	14	59	-10	10	9 PP
CHAPEL HILL	46.08	258.5	8	28	0					
JERUSALEM	47.35	110.7	8	37K	-1					
COLUMBIA	48.53	259.2	8	42	-5					
KIZYL-ARVAT	48.80	85.7	8	51A	2	15	58	6		
CUMBERLAND	48.86	264.6	8	48	-1	15	59	6	10	21 PP
BOZEMAN	49.75	293.4	8	59	3					
TEHERAN	49.93	92.3	8	58	0	16	14	6	10	54 PP
BUTTE	49.98	294.8	8	57	-1					
VANNOVSKAYA	50.59	84.8	9	2	-1					
ASHKABAD	50.69	84.6	9	4	1					
LARAMIE	51.53	286.1	9	9	-1					
TASHKENT	51.89	73.1	9	12A	0	16	41	6		
FRUNSE	52.52	67.7	9	18A	1					
TULSA	52.53	274.3	9	16K	-1	15	42	-62	10	9
BLUE MTS.	52.64	297.8	9	17A	-1	16	54	9	10	22
GOLDEN	52.86	284.9	9	16	-4					
M.BOUR	52.98	178.0				16	55	5		
ALMATA-2	53.11	65.3	9	22A	0					
FLAMING GRGE	53.27	289.0	9	23	0					
UINTA BASIN	53.87	288.8	9	27A	0	17	11	9	11	29 PP
SALT LAKE C.	54.30	291.0	9	30	0					
WICHITA MTS.	54.65	276.1	9	32	-1	17	20	8	11	32 PP
SHIRAZ	55.77	94.8	9	40A	-1	17	29	2	11	39 PP
KHOROG	56.09	73.4	9	46	3					
ESEN BULAK	56.42	48.9	9	45	-1					
LUBBOCK	56.91	278.3	9	49	0					
EUREKA	56.91	293.6	9	50A	1					
ALBUQUERQUE	57.45	283.1	9	53	0				21	30
GLEN CANYON	57.56	288.6	9	54	0					
ULAN-BATOR	57.91	40.2	10	0	4					
MINERAL	58.09	298.7	9	58A	0					
BOULDER CITY	59.62	290.8	10	12	4					
TONTO FOREST	59.83	286.9	10	9	-1				12	20 PP
CALISTOGA	59.96	298.6	10	12K	1					
LICK	60.81	297.2	10	18K	2					
QUETTA	60.86	81.3	10	16A	-1	18	41	7		
TUCSON	61.49	285.5	10	20	-1					

PRIEST	61.55	295.8	10	23K	2						
PARAISO	61.97	297.3	10	23	-1						
PASADENA	62.46	292.7	10	27	0	19	9	15			
TRINIDAD	63.36	228.3	10	32	-1						
DEHRA DUN	64.90	71.5	10	45	2	19	31	7			
CARACAS	65.17	234.0	10	43K	-2	19	32	4			
NEW DELHI	66.15	73.1	10	44A	-8				19	45	
GALERAZAMBA	67.65	242.5				20	9	11			
CHATRA	71.34	65.1	11	25K	1						
BOGOTA	72.99	239.1	11	33	0	21	5	5	25	42	SS
BOMBAY	73.29	81.2	11	36	1	21	8	4	15	30	PP
SHILLONG	74.13	61.6	11	40K	0						
MATUSIRO	74.90	19.1	11	47	2	21	26	4			
LWIRO	76.98	130.9	11	55A	-1				26	49	
MADRAS	81.47	76.9							14	50	
HONG KONG	83.99	43.1							23	9	
BANDEIRA	85.33	149.1	12	42A	2						
HUANCAYO	89.06	234.8	12	59	1						
ADELAIDE	145.01	33.4	19	36	-3						
MAWSON	146.10	137.2	19	40	-1						
TOOLANGI	148.80	24.8	19	51	5						
KARAPIRO	149.42	337.6	19	51	4						
BYRD STATION	157.05	206.1	20	26	29						
SOUTH POLE	157.26	180.0	19	59	1						
CAPE HALLETT	174.20	207.8							21	45	

OCTOBER 15 10.H 47.M 12.S EPICENTRE 44.53 149.18 DEPTH= 44.KM

A=-0.61428 B= 0.36642 C= 0.69886 D= 0.5123 E= 0.8588
G=-0.6002 H= 0.3580 K=-0.7153 HT= -3.4

DEPTH OF FOCUS= 0.002R

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
KURILSK	1.17	307.4	0	22	1							
UGLEGORSK	6.67	315.5	1	42K	4	2	58	4				
MIZUSAWA	8.08	230.9	2	0	2	3	17	-12				
PETROPAVLOVK	10.54	32.9	2	30	-2							
MATUSIRO	11.54	230.0	2	41	-4	5	8	14				
ABUYAMA	14.23	232.0	3	18K	-3							
COLLEGE	39.59	36.7	7	29	0							
SITKA	46.91	46.4	8	29	1							
MOULD BAY	47.62	18.9	8	34	0							
SHILLONG	49.54	267.5	8	48A	-1							
CHATRA	52.15	272.0	9	10A	2							
ALERT	52.23	5.0	9	6.	-3							
SVERDLOVSK	53.58	316.9	9	18	-1							
RESOLUTE	53.80	17.2	9	19	-2							
TASHKENT	56.35	297.0	9	38	-1							
DEHRA DUN	56.56	281.3	9	42A	1							
VICTORIA	57.07	32.3	9	43A	-1							
SEATTLE	58.17	52.7	9	54	2							
NEW DELHI	58.19	280.2	9	51A	-1	17	48	-1				
WARSAK DAM	58.92	288.6	9	56	-1							
EDMONTON	59.73	43.5	10	2	-1							
SODANKYLA	60.30	337.9	10	3	-4							
TROMSOE	60.48	342.1	10	5	-3							
KIRUNA	61.53	340.3	10	13A	-2							
KAJAANI	62.38	335.0	10	19	-2							
BLUE MTS.	62.61	53.1	10	22A	0						11	1 PCP
MINERAL	62.73	59.3	10	23A	0							
CALISTOGA	63.14	61.3	10	26A	0							
BERKELEY	63.80	61.9	10	30K	0							
QUETTA	64.33	287.8	10	33	-1	19	7	0				
CHARTERS TS.	64.36	183.0	10	33	-1							
VIBORG	64.49	332.0	10	33	-2							
LICK	64.52	62.0	10	33A	-2							
BUTTE	64.55	49.8	10	35	0				10	47		
PARAISO	64.67	63.3	10	40	4							
MOSCOW	64.68	324.4	10	36	0							
UMEA	64.73	337.6	10	35	-1							
VANNOVSKAYA	65.34	299.6	10	40	0							
BOZEMAN	65.59	49.4	10	39	-3							
PRIEST	65.87	62.5	10	44K	0							

NURMIJARVI	66.00	333.5	10	43	-1						
HELSINKI	66.16	333.1	10	44	-1						
EUREKA	66.69	57.1	10	49K	0						
POONA	66.88	273.6	10	48	-2						
SKALSTUGAN	66.96	340.6	10	49	-1						
DUGWAY	68.10	54.8	10	57K	-1						
SALT LAKE C.	68.29	53.9	10	59	0						
UPPSALA	68.67	336.1	10	59	-2						
PASADENA	68.71	62.8	11	1	0						
FLAMING GRGE	69.59	52.4	11	7	0						
BOULDER CITY	69.62	59.4	11	7	0					12	21
UINTA BASIN	69.89	53.0	11	8	-1					13	40 PP
KIROVOBAD	70.58	308.1	11	13K	0						
TIFLIS	70.71	309.8	11	14	0						
TEHERAN	70.88	301.5	11	17	2						
GLEN CANYON	70.94	56.8	11	15	0						
BAKURIANI	71.40	310.5	11	19	1						
LARAMIE	71.46	50.1	11	18	0						
GOTEBORG	72.07	337.5	11	21A	-1						
GOLDEN	72.68	51.2	11	26	1						
TONTO FOREST	72.92	58.7	11	27	0				11	44	14 9 PP
SHIRAZ	74.23	296.0	11	35K	1	21	2	-1	11	45	
TUCSON	74.57	60.0	11	37	1						
LWOW	74.59	326.7	11	37	1						
KISHINEV	74.79	322.3	11	39	1						
ALBUQUERQUE	75.35	55.3	11	41	0						
KRAKOW	75.97	329.0	11	44K	0					12	20
SCHEFFERVLLE	76.42	20.5	11	47A	0						
SKALNATE PL.	76.56	328.3	11	49	1					12	16
RACIBORZ	76.57	330.0	11	56	8						
COLLMBERG	77.29	333.5	11	51	-1				12	3	
HALLE	77.45	334.2	11	52	-1	21	52	13			
PRUHONICE	77.92	332.0	11	54	-1						
RIVERVIEW	78.01	178.3								13	18
JENA	78.06	334.1	11	56	0					23	33
MUNSTER	78.32	336.9	11	57	0						
VIENNA-H.	78.76	330.0	12	2	2						
KASPERSKE H.	78.97	332.1	12	1K	0						
LUBBOCK	79.01	53.5	12	2	1						
BENSBERG	79.35	336.7	12	4	1						
CANBERRA	79.47	180.2	12	5	1						
ADELAIDE	79.69	188.7	12	6	1						
WICHITA MTS.	80.02	50.7	12	6	-1						
TULSA	80.65	48.2	12	10K	0						
STUTTGART	80.67	334.4	12	10	0						
KEW	80.81	341.2	12	12	1						
DOURBES	80.84	337.8	12	12	1						
ANN ARBOR	81.49	36.7	12	15	1						
LONDON ONT.	81.91	34.8	12	17A	0						
OTTAWA	82.01	30.1	12	15	-2						
VALENTIA	82.29	347.3	12	20	1						
BREBEUF	82.66	28.8	12	20A	0						
JERUSALEM	83.17	308.4	12	25A	2						
FOLINIERE	83.36	340.3	12	25	1						
GARCHY	83.83	337.6	12	27A	1						
ATHENS	84.25	319.7	13	26	58						
PENNSYLVANIA	85.13	33.9	12	33A	0						
MORGANTOWN	85.27	35.9	12	35	1						
ISOLA	85.46	333.7	12	36	1						
KARAPIRO	85.47	159.4	12	36	1						
CUMBERLAND	86.07	41.9	12	38A	1					13	25
PALISADES	86.47	31.2	12	39	0						
WELLINGTON	88.46	161.0	12	49	0						
TOLEDO	92.59	339.7	13	8	0						
MAWSON	128.89	209.4	19	4	1						
HUANCAYO	130.08	63.7	19	9	3						
LA PAZ	137.99	60.3	19	23	3					19	41
N-LAZARVSKYA	146.48	204.0	19	36	1						

OCTOBER 15 18.H 23.M 59.S EPICENTRE 45.28 151.09 DEPTH= 43.KM

A=-0.61800 B= 0.34130 C= 0.70823 D= 0.4834 E= 0.8754
G=-0.6200 H= 0.3424 K=-0.7060 HT= -3.7

DEPTH OF FOCUS= 0.002R

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	
KURILSK	2.27	269.8	0	37A	1	1	7	3					
Y.-SAKHLINSK	6.07	289.6	1	32A	2								
UGLEGORSK	7.22	304.9	1	50	4						4	1	
PETROPAVLOVK	9.19	29.9	2	11	-2						4	4	
MIZUSAWA	9.61	233.7	2	16	-3	3	57	-10					
OKHA	9.83	330.2	2	25	3	4	20	8					
MATUSIRO	13.07	232.5	3	2K	-4	5	25	-6					
ABUYAMA	15.76	234.1	3	39K	-2								
YAKUTSK	20.84	331.1	4	39K	-2	8	29	3					
ULAN-BATOR	30.17	291.1	6	8	0								
ESEN BULAK	37.57	291.9	7	31	19								
HONG KONG	37.82	245.1	7	31	17	13	7	5					
BAGUIO CITY	38.49	231.5	7	19	-1	13	12	0					
MANILA	39.66	229.3	7	32	2	13	35	5					
MOULD BAY	46.46	19.3	8	23	-2								
HONOLULU	47.80	102.7				15	39	11					
RABAUL	49.27	178.6	8	48	1								
SHILLONG	50.93	268.2	8	59A	0								
ALMATA-2	51.08	295.7	9	1A	1								
ALERT	51.35	5.3	9	0	-3								
RESOLUTE	52.67	17.8	9	11	-1								
FRUNSE	53.04	296.5	9	16A	1								
CHATRA	53.47	272.8	9	19A	1								
SVERDLOVSK	53.95	317.2	9	20	-2								
CALCUTTA	55.32	267.8									13	1	
TASHKENT	57.21	297.5	9	45A	0						17	55	PS
DEHRA DUN	57.74	282.0	9	51	2	17	47	4					
KHOROG	57.93	292.6	9	53	2	17	50	4					
APATITY	58.13	336.4	9	51	-1								
KEVO	58.24	340.2	9	53	0								
NEW DELHI	59.38	280.9	10	0K	-1	18	8	4					
LAHORE	59.55	285.4	10	1	-1								
WARSAK DAM	59.95	289.3	10	2	-3								
SODANKYLA	60.10	338.4	10	4	-2								
TROMSOE	60.17	342.6	10	4	-2								
BLUE MTS.	61.07	54.3	10	12	0	18	32	6					
KIRUNA	61.27	340.8	10	12	-1								
KAJAANI	62.26	335.5	10	17	-3								
BUTTE	63.02	51.0	10	23	-2								
BOZEMAN	64.07	50.6	10	31	-1								
UMEA	64.54	338.2	10	33	-2	19	18	8					
PULKOVO	64.65	331.2									11	14	PCP
MOSCOW	64.85	325.0									11	7	PCP
EUREKA	65.14	58.4	10	39	0								
QUETTA	65.38	288.6	10	41A	1	19	24	4					
NURMIJARVI	65.92	334.1	10	43	-1	19	29	3			20	7	PS
ASHKABAD	65.98	300.2	10	46	2								
HELSINKI	66.09	333.8	10	43	-2								
SKALSTUGAN	66.69	341.3	10	48	-1								
SALT LAKE C.	66.75	55.1	10	53	4								
MADRAS	67.46	265.8	10	54	0	19	52	7			20	18	PS
AFIAMALU	67.83	140.7									18	31	
BOULDER CITY	68.07	60.7	11	2	5								
POONA	68.18	274.6	10	58	0								
UINTA BASIN	68.35	54.3	10	59	0	20	1	5			24	26	SS
UPPSALA	68.52	336.8	10	58	-2								
GLEN CANYON	69.39	58.1	11	9	3								
KONGSBERG	70.75	340.4	11	14	0								
BERGEN	71.04	342.8	11	16	0								
TIFLIS	71.26	310.6	11	18	1								
TONTO FOREST	71.37	60.0	11	17	-1						13	56	PP
TEHERAN	71.63	302.3	11	30	11	20	43	9					
GOTEBORG	71.88	338.3	11	19	-2								
GORIS	71.97	308.1	11	23A	2	20	47	9					
COPENHAGEN	73.53	337.0	11	27	-3								
ALBUQUERQUE	73.81	56.6	11	32	0								
SIMFEROPOL	74.26	318.9	11	34	-1	21	8	4					
SHIRAZ	75.11	297.0	11	40A	0	21	15	2			14	28	PP
KRAKOW	76.00	330.0	11	44	-1						11	58	PCP
RACIBORZ	76.58	331.0	11	48	0						12	6	PCP
COLLMBERG	77.21	334.5	11	51	0				12	4			
HALLE	77.35	335.2	11	51	-1								
PRAGUE	77.84	333.1	11	52	-3								
PRUHONICE	77.88	333.0	11	55	0						12	58	
JENA	77.96	335.2	11	55	-1	21	17	-27					
WICHITA MTS.	78.49	52.0	12	2	4	21	53	3			27	6	SS

RIVERVIEW	78.74	179.9								22	4
VIENNA-H.	78.77	331.0	12	3	3						
KASPERSKE H.	78.93	333.1	12	1A	0						
BENSBERG	79.18	337.7	12	2	0						
ISTANBUL UN.	79.66	319.4	12	6	1	22	13	11			
BELGRADE	80.20	326.8	12	7A	-1	22	23	15		13	36
STUTTGART	80.56	335.5	12	7	-3						
DOURBES	80.63	338.9	12	5	-5						
SOFIA	80.80	323.8	12	13	2	22	31	17		12	56
STRASBOURG	81.17	336.3	12	14	1	22	31	13		12	58
BREBEUF	81.34	30.0	12	27	13						
TRIESTE	81.92	331.3								28	54
PARIS	82.35	339.7	12	22	3						
FOLINIERE	83.09	341.5	12	22	-1						
GARCHY	83.63	338.7	12	25A	0						
JERUSALEM	83.75	309.6	12	27	1						
FLORENCE X.	84.41	332.0	12	36	7	23	15	24			
ATHENS	84.53	320.9	12	30	0						
CUMBERLAND	84.60	43.2	12	29	-1	22	54	1		13	1
AQUILA	84.93	329.9	12	34	2	23	9	13			
CLERMONT-FD.	85.02	338.1	12	36A	4						
PALISADES	85.11	32.5				22	57	-1			
ISOLA	85.37	334.9	12	35	1						
ROME	85.65	330.3	12	37A	1	23	15	12		23	55 PS
TOLEDO	92.33	341.1				24	11	7		16	41 PP
LWIRO	113.86	292.5								19	33 PP
CARACAS	114.76	41.8	18	9	-27					19	34 PP
LA PAZ	136.44	61.7	19	26	8						
N-LAZARVSKYA	147.72	203.9								19	41 PKP2

OCTOBER 15 21.H 44.M 59.S EPICENTRE -2.96 129.94 DEPTH= 19.KM

A=-0.64120 B= 0.76566 C=-0.05126 D= 0.7667 E= 0.6420
G= 0.0329 H=-0.0393 K=-0.9987 HT= 7.1

SE= 2.32

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
DARWIN	9.40	174.7	2	15	-2	4	34	30					
PORT MORESBY	18.26	111.3	4	12A	-2	7	32	-2			4	28	PP
MANILA	19.59	333.6	4	33	3	8	13	9					
BAGUIO CITY	21.36	334.6	4	48	0	8	43	3					
GUAM	21.95	41.7	4	55	1								
CHARTERS TS.	23.31	138.1	5	5	-3	9	18	3					
HONG KONG	29.46	329.2				10	47	-10					
HONIARA	30.50	103.5	6	11	-3								
MUNDARING	31.62	202.6	6	20	-4	11	25	-6					
BRISBANE	32.66	140.3	6	30	-3								
PHU-LIEN	32.86	317.0	6	36K	1	11	50	0					
ADELAIDE	32.88	166.7	6	33A	-2	11	49	-2	6	40	14	41	
RIVERVIEW	36.54	149.6	7	10	4	12	46	-1			14	7	
CANBERRA	36.73	153.5	7	6	-2	12	53	3	7	14			
TOOLANGI	37.28	159.4	7	11	-1	13	4	5	7	19	8	37	PP
KOUMAC	37.75	120.3	7	15A	-1								
ABUYAMA	38.00	7.5	7	13A	-5								
LUGANVILLE	38.68	111.2	7	22A	-2								
PORT BLAIR	39.76	292.1	7	34A	1	13	47	11			15	32-	
MATUSI-O	40.04	10.4	7	33K	-2						8	33	
TUKUBASAN	40.11	12.8	7	41A	5	13	42	1			17	25	SSS
NOUMEA	40.29	121.6	7	13	-24								
PORT VILA	40.38	114.0	7	37A	-1								
TARRALEAH	41.87	161.6	7	58	8						9	31	
MOORLANDS	42.23	160.9	7	54	1						9	38	
SHILLONG	46.52	309.9	8	28A	0								
CALCUTTA	47.84	304.1	8	41	3						15	38	
BOKARO	50.53	304.3	8	58	-1								
CHATRA	50.80	308.5	9	1	0						14	21	
MADRAS	51.88	289.0	9	8K	-1	16	33	3			11	13	PP
KARAPIRO	54.27	135.9	9	26	-1								
ULAN-BATOR	54.53	341.1	9	28	-1								
CHATEAU	54.88	137.3	9	31	0								
WELLINGTON	55.42	139.8				17	7	-10					
ESEN BULAK	57.45	332.9	9	49	-1								
AFTAMALU	58.52	104.4	10	1	4	18	9	11					
IRKUTSK	59.14	342.0	10	2	0	18	9	2					
POONA	59.18	293.5	9	59K	-3								

NEW DELHI	59.51	305.7	10	2A	-2						
DEHRA DUN	59.52	307.9	10	6K	2	18	13	2			
BOMBAY	60.22	293.6	10	4	-5						
PETROPAVLOVK	60.77	19.4	10	12	-1						
LAHORE	62.95	307.7	10	25	-2	18	54	-1			
YAKUTSK	64.80	359.9	10	37	-3	19	17	-1			
ALMATA-2	65.90	320.5	10	46A	-1						
WARSAK DAM	66.03	309.3	10	47	0						
FRUNSE	67.46	319.1	10	56A	-1	19	53	3			
SEMIPALATNSK	68.03	328.2	10	58	-2						
QUETTA	68.47	304.0	11	2	-1	20	3	1			
DUZHANBE	69.78	313.0	11	9	-2	20	18	0			
TASHKENT	70.44	315.8	11	14	-1	20	24	-2			
CAPE HALLETT	73.64	168.1	11	32	-2						
SCOTT BASE	77.32	172.5	11	53	-2						
ASHKABAD	77.41	309.8	11	55	0	21	47	3			
VANNOVSKAYA	77.61	309.7	11	57	1						
MAWSON	78.67	201.1	12	0	-2	21	54	-3			
KIZYL-ARVAT	79.29	310.6	12	6	0	22	5	1			
SHIRAZ	80.56	300.5	12	11A	-1	22	15	-2			37 31 SS
SVERDLOVSK	81.31	328.7	12	16	0	22	23	-2			
TANANARIVE	81.86	251.4	12	21	2						12 45
TEHERAN	82.45	306.5	12	23	1	22	37	0			
GORIS	86.94	309.6	12	45A	0	23	29	8			
SOUTH POLE	87.06	180.0	12	42	-3						
KIROVOBAD	87.06	310.8	12	46	1						
TIFLIS	88.32	311.7	12	51	0	23	36	2			
COLLEGE	89.35	25.0	12	56	0						
BYRD STATION	90.61	170.6	13	8	6						
ADDIS ABABA	91.62	278.9	13	10	3						
MOSCOW	93.73	325.5	13	17	0						
APATITY	95.21	337.5	13	21	-2	23	48	-9			30 43 SS
CHANGALANE	95.65	243.4	13	21	-4						
MOULD BAY	97.73	13.1	13	33	-2						
SODANKYLA	97.83	337.7	13	34	-1						
KAJAANI	97.99	334.3	13	33	-3						
KIRUNA	100.02	338.7	13	42	-3						
BROKEN HILL	100.36	254.8	13	47K	0						
UMEA	101.26	334.8	13	48	-3						
UZHGOROD	103.84	319.4	14	2	0						
BLUE MTS.	108.10	43.6	14	27	777						18 49 PP
COLLMBERG	108.90	323.7	14	25	777						
KASPERSKE H.	109.27	321.4									33 18
EUREKA	110.36	48.9	18	33	2						
UINTA BASIN	114.86	46.6	18	41	2						19 52 PP
TONTO FOREST	115.27	53.4	18	42	2				18	57	19 41 PP
TUCSON	116.13	55.5	18	43	1						
ALBUQUERQUE	118.89	51.4	18	48	1						
TOLEDO	124.51	317.8	19	6	8						22 49 PKS
ALMERIA	124.82	313.8	19	0	1						20 54
WICHITA MTS.	125.02	48.9	19	0	1	26	11	11			30 58 PS
SCHEFFERVLLE	126.54	12.0	19	3	1						
TULSA	126.57	46.4	19	3	1	26	9	4			38 6 SS
CUMBERLAND	133.81	41.0	19	17	1						21 46 PP
M.BOUR	145.44	291.2	19	37	0						19 46 PKP2
NANA	149.51	119.6	19	51	8						
HUANCAYO	150.79	121.2	19	55	10						
AREQUIPA	151.35	133.0	19	55	9						
LA PAZ	153.68	137.8	19	53	4				20	1	
CARACAS	161.65	65.1	20	46	47						25 17 PP
TRINIDAD	166.39	55.3	19	18	-46						

OCTOBER 16 15.H 42.M 56.S EPICENTRE 38.67 73.33 DEPTH= 0.KM

A= 0.22453 B= 0.74991 C= 0.62227 D= 0.9580 E=-0.2868
G= 0.1785 H= 0.5961 K=-0.7828 HT= -1.2

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	
MURGAB	0.56	122.4									0	15	PG
KHOROG	1.85	230.7	0	37A	3						1	4	SG
FERGANA	2.09	325.4	0	37K	0						1	5	SG
ANDIJAN	2.21	340.7	0	39K	0						1	8	SG
GARM	2.39	278.9	0	44	3						1	18	SG

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.

NAMANGAN	2.64	331.5	0	47	2						
OBI-GARM	2.84	271.7	0	55	7						
NARYN	3.43	35.8	0	57	1						
TASHKENT	4.08	311.7	1	10	5						
FRUNSE	4.27	12.8	1	10	2						
WARSAK DAM	4.88	197.7	1	22	5						
SAMARKAND	5.04	283.4	1	20	1				1	45	
ALMATA	5.35	29.6	1	26	3						
PRZ+EVALSK	5.42	43.8	1	27A	3				2	51	SG
CHILIK	6.21	36.5	1	35	0				3	10	
LAHORE	7.15	173.1	1	50	1	3	17	5			
DEHRA DUN	9.19	153.6	2	15K	-2	3	57	-6	2	21	PP
QUETTA	9.97	213.8	2	29	1	4	21	-1			
NEW DELHI	10.57	161.1	2	34K	-2	4	32	-4	2	51	PPP
ASHKABAD	11.79	271.2	2	52	-1	4	57	-9			
VANNOVSKAYA	11.99	271.3	2	52	-3						
SEMIPALATNSK	12.72	20.5	3	0	-5	5	19	-10			
KIZYL-ARVAT	13.30	277.6	3	9	-4				5	57	
SEHORE	15.78	167.2	3	41	-4	6	36	-5	3	52	PP
CHATRA	16.56	131.4	3	51K	-4	6	54	-6	4	14	PPP
TEHERAN	17.72	267.3	4	9	-1	7	40	14			
BOKARO	18.21	140.7	4	15	-1	7	47	10	8	10	SS
ESEN BULAK	18.53	58.0	4	21A	1						
SHIRAZ	19.40	248.6	4	30A	0	8	3	-1	5	9	PP
BOMBAY	19.71	181.4	4	32	-2	8	19	8	5	8	PP
MAKHACH-KALA	19.99	290.7	4	35K	-2				8	19	
SVERDLOVSK	20.02	339.3	4	36K	-1	8	10	-8			
POONA	20.07	178.6	4	38K	0	8	26	7	5	4	PP
SHILLONG	20.37	124.4	4	38K	-3	8	26	1			
CALCUTTA	20.60	137.0	4	40	-4	8	32	2			
KIROVOBAD	20.86	284.0	4	45A	-1	8	29	-6			
GORIS	20.95	280.8	4	46A	-1	8	48	11			
GROZNY	21.28	291.4	4	49K	-2	8	59	16			
TIFLIS	21.96	287.1	4	56	-1	8	55	-1			
VISHAKHAPTNM	22.62	154.6	5	9	5	9	22	14			
CHITTAGONG	22.69	130.4	5	5	0	9	24	15			
IRKUTSK	25.40	47.5	5	29A	-2						
ULAN-BATOR	25.95	58.2	5	13	-23						
MADRAS	26.28	164.8	5	41A	2	10	17	7	6	26	PP
KODAIKANAL	28.56	171.5	5	56K	-4				10	50	
MOSCOW	29.22	317.5	6	5K	-1				6	55	PP
SIMFEROPOL	29.68	294.9	6	9K	-1				16	31	
KSARA	30.45	272.5				11	19	1	6	57	
JERUSALEM	31.71	269.3	6	29	1						
PORT BLAIR	31.96	142.1	6	33A	3	11	48	7	7	39	PP
KISHINEV	33.30	299.1	6	41	-1	12	2	0	16	29	
PHU-LIEN	33.71	112.3	6	47K	2	12	18	9			
ISTANBUL UN.	33.85	288.3	6	47A	1	12	15	4			
IASI	34.15	299.5	7	51K	62	13	22	67	9	24	
PULKOVO	34.27	322.2	6	47A	-3				8	13	PPP
FOCSANI	34.51	296.9							13	50	
BACAU	34.65	298.4	6	59A	6				12	19	
BUCHAREST	35.42	294.8				13	30	55	12	28	
CAMPULUNG	36.07	296.4	7	10	5	12	48	3			
APATITY	36.37	335.5	7	5K	-3	12	41	-9	8	25	PP
LWOW	36.42	304.2	7	9K	1						
KAJAANI	36.91	328.5	7	10K	-3	12	56	-2	8	24	
HELSINKI	36.97	321.6	7	11	-2						
NURMIJARVI	37.20	322.1	7	14K	-1	12	58	-4	8	40	PP
UZHGOROD	37.61	302.3	7	19	1	13	5	-4			
SOFIA	37.69	292.5	7	20	1	13	11	1	8	54	PP
WARSAW	38.28	308.2	7	26	2	13	20	1	8	53	PP
HONG KONG	38.44	103.1	7	26	1	13	18	-3	8	57	PP
ATHENS	38.54	285.0	7	25A	-1	13	18	-5			
SODANKYLA	38.60	333.2	7	23	-4	13	27	3	8	54	PP
TIMISOARA	38.66	297.8	7	29	2						
SKALNATE PL.	38.91	303.4	7	31	2	13	25	-3	8	48	PP
KRAKOW	39.05	304.8	7	30	-1	13	29	-1			
SKOPJE	39.21	291.8	7	31	-1	13	32	-1			
BELGRADE	39.35	296.5	7	34K	1	13	41	6	9	13	PP
KEVO	39.51	336.7	7	32	-2	13	35	-2	9	4	PP
CHORZOW	39.64	305.2	7	36	1				9	47	PCP
UMEA	39.98	326.5	7	35	-3	13	34	-11	9	8	PP
RACIBORZ	40.16	305.0	7	42	2	13	32	-15	9	12	PP
HURBANOVO	40.41	301.6	7	33	-9	13	9	-42			
UPPSALA	40.55	320.1	7	40	-3	13	34	-19	9	18	PP
TITOGRAD	40.68	293.1	7	46	2				9	29	PP
KIRUNA	40.98	332.5	7	46	0				16	50	SS
BRATISLAVA	41.10	302.2	7	47	0				17	51	

YAKUTSK	41.14	36.7	7	44A	-4	13	57	-5			
VIENNA-H.	41.57	302.4	7	53	2					9	28 PP
TROMSOE	42.06	334.8	7	53	-2					9	28 PP
ZAGREB	42.26	298.9	7	57	0					10	14 PPP
KHEYS	42.46	356.3	7	59K	0	14	24	3		9	39 PP
PRUHONICE	42.51	305.2	7	57	-2					9	42
PRAGUE	42.58	305.4	8	2	3	14	7	-16		9	37
TARANTO	42.65	290.9	8	19	19						
ADDIS ABABA	42.79	235.6	8	4	3						
TIKSI	43.06	22.5	8	4	1					15	34
LJUBLJANA	43.21	299.5	8	4	-1					9	50 PP
COPENHAGEN	43.23	313.7	8	5	0	14	34	1			
KASPERSKE H.	43.26	304.1	8	4	-1					9	40
COLLMBERG	43.31	307.3								9	56
GOTEBORG	43.41	316.7	8	8	2					9	43 PP
SKALSTUGAN	43.45	325.3	8	6	-1					9	47 PP
TRIESTE	43.82	299.1	8	9	-1	14	38	-3		10	32 PPP
CHEB	43.88	305.7	8	6	-4					17	50
HALLE	43.94	307.7	8	10	-1	14	41	-2			
JENA	44.25	307.0	8	12	-1	14	52	5		10	2 PPP
REGGIO CALA.	44.56	288.1	8	17	1	14	48	-4		10	10 PP
KONGSBERG	44.59	319.6	8	14K	-2	14	47	-5		9	58 PP
MESSINA	44.60	288.3	8	18A	2	14	55	3	8 28	10	3 PP
AQUILA	44.90	294.6	8	19	1	14	56	-1	8 33	10	18 PP
PADOVA	45.16	299.2	8	25	5	15	9	9		10	9 PP
ROME	45.68	294.3	8	25K	0	15	7	-1		10	23 PP
PRATO	46.09	297.4	8	40	12	15	23	9			
RAVENSBURG	46.11	303.0	8	27	-1						
STUTTGART	46.11	304.4	8	29	1	15	16	2		10	20 PP
TUBINGEN	46.30	304.1	8	30	1						
HEIDELBERG	46.34	305.3	8	30	0						
MUNSTER	46.52	309.0	8	24	-7						
KARLSRUHE	46.62	304.9	8	33	1	15	28	7			
BERGEN	46.72	320.8	8	35	2						
BAGUIO CITY	46.78	104.7	8	35	2	15	26	2	10 29	19	4 SCS
WITTEVEEN	46.94	310.3	8	39	5					10	33 PP
BENSBERG	46.99	307.7	8	36	1					10	29
PAVIA	47.06	299.6	8	39K	4					10	29 PP
STRASBOURG	47.13	304.4	8	35K	-1	15	29	0		10	24 PP
FELDBERG	47.14	303.4	8	35	-1						
DE BILT	47.97	309.6	8	44	1						
WELSCHBRUCH	48.09	304.5	8	38	-6						
MANILA	48.24	106.2	8	45	0	15	52	8			
OKHA	48.53	48.3	8	50	3					10	45 PP
ROSELEND	48.64	300.9	8	47	-1						
MONACO	48.67	298.2	8	48	0					10	44 PP
UCCLE	48.77	308.0	8	52	3						
DOURBES	48.78	307.1	8	47A	-2	15	55	3			
ISOLA	48.80	298.9	8	47	-2	15	54	2			
UGLEGORSK	49.04	54.2	8	54A	3	15	58	2		10	52 PP
ABUYAMA	49.16	74.1	8	51K	-1						
Y.-SAKHLINSK	50.03	56.7	9	2A	3	16	9	0		10	59 PP
PARIS	50.45	305.9	9	2K	0						
MATUSIRO	50.47	71.0	9	0	-2	16	5	-10			
GARCHY	50.52	303.9	9	0K	-2						
CLERMONT-FD.	50.96	302.0	9	5	-1					17	34
ABERDEEN	51.02	317.3								20	19
KEW	51.44	309.9	9	8	-1	16	27	-2		10	23 PCP
MAGADAN	51.54	39.4	9	12	2	16	33	3			
MIZUSAWA	51.60	66.8	9	15	5	16	27	-4			
TUKUBASAN	51.99	70.6	9	11K	-2	16	32	-4	9 24	12	12 PPP
FOL+NIERE	52.34	306.6	9	15	-1						
BARCELONA	53.14	297.1								17	1
TANGERANG	54.26	137.7	9	26	-4						
ALICANTE	56.21	294.7	9	44K	0	17	31	-2			
ALERT	57.11	353.7	9	48	-3						
VALENTIA	57.12	312.9	9	54	3	17	48	3			
PETROPAVLOVK	57.69	45.4	9	59	4	17	54	1			
LWIRO	57.77	235.9	9	55	0						
TOLEDO	58.06	297.8	9	56A	-2	17	57	-1		12	7 PP
ALMERIA	58.29	293.9	9	57K	-2	18	0	-1		11	9
GRANADA	58.95	294.7	10	5A	1	18	22	13		12	5 PP
MALAGA	59.73	294.6	10	8	-1	18	14	-5			
BANGUI	60.12	249.8	9	54	-18	17	49	-35			
LISBON	62.11	298.7	10	26K	1				10 29		
AVERROES	63.55	292.6	10	27	-8	19	11	3		12	46 PP
MOULD BAY	65.09	3.3	10	40	-5						
RESOLUTE	66.66	356.6	10	51	-4						

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.

BROKEN HILL	67.47	227.7	10	59	-1						
COLLEGE	71.88	17.2	11	24	-3						
BULAWAYO	71.96	224.1	11	26A	-2						
LUANDA	73.11	243.6	11	36K	2						
DARWIN	73.83	120.9	11	39	0						
BANDEIRA	77.34	239.1	11	58K	0						
PIETERMZBURG	78.87	217.2	12	8	1						
YELLOWKNIFE	78.98	3.7	12	5	-2						
SCHEFFERVLLE	80.80	337.9	12	17	0						
MUNDARING	80.81	144.1	12	16	-1	22	26	1			
KIMBERLEY	80.95	221.8	12	17	-1						
M.BOUR	81.40	281.5	12	22	2	22	30	-1			
PORT MORESBY	83.44	107.5	12	31	0	22	54	2			
RABAUL	83.92	100.3	12	36	3						
EDMONTON	88.14	4.0	12	53	-1						
HERMANUS	88.32	222.1				23	55	16			
HALIFAX	88.44	330.8	13	0	4						
CHARTERS TS.	89.80	116.0	12	43	-19	23	22	-31			
BREBEUF	91.10	337.4	13	12	4	23	40	-25			
OTTAWA	91.80	338.7	13	14	3						
VICTORIA	91.92	11.1	13	14	2						
SEATTLE	92.94	10.5	13	23	7						
HUNGRY HORSE	93.11	4.9	13	18	1						
HONIARA	93.19	99.4	13	18	0						
TUMWATER	93.46	11.1	13	21	2						
ADELAIDE	95.01	131.5	13	27A	1	24	4	3			
PALISADES	95.25	335.7	13	53	26	24	7	4			
LONDON ONT.	95.45	341.5	13	31	3						
BUTTE	95.52	4.1	13	29	1						
BOZEMAN	95.95	3.1	13	28	-2						
BLUE MTS.	96.31	7.6	13	34	2	24	15	7			
UINTA BASIN	101.34	2.3	13	55	0	24	32	-2			
EUREKA	101.76	7.3	14	1	4						
RIVERVIEW	101.97	123.7				24	38	1			
HONOLULU	103.32	48.5									
CUMBERLAND	103.58	342.4				24	51	7			
BOULDER CITY	105.34	6.9	14	18	777						
MIRNY	105.98	171.9	18	36	777	24	59	4			
MAWSON	106.24	184.2	18	30	777						
WICHITA MTS.	106.60	353.1	14	19	777	25	0	2			
WILKES	108.52	165.1				25	10	4			
N-LAZARVSKYA	117.60	199.2	18	50	2						
CARACAS	118.64	314.2	18	43A	-7	25	45	-1			
KARAPIRO	120.78	115.9	18	56	1						
WELLINGTON	121.73	119.7									
FUQUENE	126.52	317.7									
BOGOTA	127.42	317.5	19	14	7						
SCOTT BASE	128.17	164.4	19	10	1						
BYRD STATION	138.23	176.7	19	29	1						
LA PAZ	139.73	292.4	19	34	4						
HUANCAYO	141.55	305.1	19	35	1						
AREQUIPA	142.11	295.8	19	36	2						
NANA	142.46	307.0	19	36	1						
SANTA LUCIA	150.53	269.0	19	56	8						

									19	51	
									20	32	PP
									21	4	PP
									21	11	PP
									23	6	
									25	12	PS
									26	4	PS
									17	14	PP
									17	57	PP
									18	13	PP
									18	9	PP
									27	24	
									18	27	PP
									18	30	PP
									19	40	PP
									18	46	PP
									18	56	PP

OCTOBER 16 20.H 31.M 12.S EPICENTRE 38.77 73.23 DEPTH= 67.KM

A= 0.22562 B= 0.74851 C= 0.62356 D= 0.9574 E=-0.2886
G= 0.1800 H= 0.5970 K=-0.7818 HT= -1.2

DEPTH OF FOCUS= 0.005R

SE= 2.77

	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	
MURGAB	0.68	125.3									0	8	PG
DZERGETAL	1.62	286.9	0	24	-3								
KHOROG	1.85	226.7	0	30	0						0	55	SG
FERGANA	1.96	325.7	0	30	-2						0	59	SG
ANDIJAN	2.09	341.9	0	33K	0						1	4	SG
GARM	2.30	276.8	0	37	1						1	11	SG
OBI-GARM	2.76	269.7	0	43A	0								
NARYN	3.41	37.8	0	49	-3								
DUZHANBE	3.49	268.2	0	54A	1						1	46	
TASHKENT	3.96	311.4	0	59	-1	1	48	3					

FRUNSE	4.20	14.2	1	3A	0	1	56	5										
RYBACHE	4.31	30.5	1	5	1											2	16	
TCHIMKENT	4.48	323.1	1	6	-1											2	25	SG
SAMARKAND	4.93	282.5	1	11	-2													
WARSAK DAM	4.94	196.4	1	15	2													
ALMATA	5.31	30.9	1	18	0	2	22	3								3	2	
PRZHEVALSK	5.41	45.1	1	19A	-1											2	50	
CHILIK	6.18	37.6	1	28	-3							2	5					
LAHORE	7.26	172.5	1	43	-2													
DEHRA DUN	9.31	153.3	2	12	-1											5	40	
QUETTA	10.01	213.0	2	21A	-2	4	14	0										
NEW DELHI	10.68	160.8	2	27A	-5													
ASHKABAD	11.71	270.7	2	45	-1													
VANNOVSKAYA	11.91	270.8	2	44	-4													
SEMIPALATNSK	12.66	20.9	2	55	-3													
KIZYL-ARVAT	13.20	277.2	3	2	-4													
CHATRA	16.68	131.4	3	45	-5													
TEHERAN	17.64	266.9	4	3	1													
ESEN BULAK	18.55	58.3	4	20	7													
SHIRAZ	19.36	248.2	4	24A	2											8	3	PKS
POONA	20.17	178.3	4	31	0													
SHILLONG	20.50	124.4	4	32	-2													
KIROVOBAD	20.75	283.7	4	37	0													
GORIS	20.85	280.5	4	40	2											8	39	
BAKURIANI	22.81	286.9	5	0	3													
ULAN-BATOR	25.97	58.4	5	30A	2													
MADRAS	26.39	164.6														13	7	
MOSCOW	29.10	317.4				10	38	-3										
KAJAANI	36.79	328.4	7	3	0													
HELSINKI	36.84	321.5	7	7	4													
NURMIJARVI	37.07	322.0	7	10	5													
SODANKYLA	38.48	333.1	7	18	1													
UMEA	39.86	326.4	7	34	6													
KIRUNA	40.86	332.5	7	34	-2													
TROMSOE	41.94	334.8	7	52	7													
PRUHONICE	42.39	305.1	8	2	13													
TIKSI	43.01	22.6	7	53	-1													
KASPERSKE H.	43.14	304.0	7	57	2													
ROSELEND	48.52	300.8	8	40	2													
ISOLA	48.68	298.8	8	42	3													
MATUSIRO	50.51	71.0	8	52	-1											19	58	SS
BANGUI	60.08	249.7	10	4	2											10	58	
MOULD BAY	65.00	3.3	10	35A	0													
RABAUL	84.02	100.2														12	44	
BOZEMAN	95.86	3.0	13	22	2													
BLUE MTS.	96.23	7.5	13	24	3													

OCTOBER 16 21.H 30.M 59.S EPICENTRE 45.36 150.99 DEPTH= 92.KM

A=-0.61658 B= 0.34188 C= 0.70919 D= 0.4849 E= 0.8746
G=-0.6202 H= 0.3439 K=-0.7050 HT= -3.7

DEPTH OF FOCUS= 0.009R

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
Y.-SAKHLINSK	5.98	289.0	1	24A	-3	2	31	-4				
PETROPAVLOVK	9.15	30.4	2	9	-2							
MIZUSAWA	9.60	233.0	2	2	-15	3	35	-29				
MATUSIRO	13.06	232.0	2	47K	-16	5	4	-22				
MAGADAN	14.21	359.6	3	20	2							
ABUYAMA	15.75	233.7	3	24A	-13							
YAKUTSK	20.74	331.1	4	33A	-2	8	24	8				
TIKSI	28.40	345.5	5	46A	-1							
ULAN-BATOR	30.07	290.9	5	55	-7							
GUAM	32.24	191.5	6	31	10							
BAGUIO CITY	38.49	231.3	7	13	-1							
MOULD BAY	46.41	19.3	8	19A	0							
SHILLONG	50.86	268.1	8	50A	-3							
ALMATA	51.25	295.8	8	55	-1							
ALERT	51.28	5.3	8	56A	0							
RESOLUTE	52.62	17.8	9	7K	1							
CHITTAGONG	52.94	265.0									9	52
SVERDLOVSK	53.85	317.1	9	14K	-1							
VICTORIA	55.54	53.5	9	26	-2							

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.

TASHKENT	57.11	297.4	9	37	-2	17	33	8			
APATITY	58.03	336.3	9	44A	-1						
KEVO	58.15	340.1	9	46	0						
EDMONTON	58.24	44.5	9	46	-1						
NEW DELHI	59.30	280.8	9	51A	-3	18	0	7			
LAHORE	59.46	285.3	9	53	-2						
WARSAK DAM	59.86	289.2	9	57	-1						
SODANKYLA	60.00	338.4	9	58A	-1						
HUNGRY HORSE	60.82	49.6	10	5	1				10	21	
BLUE MTS.	61.08	54.3	10	5	-1				10	25	11 46
KIRUNA	61.18	340.8	10	7	0						
KAJAANI	62.16	335.4	10	14A	1						
BOZEMAN	64.08	50.5	10	22	-4				10	44	
VIBORG	64.35	332.5	10	27	-1						
UMEA	64.44	338.1	10	28A	0				10	50	
PULKOVO	64.55	331.2	10	28	-1						
MOSCOW	64.74	325.0	10	29	-1						
EUREKA	65.15	58.4	10	32K	-1				10	53	
QUETTA	65.29	288.5	10	32	-2						
NURMIJARVI	65.82	334.1	10	37A	0						
HELSINKI	65.99	333.7	10	38	0						
VANNOVSKAYA	66.04	300.2	10	39	0						
SKALSTUGAN	66.59	341.2	10	40	-2						
BOULDER CITY	68.09	60.7	10	50	-2				11	13	
UINTA BASIN	68.36	54.2	10	52	-1				11	12	
UPPSALA	68.42	336.8	10	53A	-1						13 19 PP
GLEN CANYON	69.40	58.0	10	58	-2						
KONGSBERG	70.65	340.4	10	8K	-59						
BERGEN	70.94	342.8	11	10	1						
KIROVOBAD	71.07	308.9	11	10A	.0						
TONTO FOREST	71.39	60.0	11	11	-1				11	32	12 54
TEHERAN	71.54	302.3	11	13	0						
GOTEBORG	71.79	338.2	11	13	-1						
BAKURIANI	71.83	311.3	11	16	2						
GORIS	71.87	308.0	11	16	1						
TUCSON	73.04	61.3	11	19	-2				11	42	
KISHINEV	74.90	323.1	11	32	0						
SHIRAZ	75.01	297.0	11	32A	-1	21	8	6			14 10 PP
KRAKOW	75.90	329.9	11	38	0						12 6
DABROWA	75.91	330.5	11	39	1						
CHORZOW	76.03	330.6	11	48	9						
UZHGOROD	76.22	327.8	11	43	3						
NIEDZIKA	76.29	329.3	11	41	1						
HALLE	77.25	335.2	11	46	1						
PRUHONICE	77.78	332.9	11	48	0						
JENA	77.86	335.1	11	47	-2						
MUNSTER	78.04	337.8	11	51	1						
WICHITA MTS.	78.49	52.0	11	51	-1				12	12	
KASPERSKE H.	78.83	333.1	11	55A	1						
FAYETTEVILLE	79.85	48.3	11	59	-1						
CANBERRA	80.33	181.7	12	15	13						
KEW	80.42	342.3	12	7	4						
STUTTGART	80.46	335.4	12	3	0						
STRASBOURG	81.07	336.3	12	7	1						12 41
BREBEUF	81.31	30.0	12	15	8						
WELSCHBRUCH	81.62	337.1	12	10	1						
PARIS	82.26	339.6	12	14K	2						
TOOLANGI	82.70	184.4							12	28	
FOLINIERE	82.99	341.4	12	18	2						
GARCHY	83.53	338.7	12	19A	0						
JERUSALEM	83.65	309.5	12	20	1						
ROSELEND	84.02	335.8	12	22	1						
CUMBERLAND	84.59	43.1	12	23	-1				12	42	13 1
CLERMONT-FD.	84.92	338.1	12	32	6						12 52
ISOLA	85.27	334.9	12	29	2						
TOLEDO	92.23	341.0	13	6	6						
SOUTH POLE	135.17	180.0	19	13	4						

OCTOBER 17 23.H 24.M 33.S EPICENTRE 45.50 149.26 DEPTH= 0.KM

A=-0.60449 B= 0.35954 C= 0.71086 D= 0.5112 E= 0.8595
G=-0.6110 H= 0.3634 K=-0.7033 HT= -3.7

SE= 4.69

	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
KURILSK	1.01	255.1	0	20A	-1	0	40	4				
NEMURO	3.41	231.8	0	45	-10							
ABASHIRI	3.84	249.1	0	56K	-5	1	48	0				
KUSIRO	4.30	235.9	0	59	-9	1	47	-13				
Y.-SAKHLINSK	4.78	290.9	1	20K	5	2	24	12				
OBIHIRO	5.06	241.5	1	13	-6							
ASAHIGAWA	5.21	253.2	1	17	-4	2	19	-4				
WAKKANAI	5.33	271.9	1	28K	5	2	55	29				
HIROO	5.36	235.2	1	13	-10	2	10	-16				
RUMOE	5.66	256.8	1	28	1						3	25
URAKAWA	5.76	236.7	1	20A	-9	2	22	-14				
UGLEGORSK	6.06	308.8	1	41A	8						3	7
SAPPORO	6.17	249.6	1	33	-1	2	43	-4				
TOMAKOMAI	6.23	245.3	1	30	-5							
MURORAN	6.77	244.9	1	34	-9	2	48	-14				
SUTTSU	7.03	250.6	1	43	-4							
MORI	7.14	244.7	1	21	-27	3	8	-3				
HAKODATE	7.18	242.1	1	38	-11	3	7	-5				
HATINOHE	7.53	231.5	1	42	-12	2	55	-26				
AOMORI	7.76	235.9	1	29	-28	3	4	-22				
MIYAKO	7.94	225.2	1	49	-10	3	5	-26				
MORIOKA	8.31	228.6	1	52	-12	3	16	-24			6	20
MIZUSAWA	8.76	226.2	1	58	-13	3	24	-27				
AKITA	8.88	232.7	2	4	-8							
ISINOMAKI	9.21	222.7	1	59	-18	3	37	-25				
SENDAI	9.53	223.7	2	4	-17	3	38	-33				
SAKATA	9.61	230.0									3	28
PETROPAVLOVK	9.71	35.8	2	29	5							
YAMAGATA	9.82	225.6	2	12	-13	3	48	-30				
HUKUSIMA	10.15	223.4	2	15	-15	3	57	-29				
ONAHAMA	10.60	219.3	2	25	-11							
NIIGATA	10.74	228.8				4	22	-18				
SHIRAKAWA	10.78	222.2	2	24	-14	4	15	-26				
AIKAWA	11.10	231.6	2	31	-12	4	39	-10				
MITO	11.27	219.1	2	48	3	4	32	-21				
UTUNOMIYA	11.40	221.6	2	20	-27							
KAKIOKA	11.52	219.7	2	37	-12	4	29	-30				
TAKADA	11.78	228.4	2	37	-15	4	42	-23				
MAEBASI	11.90	223.8	2	39	-15	4	55	-14				
KUMAGAYA	11.96	222.1	2	38	-17	4	39	-31				
NAGANO	12.13	227.2	2	49	-8	4	58	-16				
HONGO	12.14	219.6				5	23	8				
TOKYO C.M.O.	12.17	219.6				4	42	-33			3	58
OIWAKE	12.21	225.2	2	48	-10							
MATUSIRO	12.22	226.8	2	42	-16	4	57	-19				
TITIBU	12.24	222.5	2	43	-15							
WAZIMA	12.31	233.1	2	51	-8	5	6	-12				
YOKOHAMA	12.42	219.3				4	53	-28			7	10
MATUMOTO	12.57	226.6	2	54	-9							
TOYAMA	12.63	230.1	3	2	-2							
KOHU	12.73	223.3	3	3	-2	5	5	-24				
MERA	12.78	217.5				4	52	-37				
AJIRO	12.99	220.1	2	53	-15	5	3	-32				
MISIMA	13.00	220.7									3	38
IIDA	13.21	225.0	3	2	-9							
GIHU	13.84	227.6	3	14	-6	5	31	-24				
NAGOYA	13.92	226.4	3	28	7	6	5	8				
TSURUGA	14.02	230.1	3	13	-9							
MAGADAN	14.11	3.2	3	32A	9	6	24	22				
HIKONE	14.22	228.6	3	27	2	6	54	50				
KYOTO	14.68	229.2	3	13	-18							
TOYOOKA	14.80	232.8	3	23	-9	6	48	30				
ABUYAMA	14.88	229.3	3	17A	-16							
NARA	14.89	228.1	3	20	-13							
TOTTORI	15.18	234.2	3	27	-10							
KOBE	15.23	229.7									5	31
SUMOTO	15.64	229.5									6	53
SIOMISAKI	15.88	225.4									6	55
TAKAMATU	16.12	231.4	3	31	-18	7	3	14				
HAMADA	16.83	237.0	3	52	-6	7	18	13				
MUROTO	16.86	228.7				7	21	-15			10	17
KOTI	16.98	230.8				7	14	5			8	9
HIROSIMA	16.99	235.0	3	56	-4	7	11	2				
MATUYAMA	17.18	233.1	3	49	-14	7	3	-10				
UWAZIMA	17.76	232.2	3	44	-26							
SIMONOSEKI	18.17	237.0	4	7	-8							

OOITA	18.28	234.0	4	8	-9	7	44	5				
HUKUOKA	18.75	237.2	3	54	-28	6	51	-58				
ASOSAN	18.84	234.4	4	21	-2							
SAGA	19.03	236.6	4	29	3	8	3	8				
KUMAMOTO	19.11	234.9	4	17	-10	8	7	10				
MIYAZAKI	19.37	231.7	4	30	0	8	15	12				
NAGASAKI	19.65	236.3	4	21	-12	8	3	-6				
YAKUTSK	20.04	332.6	4	38	1	8	22	4				
TIKSI	27.97	346.4	5	54	0						10	55
ULAN-BATOR	28.88	290.2	6	0	-2							
IRKUTSK	29.92	299.5	6	10A	-2	10	58	-11			7	14 PP
HONG KONG	36.76	242.8	7	13	2	12	45	-10				
BAGUIO CITY	37.64	229.0	7	7	-11	12	49	-20				
COLLEGE	38.79	37.4	7	30	2							
MANILA	38.84	226.8	7	18	-10	13	13	-14				
PHU-LIEN	42.68	249.2				14	15	-9				
SEMIPALATNSK	44.97	302.3	8	18	0							
KHEYS	45.67	346.7	8	24	0						18	33 SS
MOULD BAY	46.69	19.2	8	32	0							
KIPAPA	49.08	101.1	8	48	-3	16	1	5				
HONOLULU	49.10	101.3	8	56	5	15	55	-1			19	27 SS
SHILLONG	49.65	266.7	8	49A	-6						16	7 PS
ALERT	51.26	5.1	9	8	1							
CHITTAGONG	51.73	263.6	9	7	-4							
FRUNSE	51.79	295.5	9	10A	-1	16	31	-2				
CHATRA	52.17	271.3	9	10A	-4							
RESOLUTE	52.86	17.5	9	20	1							
SVERDLOVSK	52.91	316.5	9	19	-1							
PORT HARDY	53.03	52.2	9	22	1							
YELLOWKNIFE	53.51	35.0	9	23	-1							
CALCUTTA	54.04	266.3	9	21	-7	16	58	-6				
PORT MORESBY	54.68	182.5	9	27	-6							
BOKARO	55.01	269.4	9	32K	-3	17	11	-6				
TASHKENT	55.96	296.5	9	39A	-3	17	28	-1			17	49 PS
DEHRA DUN	56.43	280.7	9	40A	-6	17	28	-8				
VICTORIA	56.44	52.8	9	47	1							
KHOROG	56.66	291.5	9	44A	-3	17	36	-3				
APATITY	57.41	335.8	9	52K	0	17	50	1			11	59 PP
SEATTLE	57.54	53.2	10	1	8	17	57	7				
KEVO	57.60	339.6	9	53	-1	17	52	1			11	59 PP
NEW DELHI	58.07	279.6	9	52A	-5	17	47	-10			12	3 PP
PORT BLAIR	58.48	253.5	10	9K	9	18	19	16			11	36
WARSAK DAM	58.66	288.1	9	58	-3							
EDMONTON	59.00	43.9	10	3A	-1							
SODANKYLA	59.42	337.8	10	6	-1							
TROMSOE	59.57	342.0	10	6	-2							
DARWIN	59.96	200.9	9	59	-11							
KIRUNA	60.64	340.2	10	14	-1						23	0
KAJAANI	61.52	334.8	10	22	1						12	59 PP
BLUE MTS.	61.99	53.5	10	23	-1	18	49	1			10	51 PCP
MINERAL	62.19	59.8	10	24A	-1							
CALISTOGA	62.63	61.8	10	28K	0							
BERKELEY	63.30	62.3	10	35A	2	19	7	3			23	23 SS
PULKOVO	63.84	330.4	10	33	-3							
UMEA	63.85	337.4	10	37	1	19	4	-7			14	41
BUTTE	63.88	50.2	10	35	-2							
MOSCOW	63.92	324.2	10	38A	1						13	4 PP
LICK	64.02	62.4	10	37K	0							
QUETTA	64.08	287.4	10	34K	-4	19	12	-2				
SCORESBY SD.	64.16	356.7	10	42A	4							
PARAISO	64.19	63.7	10	40	1							
ASHKABAD	64.75	299.1	10	45	3	19	23	1			13	3 PP
NURMIJARVI	65.16	333.3	10	43	-2	19	27	0			13	11 PP
HELSINKI	65.32	333.0	10	43	-3							
CHARTERS TS.	65.33	183.1	10	41	-5						19	7
PRIEST	65.38	62.9	10	46A	0							
SKALSTUGAN	66.06	340.5	10	50	-1							
EUREKA	66.12	57.5	10	49	-2				11	5	13	16 PP
MADRAS	66.19	264.3	10	45	-6	19	37	-3			13	11 PP
POONA	66.88	273.3	10	50	-6	20	0	12				
BOMBAY	67.35	274.3	10	52	-7	20	5	11			13	24 PP
DUGWAY	67.50	55.2	10	58A	-2							
UPPSALA	67.80	335.9	10	59	-3						21	12
PASADENA	68.22	63.1	11	5	1	20	4	0	11	16		
AFIAMALU	68.82	139.1	11	13	5	20	1	-11				
BOULDER CITY	69.08	59.7	11	9	-1				11	23		
UINTA BASIN	69.27	53.3	11	9	-2	20	16	-1			14	24 PP
KONGSBERG	70.11	339.5	11	16	0	20	46	19	11	34		
TIFLIS	70.13	309.6	11	15	-1	20	27	0			11	33 PCP

GLEN CANYON	70.36	57.1	11	19	2							
BERGEN	70.44	341.9	11	21	3							
GORIS	70.82	307.0	11	16K	-4						11	31 PCP
BAKURIANI	70.82	310.3	11	20	0						20	41
GOTEBORG	71.20	337.4	11	21	-2							
GOLDEN	72.04	51.4	11	28	0							
TONTO FOREST	72.37	59.0	11	28	-2	20	53	0	11	44	14	9 PP
BRISBANE	72.61	176.7	11	14	-17	20	41	-15				
COPENHAGEN	72.82	336.1	11	31A	-1	21	54	56				
WARSAW	72.98	329.7	11	35	2	21	7	7			11	57 PCP
SIMFEROPOL	73.24	317.8	11	34A	-1	21	3	0			11	52 PCP
LWOW	73.81	326.6	11	37	-1	21	12	3			11	55 PCP
SH9RAZ	73.86	295.8	11	35A	-3	21	5	-5			14	36 PP
TUCSON	74.04	60.2	11	38	-1				11	53		
IASI	74.45	323.0	11	42A	0	21	50	34				
ALBUQUERQUE	74.76	55.6	11	43	0				11	58		
KRAKOW	75.16	328.9	11	45A	-1	21	14	-10			21	56 PS
BACAU	75.23	322.9	12	5	19							
CHORZOW	75.30	329.6	11	46	-1						11	57 PCP
UZHGOROD	75.44	326.8	11	47	0	21	25	-2				
SCHEFFERVLLE	75.49	20.6	11	49	1							
RACIBORZ	75.76	329.9	11	48	-1						11	55 PCP
SKALNATE PL.	75.76	328.3	11	49	0	21	39	8			12	6 PCP
COLLMBERG	76.45	333.5	11	52	-1							
HALLE	76.60	334.2	11	54	0	21	41	1				
WITTEVEEN	76.94	337.8	11	58	2							
PRAGUE	77.05	332.0	11	59	3						18	45
DURHAM	77.09	343.2	11	57K	0	21	45	0			22	5 SKS
PRUHONICE	77.09	331.9	11	56	-1	21	42	-3				
JENA	77.21	334.1	11	56	-1	21	45	-2			15	4 PP
MUNSTER	77.45	336.8	11	59	0							
BRATISLAVA	77.76	329.5	11	59	-1	22	16	24				
LAWRENCE	77.92	46.0	11	58	-3							
VIENNA-H.	77.95	329.9	12	2A	1				12	23		
DE BILT	77.99	338.3	12	3A	1	21	57	2				
KASPERSKE H.	78.14	332.0	12	2A	0						15	13
TIMISOARA	78.22	325.7	12	6	3							
BENSBERG	78.48	336.6	12	3A	-1						12	24
ISTANBUL UN.	78.65	318.2	12	8	3	22	3	1				
RIVERVIEW	78.98	178.4	12	3	-4	21	53	-13	12	14	26	27 SS
BELGRADE	79.30	325.6	12	8	-1	22	9	0			14	58 PP
WICHITA MTS.	79.36	50.9	12	7	-2	22	9	-1			15	8 PP
UCCLE	79.39	338.2	12	9	0	22	9	-1				
HEIDELBERG	79.43	335.0	12	8	-1							
STUTTGART	79.82	334.4	12	11	-1	22	27	13				
SOFIA	79.86	322.7	12	8	-4	22	39	24			15	31 PP
KARLSRUHE	79.87	335.0	12	12	0							
KEW	79.91	341.2	12	11	-1	22	14	-1			27	50 SS
TULSA	79.97	48.4	12	12	0	22	14	-2			27	37 SS
TUBINGEN	80.10	334.4	12	3	-10						12	16
ZAGREB	80.16	328.9	12	17	4							
CANBERRA	80.44	180.2	12	8	-7	22	5	-16	12	23		
STRASBOURG	80.44	335.2	12	14A	-1	22	28	7			15	24 PP
LJUBLJANA	80.48	329.9	12	14	-1						12	35
RAVENSBURG	80.60	333.7	12	15	-1							
ADELAIDE	80.66	188.8	12	6	-10	22	15	-8	12	23		
ANN ARBOR	80.68	36.8	12	16	0						28	27
KSARA	80.71	309.3	12	15K	-1	22	27	3	12	33	15	14 PP
FELDBERG	81.00	334.7	12	17	-1							
WELSCHBRUCH	81.01	336.0	12	19	1							
LONDON ONT.	81.08	34.9	12	19	1							
TRIESTE	81.10	330.2	12	17A	-1	22	30	2			15	36 PP
OTTAWA	81.15	30.3	12	17	-2							
SHAWINIGAN	81.15	27.9	12	20	1							
VALENTIA	81.36	347.3	12	22	2	22	30	0				
PARIS	81.69	338.5	12	21K	0							
TITOGRAD	81.77	325.0				22	20	-15			23	5 PS
BREBEUF	81.79	28.9	12	21K	-1	22	35	0				
PADOVA	81.96	331.2	12	27	4	22	57	20			13	42
FOLINIERE	82.46	340.3	12	25	0							
JERUSALEM	82.61	308.3	12	26	0							
MUNDARING	82.73	207.9	12	18	-9							
TOOLANGI	82.76	183.0	12	22	-5	22	29	-16	12	33	13	34
GARCHY	82.95	337.6	12	27	-1							
PAVIA	83.05	332.8	12	24	-4	22	44	-4			28	17 SS
ATHENS	83.54	319.7	12	29	-2	23	7	14				
PRATO	83.56	331.0	12	40	9	23	6	13				
AQUILA	84.09	328.7	12	33	-1	22	49	-9	13	19	15	44 PP
CLERMONT-FD.	84.32	336.9	12	39	4							

MORGANTOWN	84.45	36.0	12	35K	-1					15	45	PP
ISOLA	84.62	333.7	12	36	0							
ROME	84.82	329.1	12	36A	-1	23	20	15		24	32	PS
MONACO	84.90	333.3	12	38	0					12	59	
CUMBERLAND	85.32	41.9	12	39	-1	23	8	-2		15	58	PP
PALISADES	85.62	31.3	12	39	-2	23	7	-6				
HALIFAX	85.66	22.9	12	44K	2							
GEORGETOWN	86.24	34.4	12	45	0							
BLACKSBURG	86.29	37.6	12	44	-1							
KARAPIRO	86.36	159.5	12	44	-1							
MESSINA	86.85	325.2	12	52	4	23	18	-7		23	40	PS
CHAPEL HILL	87.97	37.3	12	57	4							
COLUMBIA	88.72	39.7	13	12	15	23	41	-2				
WELLINGTON	89.36	161.1	12	59	-1	23	43	-5		24	35	SP
TOLEDO	91.69	339.8	13	9A	-1	23	58	-11		16	46	PP
ALICANTE	92.20	336.6	13	15K	2							
ROXBURGH	92.31	166.0				24	12	-3		30	17	SS
MALAGA	94.78	339.0	13	25	0					25	35	PS
LWIRO	112.58	291.1	14	46K	-232	25	30	8				
BANGUI	113.75	304.2	18	37	-3					19	36	PP
WILKES	115.40	196.2								19	55	
CARACAS	115.44	40.0								19	46	PP
FUQUENE	116.42	49.3								20	4	PP
BOGOTA	116.94	50.1				25	52	13		20	8	PP
MIRNY	119.68	202.5	18	58	6					20	20	PP
BROKEN HILL	121.67	282.1	18	53	-3							
SCOTT BASE	123.55	175.6	18	53	-6							
NANA	128.60	64.4	19	6	-3							
HUANCAYO	129.60	63.0	19	10	-1							
MAWSON	129.76	209.8	19	6	-5							
BANDEIRA	132.09	295.1	19	10	-6				19	21		
BYRD STATION	134.63	165.8	19	14	-7							
LA PAZ	137.46	59.5	19	27	1	26	27	-8				
N-LAZARVSKYA	147.39	204.6	19	37A	-6							

OCTOBER 18 8.H 53.M 35.S EPICENTRE 45.00 150.23 DEPTH= 66.KM

A=-0.61590 B= 0.35229 C= 0.70467 D= 0.4965 E= 0.8680
G=-0.6117 H= 0.3499 K=-0.7095 HT= -3.5

DEPTH OF FOCUS= 0.005R

SE= 1.98

	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	1.69	278.8	0	27A	-2	0	44	-6					
Y.-SAKHLINSK	5.61	293.8	1	23A	0								
UGLEGORSK	6.91	309.1	1	43	2	3	4	5					
MIZUSAWA	8.95	232.3	2	14	5	3	35	-15					
PETROPAVLOVK	9.74	31.5	2	23	3						4	23	
MATUSIRO	12.41	231.3	2	45	-11								
MAGADAN	14.58	1.2	3	23	-2						6	23	
ABUYAMA	15.10	233.0	3	34A	3								
YAKUTSK	20.80	332.3	4	37K	-1	8	18	-4					
TIKSI	28.62	346.0	5	51	-2						6	23	
ULAN-BATOR	29.70	291.3	6	1	-1								
IRKUTSK	30.76	300.4	6	14A	2								
ESEN BULAK	37.12	291.9	7	6	0								
HONG KONG	37.15	244.5				12	59	11					
BAGUIO CITY	37.84	230.7	7	10	-2								
COLLEGE	38.77	37.0	7	20	0								
SEMIPALATNSK	45.82	303.0	8	17	-1								
KHEYS	46.31	346.9	8	21	0						10	7	PP
MOULD BAY	46.93	19.1	8	27	1								
HONOLULU	48.33	101.7				15	46	15					
CHITTAGONG	52.37	264.7	9	8	0								
FRUNSE	52.62	296.3	9	9A	-1								
CHATRA	52.87	272.4	9	11	-1								
RESOLUTE	53.13	17.5	9	13	-1								
SVERDLOVSK	53.75	317.0	9	16A	-2						17	5	PS
TASHKENT	56.80	297.3	9	39A	-1						17	47	PS
KHOROG	57.48	292.3	9	45	0	17	44	8					
APATITY	58.15	336.2	9	48K	-2								
KEVO	58.31	340.0	9	49	-2						22	15	SS
NEW DELHI	58.84	280.6	9	53A	-2	17	57	4					

EDMONTON	58.88	44.1	9	54	-1						
WARSAK DAM	59.47	289.0	9	59	0						
SODANKYLA	60.14	338.2	10	1	-3						
TROMSOE	60.26	342.4	10	2	-2						
KIRUNA	61.34	340.6	10	10	-2						
HUNGRY HORSE	61.47	49.1	10	12	0						
BLUE MTS.	61.73	53.8	10	14	0	18	44	14		25	48
MINERAL	61.85	60.0	10	16K	1						
KAJAANI	62.27	335.2	10	17	-1						
BUTTE	63.68	50.5	10	25	-2						
UMEA	64.58	337.9	10	31	-2	19	10	4			
SCORESBY SD.	64.70	357.1	10	34	0						
BOZEMAN	64.72	50.0	10	31	-3				10	48	
MOSCOW	64.73	324.7	10	33	-1						
CHARTERS TS.	64.87	184.1	10	32	-3					19	9
QUETTA	64.89	288.2	10	34	-1	19	25	15			
ASHKABAD	65.60	299.8	10	41	1						
EUREKA	65.81	57.8	10	40	-1				10	57	
NURMIJARVI	65.91	333.8	10	40	-2	19	33	11		23	57 55
HELSINKI	66.08	333.5	10	41	-2						
SKALSTUGAN	66.76	341.0	10	46	-1						
MADRAS	66.83	265.3	10	48	1						
DUGWAY	67.22	55.5	10	50K	0						
SALT LAKE C.	67.41	54.6	10	52	1						
POONA	67.60	274.1	10	49K	-3						
PASADENA	67.83	63.5	11	15	21						
UPPSALA	68.54	336.5	10	58	0						
BOULDER CITY	68.74	60.1	11	0	1				11	16	11 27 *SP
UINTA BASIN	69.02	53.7	11	0	-1	20	8	9			24 43 SS
GLEN CANYON	70.06	57.5	12	9	62						
LARAMIE	70.59	50.7	11	11	0						
KONGSBERG	70.82	340.0	11	12	0	20	33	13			
TIFLIS	70.98	310.2	11	15	2	20	34	12			
TEHERAN	71.27	301.9	11	16	1						
GORIS	71.67	307.7	11	18A	1	20	41	11		14	1 PP
GOLDEN	71.81	51.9	11	20	2						
GOTEBORG	71.93	337.9	11	18	-1						
TONTO FOREST	72.04	59.4	11	20	1				11	36	15 1 PP
COPENHAGEN	73.55	336.6	11	28	0						
TUCSON	73.69	60.7	11	28	-1						
SIMFEROPOL	74.07	318.5	11	31A	0						21 48 PS
ALBUQUERQUE	74.47	56.1	11	34	1						12 0
LWOW	74.61	327.2	11	36K	2						
SHIRAZ	74.69	296.6	11	35A	0	21	3	-1	11	50	11 57 *SP
RACIBORZ	76.53	330.5	11	47	2						12 7 PCP
SKALNATE PL.	76.55	328.9	11	47	2						12 49
COLLMBERG	77.20	334.1	11	48A	-1				12	4	
HALLE	77.35	334.8	11	50	0				12	12	
WITTEVEEN	77.67	338.3	11	54	2						
PRAGUE	77.82	332.6	11	54	2						
PRUHONICE	77.85	332.5	11	54	1	21	46	7			
JENA	77.96	334.7	11	53	0	21	49	9			22 13
MUNSTER	78.18	337.4	11	56	2						
RIVERVIEW	78.46	179.2									22 55
VIENNA-H.	78.72	330.6	12	0K	3						12 13 PCP
WICHITA MTS.	79.14	51.5	11	59	-1	21	55	2			23 31
BENSBERG	79.21	337.2	12	1	1						
ISTANBUL UN.	79.48	318.9	12	2	1	22	9	13			
TULSA	79.78	48.9	12	3K	0	22	0	1			27 20 SS
BELGRADE	80.10	326.3	12	7K	2	22	11	8			12 20 PCP
HEIDELBERG	80.17	335.6	12	6	1						
STUTTGART	80.57	335.0	12	8	1						
KEW	80.60	341.8	12	8	1						
SOFIA	80.67	323.3	12	10	2						
TUBINGEN	80.85	335.0	12	11	2						
STRASBOURG	81.19	335.8	12	12	1	22	25	11			23 15 SP
LJUBLJANA	81.26	330.5	12	12	1						
KSARA	81.56	309.9	12	15K	3				12	29	
FELDBERG	81.74	335.4	12	14	1						
TRIESTE	81.88	330.8	12	15K	1	22	40	19			28 23 SS
BREBEUF	81.89	29.5	12	14	0						
FOLINIERE	83.17	341.0	12	22	1				12	36	
JERUSALEM	83.46	309.0	12	25K	3						
GARCHY	83.67	338.2	12	24	1						
ATHENS	84.37	320.3	12	20	-7						
AQUILA	84.87	329.4	12	30	1	22	55	4			30 5
CLERMONT-FD.	85.05	337.6	12	32	2						
CUMBERLAND	85.23	42.6	12	30	-1	23	0	6			29 0
ISOLA	85.37	334.4	12	33	1						

ROME	85.60	329.8	11	33	-60							23	48	
PALISADES	85.68	31.9				23	1	2						
TOLEDO	92.40	340.5	13	6	1							25	38	PS
LWIRO	113.40	291.7										19	26	PP
CARACAS	115.37	41.1										19	41	PP
LA PAZ	137.11	61.0	19	19	3									

OCTOBER 18 21.H 22.M 46.S EPICENTRE 45.29 151.21 DEPTH= 0.KM

A=-0.61869 B= 0.33996 C= 0.70827 D= 0.4816 E= 0.8764
G=-0.6207 H= 0.3411 K=-0.7059 HT= -3.7

SE= 1.80

	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	2.36	269.8	0	44K	3	1	13	2					
Y.-SAKHLINSK	6.15	289.4	1	38A	3								
PETROPAVLOVK	9.14	29.5	2	18	1								
MIZUSAWA	9.68	234.1	2	23	-1	4	5	-10					
MATUSIRO	13.14	232.8	3	8A	-3	5	29	-10					
ABUYAMA	15.83	234.3	3	44A	-2								
YAKUTSK	20.88	331.0	4	46A	-1								
TIKSI	28.51	345.4	5	58	-2								
ULAN-BATOR	30.25	291.1	6	10	-5								
COLLEGE	38.12	37.2	7	24	1								
BAGUIO CITY	38.56	231.7	7	27	0								
MOULD BAY	46.43	19.3	8	31K	0								
SHILLONG	51.01	268.3	9	6K	0								
ALERT	51.34	5.4	9	8K	-1								
YELLOWKNIFE	52.89	35.5	9	20	0								
CHITTAGONG	53.09	265.2	9	22	0								
FRUNSE	53.12	296.5	9	52	30								
CHATRA	53.55	272.8	9	27K	2								
VICTORIA	55.46	53.6	9	39	0								
DEHRA DUN	57.82	282.1	9	57	1								
APATITY	58.16	336.4	9	58A	0								
EDMONTON	58.19	44.6	9	59	0								
KEVO	58.27	340.2	9	58	-1							10	42	
NEW DELHI	59.46	281.0	10	7K	0									
WARSAK DAM	60.03	289.4	10	12	1									
SODANKYLA	60.13	338.4	10	11	-1							10	57	PCP
TROMSOE	60.19	342.6	10	12	0									
DARWIN	60.29	203.1	10	19	6							11	31	
BLUE MTS.	61.00	54.4	10	18	0							10	40	
KIRUNA	61.30	340.9	10	19A	-1									
KAJAANI	62.29	335.5	10	27	0									
BOZEMAN	64.00	50.6	10	36	-2				10	47				
VIBORG	64.48	332.6	10	40A	-1									
UMEA	64.57	338.2	10	41A	-1									
PULKOVO	64.69	331.3	10	43K	1									
MOSCOW	64.89	325.1	10	45	1									
EUREKA	65.06	58.5	10	45K	0				10	57				
CHARTERS TS.	65.22	185.1	10	45	-1									
QUETTA	65.46	288.7	10	47K	0									
WOODY	65.66	63.3	10	47	-2				11	0				
NURMIJARVI	65.95	334.2	10	50	-1									
ASHKABAD	66.05	300.2	10	53	2									
HELSINKI	66.12	333.8	10	50	-2									
VANNOVSKAYA	66.21	300.4	10	48K	-4									
KIZYL-ARVAT	66.51	302.4	10	54K	0									
SKALSTUGAN	66.71	341.3	10	54	-1									
BOULDER CITY	67.99	60.8	11	5	1				11	16				
POONA	68.27	274.7	11	7K	2									
UINTA BASIN	68.28	54.3	11	6	1									
UPPSALA	68.55	336.9	11	6	-1				11	18				
GLEN CANYON	69.31	58.1	11	11	-1									
KONGSBERG	70.78	340.5	11	21	0				11	31				
BERGEN	71.06	342.9	11	23	1									
KIROVOBAD	71.24	309.0	11	25K	2									
TONTO FOREST	71.29	60.1	11	24	0				11	37	14	14	PP	
TEHERAN	71.71	302.4	11	27	1									
GOTEBORG	71.91	338.4	11	27A	0									
GORIS	72.04	308.2	11	30A	2									
KARLSKRONA	72.26	335.7	11	28	-2				11	40				
BRISBANE	72.34	178.5	11	29	-1						13	16		

TUCSON	72.94	61.4	11	34	0				11	45		
COPENHAGEN	73.56	337.1	11	37	0							
ALBUQUERQUE	73.73	56.7	11	39	1							
LWOW	74.74	327.7	11	44	0							
SHIRAZ	75.18	297.1	11	47	0	21	9	-16	11	59	12	3 *SP
SCHEFFERVLLE	75.19	21.6	11	46	-1							
IASI	75.44	324.1	11	30A	-18							
KRAKOW	76.04	330.1	11	52K	1						12	4 PCP
UZHGOROD	76.36	327.9	11	54	1							
RACIBORZ	76.62	331.0	11	55	0						12	2 PCP
SKALNATE PL.	76.66	329.4	11	56	1						12	24 PCP
COLLMBERG	77.24	334.6	11	58K	0				12	10		
HALLE	77.38	335.3	11	59	0							
WITTEVEEN	77.65	338.9	12	2	2							
PRAGUE	77.87	333.2	12	1	-1							
PRUHONICE	77.91	333.1	12	2	0							
JENA	77.99	335.2	12	2	0							
MUNSTER	78.17	338.0	11	59	-4							
WICHITA MTS.	78.42	52.1	12	5	0							
BRATISLAVA	78.62	330.6	12	5	-1							
VIENNA-H.	78.81	331.1	12	8	1				12	28		
KASPERSKE H.	78.96	333.2	12	8K	0							
TULSA	79.07	49.6	12	8	0							
BENSBERG	79.21	337.8	12	9K	0							
FAYETTEVILLE	79.78	48.4	11	58	-14							
KEW	80.53	342.4	12	16	0							
STUTTGART	80.60	335.6	12	26	10							
DOURBES	80.66	339.0	12	15	-2							
SHAWINIGAN	80.68	29.1	12	16	-1							
STRASBOURG	81.20	336.4	12	20	0							
BREBEUF	81.29	30.1	12	20A	0							
TRIESTE	81.96	331.4	12	22	-1						12	34 PP
PARIS	82.38	339.7	12	27K	1							
FOLINIERE	83.11	341.6	12	31	2				13	42		
GARCHY	83.66	338.8	12	33K	1							
JERUSALEM	83.82	309.6	12	35K	2							
CLERMONT-FD.	85.04	338.2	12	42	3							
PALISADES	85.07	32.6	12	39	0							
ISOLA	85.40	335.0	12	43	2							
MONACO	85.70	334.6	12	43	1							
N-LAZARVSKYA	147.76	203.9	19	48	4							

OCTOBER 19 2.H 18.M 41.S EPICENTRE 47.42 153.69 DEPTH= 45.KM

A=-0.60878 B= 0.30095 C= 0.73405 D= 0.4432 E= 0.8964
G=-0.6580 H= 0.3253 K=-0.6791 HT= -4.5

DEPTH OF FOCUS= 0.002R

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
KURILSK	4.59	243.6	1	5A	-4	1	55	-7				
PETROPAVLOVK	6.44	27.7	1	34	-1	2	50	2				
Y.-SAKHLINSK	7.49	271.0	1	50A	1	3	23	9				
UGLEGORSK	7.94	286.4	2	0A	4						3	26
MAGADAN	12.27	353.1	2	58	3						5	31
MIZUSAWA	12.34	232.4				4	57	-16			3	34
MATUSIRO	15.80	232.1	3	31	-10	5	41	-54				
YAKUTSK	19.96	325.8	4	32K	1						8	37 SS
TIKSI	26.93	342.9	5	37A	-2						6	31
ULAN-BATOR	31.14	288.5	6	16	-1							
ESEN BULAK	38.49	290.4	7	23	3							
BAGUIO CITY	41.23	232.7	7	48	6							
MOULD BAY	43.84	20.2	8	4A	0							
KHEYS	44.51	346.5	8	9K	0	14	46	6			10	39 PPP
PHU-LIEN	46.22	251.6	8	21K	-2						10	14 PP
SEMIPALATNSK	46.54	302.3	8	23	-2							
HONOLULU	46.60	106.9	8	25	-1	15	19	9			18	37
ALERT	49.05	5.9	8	45A	0							
RESOLUTE	50.08	18.8	8	53	0							
YELLOWKNIFE	50.15	37.2	8	53	0							
SHILLONG	52.79	268.5	9	11A	-2							
VICTORIA	52.83	55.9	9	12	-1							
FRUNSE	53.71	296.3	9	18A	-2						12	37 PPP
SEATTLE	53.93	56.3	9	29	8	17	7	15				

CHITTAGONG	54.97	265.6	9	28	-1						
CHATRA	55.16	273.0	9	29A	-1						
EDMONTON	55.47	46.6	9	35K	2						
KEVO	56.84	340.5	9	41	-1	17	39	8		22	1 SS
PORT MORESBY	56.86	187.7	9	45	2	17	27	-4			
APATITY	56.89	336.7	9	43K	0	17	36	5		10	35 PCP
TASHKENT	57.82	297.7	9	48	-1					18	4 PS
BOKARO	58.07	271.3	9	50	-1						
HUNGRY HORSE	58.07	51.8	9	50	-1						
BLUE MTS.	58.37	56.6	9	51	-2	17	58	7		39	24 PKPPKP
MINERAL	58.58	63.1	9	52A	-3						
TROMSOE	58.66	343.1	9	56	1						
SODANKYLA	58.77	338.8	9	56K	0						
KHOROG	58.77	292.8	9	48	-8					18	25 PS
CALISTOGA	59.03	65.2	10	7K	9						
DEHRA DUN	59.05	282.4	9	56A	-2						
BERKELEY	59.70	65.7	10	6A	4	18	13	5			
KIRUNA	59.84	341.4	10	4K	1	18	17	7			
BUTTE	60.29	53.2	10	7	1						
LICK	60.42	65.9	10	11A	4						
PARAISO	60.60	67.2	10	13	4						
NEW DELHI	60.74	281.4	10	7A	-3						
WARSAK DAM	60.94	289.7	10	9	-2						
KAJAANI	61.05	336.0	10	13	1					10	53 PCP
BOZEMAN	61.33	52.7	10	9	-5				10	22	
PRIEST	61.79	66.3	10	23K	6						
SCORESBY SD.	62.37	358.3	10	21	1						
EUREKA	62.50	60.8	10	19	-2				10	32	
UMEA	63.21	338.9	10	25	-1	19	1	8		14	27
PULKOVO	63.63	331.9	10	28	-1	19	2	4		12	46 PP
DUGWAY	63.88	58.4	10	29K	-1						
SALT LAKE C.	64.06	57.4	10	30	-2						
MOSCOW	64.12	325.6	10	33K	1					19	38 PS
PASADENA	64.63	66.5	10	36	1	19	14	4	10	45	
NURMIJARVI	64.77	334.9	10	35K	-1	19	5	-7		14	34 PPP
HELSINKI	64.96	334.5	10	37	0						
SKALSTUGAN	65.23	342.1	10	40	1				10	53	11 6 PCP
FLAMING GRGE	65.35	55.9	10	39	-1						
BOULDER CITY	65.47	63.0	10	38	-3				10	51	
UINTA BASIN	65.66	56.5	10	39	-3	19	29	6		23	35 SS
QUETTA	66.39	289.3	10	46	-1	19	31	-1			
GLEN CANYON	66.74	60.3	10	47	-2						
KIZYL-ARVAT	66.80	303.0	10	51A	2	19	47	10			
LARAMIE	67.20	53.4	10	51	-1						
UPPSALA	67.25	337.7	10	51	-1	19	48	6			
CHARTERS TS.	67.53	187.6	10	50	-4	19	38	-7			
AFIAMALU	68.41	143.7				19	55	-1			
GOLDEN	68.43	54.5	10	59	0	20	3	7			
TONTO FOREST	68.76	62.2	11	0	-1	20	6	6	11	12	13 32 PP
KONGSBERG	69.32	341.4	11	6K	1						25 33 SS
MADRAS	69.40	266.9	11	3	-2	20	19	11			13 44 PP
BERGEN	69.51	343.9	11	7	1				11	21	
POONA	69.79	275.6	11	6K	-2						
BOMBAY	70.23	276.6	11	8	-2	20	23	6			13 34 PP
TUCSON	70.43	63.5	11	11	-1						
GOTEBORG	70.55	339.3	11	13K	1						
KARLSKRONA	71.00	336.7	11	15K	0						
ALBUQUERQUE	71.14	58.8	11	14	-2				11	27	
TIFLIS	71.21	311.6	11	18	2	20	39	10			
TEHERAN	71.99	303.3	11	22	1	20	49	11			
GORIS	72.05	309.1	11	22A	1	20	49	11			14 8 PP
COPENHAGEN	72.24	338.1	11	23K	1	20	52	11			
SCHEFFERVLLE	72.56	23.2	11	25	1						
WARSAW	72.80	331.7	11	31	5						20 3
SIMFEROPOL	73.81	320.0	11	31A	-1	21	9	11			14 19 PP
BRISBANE	74.46	180.8	11	35	0	21	1	-5			
IASI	74.70	325.2	11	37K	0						
LUBBOCK	74.78	56.9	11	36	-1	21	16	7			
KRAKOW	75.03	331.2	11	39K	0						
CHORZOW	75.13	331.9	11	39	0						12 17
UZHGOROD	75.44	329.1	11	42	1	21	23	7			
RACIBORZ	75.56	332.2	11	42	0						12 10 PCP
SKALNATE PL.	75.67	330.5	11	42	0						12 54
SHIRAZ	75.72	298.2	11	42A	-1	21	22	3			14 7 PP
WICHITA MTS.	75.76	54.1	11	41	-2	21	23	3			26 24
COLLMBERG	76.03	335.8	11	44A	0				11	54	
DURHAM	76.07	345.5	11	45	0						
HALLE	76.14	336.5	11	46	1				11	59	

WITTEVEEN	76.25	340.1	11	38	-8							
TULSA	76.38	51.5	11	44	-2	21	30	3			26	34 SS
PRAGUE	76.72	334.4	11	48	0							
JENA	76.75	336.5	11	47	-2	21	39	8			22	14
PRUHONICE	76.76	334.3	11	49	0	21	43	12				
MUNSTER	76.81	339.2	11	50	1							
FLORISSANT	76.94	46.2	11	48	-2							
ANN ARBOR	77.27	39.8	11	51	0							
BRATISLAVA	77.58	331.9	11	53	0							
LONDON ONT.	77.72	37.9	11	53	-1							
VIENNA-H.	77.74	332.4	11	56	2						14	47 PP
KASPERSKE H.	77.81	334.5	11	55A	1							
BENSBERG	77.86	339.1	11	56	1							
OTTAWA	77.90	33.2	11	54	-1							
SHAWINIGAN	77.97	30.8	11	55	0							
BREBEUF	78.58	31.8	11	58K	-1	21	53	3				
UCCLE	78.66	340.7	12	1	2							
HEIDELBERG	78.91	337.5	12	1	1							
KEW	79.00	343.8	12	2	1	22	6	11				
CARIBOU	79.18	27.7	12	2	0							
ISTANBUL UN.	79.18	320.7	12	4A	2	22	3	6				
DOURBES	79.26	340.3	12	2	0	22	13	15				
STUTTGART	79.34	336.9	12	3	0							
BELGRADE	79.37	328.2	12	5A	2	22	6	7			26	58 SS
TUBINGEN	79.61	337.0	12	5	1							
STRASBOURG	79.91	337.8	12	7A	1	22	18	14			27	19 SS
ZAGREB	80.02	331.5	12	8	2							
SOFIA	80.11	325.2	12	9	2	22	14	7				
LJUBLJANA	80.28	332.5	12	7	-1							
MILO	80.38	29.1	12	8	0							
WELSCHBRUCH	80.42	338.6	12	8	-1							
FELDBERG	80.49	337.4	12	9	0							
TRIESTE	80.88	332.8	12	11	0	22	22	7			27	48 SS
RIVERVIEW	80.91	182.1	12	10	-1	22	15	0			22	57 PS
PARIS	80.95	341.2	12	12	1							
PENNSYLVANIA	80.95	37.0	12	9A	-2							
MORGANTOWN	81.06	39.0	12	12	0							
EAST MACHIAS	81.33	28.3	12	13	0							
FOLINIERE	81.60	343.1	11	45	-30							
PADOVA	81.67	333.9	12	49	34						23	49
KSARA	81.79	311.9	12	17K	1							
CUMBERLAND	81.81	45.1	12	14	-2	22	29	5			13	1
GARCHY	82.26	340.3	12	18A	0							
PALISADES	82.34	34.3	12	17	-2	22	28	-2				
BLACKSBURG	82.87	40.7	12	21	0	22	39	4				
ADELAIDE	83.11	192.3	12	29	7							
CLERMONT-FD.	83.67	339.8	12	29	4							
AQUILA	83.95	331.6	12	29	2	22	52	6	12	41	28	38 SS
ATHENS	83.98	322.5	12	26K	-1							
ISOLA	84.17	336.6	12	28	0							
MONACO	84.48	336.1	12	31	2							
ROME	84.65	332.0	12	30A	0	22	58	5			28	49 SS
TOOLANGI	84.93	186.5	12	39	7							
TOLEDO	90.85	343.1	13	1	1							
CHILEKA	120.76	280.5									20	12 PP
MAWSON	132.98	211.6	19	9	-2							
LA PAZ	133.84	62.5	19	14	2							

OCTOBER 19 3.H 34.M 18.S EPICENTRE 47.05 153.80 DEPTH= 17.KM
A=-0.61362 B= 0.30188 C= 0.72962 D= 0.4414 E= 0.8973
G=-0.6547 H= 0.3221 K=-0.6839 HT= -4.3

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	
KURILSK	4.51	248.4	1	10	0	2	3	1					
PETROPAVLOVK	6.74	25.8	1	40	-1						3	21	
Y.-SAKHLINSK	7.58	273.8	1	58	5						3	32	
MIZUSAWA	12.17	234.0	3	4	8	5	4	-8					
MAGADAN	12.65	353.0	3	1	-1						5	37	
MATUSIRO	15.64	233.4	3	38K	-3	6	12	-23					
ABUYAMA	18.32	234.9	5	14A	59								
YAKUTSK	20.31	326.3	4	39	1						8	42	SS
TIKSI	27.30	343.1	5	46	0						10	56	
ULAN-BATOR	31.33	289.2	6	22	0								

COLLEGE	35.62	38.6	7	0	1	12	36	2		
BAGUIO CITY	41.06	233.2	7	44	-1	13	56	0		
MOULD BAY	44.17	20.1	8	11A	1					
KHEYS	44.89	346.6	8	17K	1					
PHU-LIEN	46.17	252.0	8	30K	4				10 1	PP
									10 21	PP
HONOLULU	46.42	106.6	8	32	4	15	24	10	18 46	
SEMIPALATNSK	46.80	302.6	8	31	0					
ALERT	49.42	5.9	8	51A	0					
YELLOWKNIFE	50.40	37.0	9	0	1					
RESOLUTE	50.41	18.8	9	0	1					
SHILLONG	52.86	268.8	9	16A	-1					
VICTORIA	52.97	55.7	9	19	1					
SVERDLOVSK	53.94	317.2	9	25	0					
FRUNSE	53.94	296.6	9	27K	2				21 0	SS
SEATTLE	54.07	56.1	9	32	6	17	13	13		
CHITTAGONG	55.02	265.9	9	35	2					
CHATRA	55.26	273.4	9	36	1	17	24	8		
EDMONTON	55.67	46.4	9	38	0					
KEVO	57.22	340.6	9	49	0					
APATITY	57.26	336.8	9	50A	1				13 15	PPP
TASHKENT	58.06	297.9	9	56K	1					
BOKARO	58.15	271.7	9	57	2	18	3	9	18 19	PS
BLUE MTS.	58.51	56.5	9	58	0	18	4	5	24 35	
MINERAL	58.68	63.0	10	1K	2					
TROMSOE	59.04	343.2	10	2	0					
CALISTOGA	59.12	65.1	10	4A	2					
SODANKYLA	59.15	338.9	10	3	1				11 5	
DEHRA DUN	59.20	282.7	10	2K	-1				18 29	PS
BERKELEY	59.79	65.6	10	10A	3	18	18	2		
KIRUNA	60.21	341.5	10	10	0	18	20	-1	10 37	
BUTTE	60.45	53.1	10	13	2					
LICK	60.50	65.7	10	16A	4					
PARAISO	60.68	67.0	10	21	8					
NEW DELHI	60.89	281.7	10	12A	-2					
LAHORE	60.89	286.1	10	15	1					
WARSAK DAM	61.14	290.0	10	15	-1					
KAJAANI	61.43	336.1	10	19	1				11 0	PCP
BOZEMAN	61.50	52.6	10	16	-2					
PRIEST	61.87	66.2	10	13A	-8					
EUREKA	62.62	60.6	10	27	1					
SCORESBY SD.	62.75	358.4	10	29	2					
UMEA	63.59	339.0	10	31	-1	19	5	1		
PULKOVO	64.00	332.0	10	35	0	19	15	6	14 31	PPP
DUGWAY	64.01	58.3	10	36	1					
SALT LAKE C.	64.20	57.3	10	39	3					
MOSCOW	64.47	325.8	10	39	1				12 58	PP
PASADENA	64.71	66.4				19	7	-11		
NURMIJARVI	65.14	335.0	10	44A	2	19	27	4	14 42	PPP
HELSINKI	65.32	334.6	10	42	-2					
FLAMING GRGE	65.50	55.8	10	46	1					
BOULDER CITY	65.57	62.9	10	48	3					
SKALSTUGAN	65.60	342.2	10	46	1				11 7	
UINTA BASIN	65.80	56.4	10	46	-1	19	33	2	19 54	SP
QUETTA	66.58	289.6	10	27	-25	19	36	-5		
ASHKABAD	66.71	301.0	10	55	3				23 48	SS
GLEN CANYON	66.86	60.2	10	55	2					
CHARTERS TS.	67.17	187.7	10	50	-5	19	38	-10		
LARAMIE	67.36	53.3	10	58	1					
UPPSALA	67.62	337.8	10	57	-1	19	51	-2		
AFIAMALU	68.07	143.7	10	56	-5	19	56	-2		
GOLDEN	68.59	54.5	11	5	1	20	10	5		
TONTO FOREST	68.87	62.2	11	7	1	20	12	4	11 54	
MADRAS	69.45	267.1	11	10	0	20	26	11	13 52	PP
KONGSBERG	69.70	341.5	10	56A	-15	20	26	8	26 30	SS
BERGEN	69.89	344.0	11	14	2					
POONA	69.90	275.8	11	13K	1					
BOMBAY	70.34	276.8	11	14	-1	20	31	6	13 53	PP
TUCSON	70.53	63.5	11	14	-2					
GOTEBORG	70.92	339.4	11	20	1					
ALBUQUERQUE	71.27	58.7	11	22	1					
KARLSKRONA	71.37	336.8	11	20	-1					
TIFLIS	71.52	311.7	11	26	4	20	47	8		
TEHERAN	72.26	303.5	11	28	2					
GORIS	72.34	309.2	11	29A	2				14 11	PP
COPENHAGEN	72.62	338.2	11	31A	2	21	4	12		
SCHEFFERVLLE	72.88	23.2	11	32	2					
WARSAW	73.17	331.9				21	8	10		
BRISBANE	74.09	180.9							24 52	
SIMFEROPOL	74.14	320.1	11	37A	-1					

LWOW	74.19	328.8	11 40K	2	21 13	4		
LAWRENCE	74.55	49.1	11 40	0				
LUBBOCK	74.92	56.9	11 44	2	21 22	5		
IASI	75.05	325.3	11 43K	0				
KRAKOW	75.39	331.3	11 46	1				12 12 PCP
CHORZOW	75.49	332.0	11 44	-1				12 2 PCP
WICHITA MTS.	75.92	54.0	11 46	-2	21 32	4		26 33
RACIBORZ	75.92	332.3	11 50	2				12 12
SHIRAZ	75.96	298.4	11 48A	0	21 39	10		12 12
SKALNATE PL.	76.03	330.7	11 52	4				
COLLMBERG	76.40	335.9	11 51	1			11 59	
DURHAM	76.44	345.6	11 53	2				
HALLE	76.51	336.6	11 53	2	21 42	7		
TULSA	76.56	51.5	11 51A	0	21 36	1		
WITTEVEEN	76.63	340.2	11 54	2				
PRAGUE	77.09	334.5	11 56	2				24 48
JENA	77.12	336.6	11 55	0	21 45	3		27 12 SS
PRUHONICE	77.13	334.4	11 56	1	21 45	3		
FLORISSANT	77.14	46.2	11 55	0				
MUNSTER	77.19	339.3	11 55	0				
FAYETTEVILLE	77.27	50.3	11 56	1				
ANN ARBOR	77.51	39.8	11 58	1				
DE BILT	77.64	340.8	12 0	3	21 54	7		
BRATISLAVA	77.95	332.0	12 2	3				
LONDON ONT.	77.97	37.9	12 0	1				
VIENNA-H.	78.11	332.5	12 3	3				
OTTAWA	78.17	33.2	12 0	0				
KASPERSKE H.	78.18	334.6	12 2	2				
BENSBERG	78.23	339.2	12 2K	1				
SHAWINIGAN	78.26	30.8	12 1	0				
BREBEUF	78.86	31.9	12 4K	0	22 0	0		
UCCLE	79.04	340.8	12 10	5				
HEIDELBERG	79.28	337.6	12 8	2				
KEW	79.37	343.9	12 9	2	22 12	6		
CARIBOU	79.48	27.8	12 9	2				
ISTANBUL UN.	79.52	320.8	12 9A	1	22 19	12		
DOURBES	79.64	340.4	12 8K	0	22 14	6		
STUTTGART	79.71	337.0	12 10	1				
BELGRADE	79.72	328.3	12 11K	2	22 23	14		12 18 PCP
TUBINGEN	79.98	337.1	12 12	2				
STRASBOURG	80.28	337.9	12 14A	2	22 24	9		15 17 PP
SOFIA	80.46	325.3	12 15	2	23 13	56		
RIVERVIEW	80.54	182.2			22 20	2		23 6 PS
LJUBLJANA	80.64	332.6	12 16	2				
MILO	80.67	29.1	12 16	2				
WELSCHBRUCH	80.80	338.7	12 15	1				
FELDBERG	80.86	337.5	12 16	1				
PENNSYLVANIA	81.20	37.1	12 16A	-1				
TRIESTE	81.24	332.9	12 18	1	22 31	6		
MORGANTOWN	81.30	39.1	12 18K.	1				
PARIS	81.32	341.3	12 19	2				
EAST MACHIAS	81.63	28.4	12 21	2				
CUMBERLAND	82.02	45.1	12 21.	0	22 28	-5		
KSARA	82.09	312.0	12 23K	2				
PALISADES	82.60	34.4	12 24	0	22 37	-2		
GARCHY	82.64	340.4	12 26K	2				
ADELAIDE	82.76	192.4	12 27	2				
BLACKSBURG	83.10	40.7	12 27	1	22 46	2		
CLERMONT-FD.	84.05	339.8	12 34K	3				
AQUILA	84.31	331.7	12 35	2	23 8	12	12 51	15 54 PP
ATHENS	84.32	322.6	12 32K	-1				
ISOLA	84.54	336.7	12 36	2				
TOOLANGI	84.57	186.6	12 47	13				
MONACO	84.85	336.2	12 37	2				
ROME	85.02	332.1	12 37A	1	23 9	6		15 57 PP
MESSINA	87.29	328.3	12 47	0	23 17	-8		
TOLEDO	91.23	343.I	13 7	1				
MALAGA	94.35	342.6						17 8
CHANGALANE	130.03	273.2	18 59	-10				19 11
MAWSON	132.70	211.4	19 15	0				
LA PAZ	133.95	62.9	19 20	3			19 34	
BYRD STATION	135.36	165.7	19 19	0				

OCTOBER 19 3.H 47.M 5.5 EPICENTRE 47.04 153.93 DEPTH= 0.KM

A=-0.61439 B= 0.30052 C= 0.72953 D= 0.4394 E= 0.8983
G=-0.6553 H= 0.3206 K=-0.6839 HT= -4.3

SE= 1.82

	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
PETROPAVLOVK	6.71	25.1	1	43	1	2	57	-3				
Y.-SAKHLINSK	7.67	273.9	2	50	54							
MIZUSAWA	12.24	234.4	3	52	54	5	6	-11				
MATUSIRO	15.71	233.7	3	39K	-5							
ABUYAMA	18.39	235.2	4	13K	-5							
YAKUTSK	20.37	326.2	4	40	-1							
TIKSI	27.34	343.0	5	47	-1							
ULAN-BATOR	31.42	289.2	6	23	-2							
COLLEGE	35.57	38.6	7	2	1							
MOULD BAY	44.14	20.1	8	13A	1							
ALERT	49.41	5.9	8	54A	1							
YELLOWKNIFE	50.35	37.1	9	0	-1							
RESOLUTE	50.39	18.8	9	1	0							
VICTORIA	52.90	55.8	9	19	-1							
SHILLONG	52.95	268.9	9	20A	0							
FRUNSE	54.02	296.7	9	27A	-1							
CHITTAGONG	55.11	266.0	9	36	0							
CHATRA	55.35	273.5	9	38A	0							
EDMONTON	55.61	46.5	9	40A	0							
KEVO	57.25	340.7	9	51	0							
APATITY	57.30	336.8	9	51K	-1							
TASHKENT	58.14	298.0	9	56	-2							
BLUE MTS.	58.44	56.6	10	0	0							
MINERAL	58.61	63.0	10	4A	3							
CALISTOGA	59.04	65.1	10	3A	-1							
TROMSOE	59.07	343.2	10	3	-1							
SODANKYLA	59.18	339.0	10	4	-1							
DEHRA DUN	59.29	282.7	10	5A	-1							
BERKELEY	59.71	65.7	10	21A	12							
KIRUNA	60.25	341.5	10	12	0						10	26
BUTTE	60.38	53.1	10	13	0							
PARAISO	60.60	67.1	10	19	4							
NEW DELHI	60.97	281.8	10	16A	-1							
BOZEMAN	61.43	52.7	10	18	-2							
KAJAANI	61.47	336.2	10	21K	0							
PRIEST	61.79	66.3	10	21A	-2							
EUREKA	62.54	60.7	10	28	0							
UMEA	63.63	339.0	10	34	-1							
VIBORG	63.78	333.4	10	34	-2							
DUGWAY	63.94	58.3	10	37A	0							
PULKOVO	64.05	332.1	10	36A	-2							
MOSCOW	64.52	325.8	10	49	8							
NURMIJARVI	65.18	335.0	10	44	-1							
HELSINKI	65.37	334.7	10	45	-1							
FLAMING GRGE	65.43	55.8	10	46	-1							
BOULDER CITY	65.50	63.0	10	48	1							
SKALSTUGAN	65.64	342.3	10	47A	-1							
UINTA BASIN	65.73	56.4	10	49	0						39	17 PKPPKP
QUETTA	66.67	289.7	10	55A	0							
GLEN CANYON	66.79	60.3	10	55	0							
VANNOVSKAYA	66.93	301.3	10	56	0							
KIZYL-ARVAT	67.15	303.3	11	0	2							
LARAMIE	67.30	53.4	10	51	-8							
UPPSALA	67.66	337.9	11	0A	-1						11	11
GOLDEN	68.52	54.6	11	7	1							
TONTO FOREST	68.79	62.3	11	9	1				11	20	11	35 PCP
KONGSBERG	69.73	341.6	11	14K	0							
BERGEN	69.92	344.0	11	15	0							
POONA	69.99	275.9	11	15A	0							
TUCSON	70.46	63.6	11	18	0							
GOTEBORG	70.96	339.5	11	21	0							
ALBUQUERQUE	71.20	58.8	11	23	0							
KARLSKRONA	71.41	336.9	11	22A	-2							
KIROVOBAD	71.58	310.1	11	24A	-1							
TEHERAN	72.34	303.6	11	30A	1							
COPENHAGEN	72.66	338.3	11	32K	1							
SCHEFFERVLLE	72.85	23.3	11	32	0							
LWOW	74.24	328.9	11	41	1							
LUBBOCK	74.85	57.0	11	45	1							
IASI	75.10	325.4	11	46K	1							

KRAKOW	75.44	331.4	11 47	0			11 57	PCP
CHORZOW	75.54	332.0	11 49	1			12 2	PCP
WICHITA MTS.	75.85	54.1	11 49	-1				
UZHGOROD	75.85	329.2	11 49	-1				
RACIBORZ	75.97	332.4	11 50	0			12 2	PCP
SHIRAZ	76.04	298.4	11 51A	0			17 23	
SKALNATE PL.	76.08	330.7	11 54	3				
COLLMBERG	76.44	336.0	11 53A	0	11 59			
DURHAM	76.47	345.7	11 53	0				
TULSA	76.49	51.6	11 53A	0				
HALLE	76.55	336.7	11 54	0				
WITTEVEEN	76.67	340.3	11 57	3				
FLORISSANT	77.08	46.3	11 56	-1				
PRAGUE	77.13	334.6	12 1	4				
JENA	77.16	336.6	11 56	-1			12 55	
FAYETTEVILLE	77.21	50.4	10 57	-60				
MUNSTER	77.23	339.4	11 58	1				
ANN ARBOR	77.46	39.9	11 59	0			12 6	PP
LONDON ONT.	77.92	38.0	12 2	1				
BRATISLAVA	77.99	332.1	12 0	-2				
OTTAWA	78.13	33.3	12 1	-1				
VIENNA-H.	78.16	332.6	12 3	0				
SHAWINIGAN	78.22	30.9	12 1	-2				
KASPERSKE H.	78.22	334.7	12 3A	0				
BENSBERG	78.27	339.3	12 3A	0				
BREBEUF	78.82	31.9	12 5	-1				
UCCLE	79.07	340.9	12 11	3				
HEIDELBERG	79.32	337.7	12 9	0				
KEW	79.41	344.0	12 10	1				
CARIBOU	79.44	27.8	12 10	0				
ISTANBUL UN.	79.58	320.9	12 12	2				
DOURBES	79.67	340.5	12 10K	-1				
STUTTGART	79.75	337.1	12 11	0				
TUBINGEN	80.03	337.1	12 13	0				
STRASBOURG	80.32	338.0	12 14	0			12 45	
ZAGREB	80.43	331.6	12 22	7				
SOFIA	80.52	325.4	12 17	2				
MILO	80.64	29.2	12 17	1				
LJUBLJANA	80.69	332.7	12 16	0				
WELSCHBRUCH	80.83	338.8	12 16	-1				
FELDBERG	80.90	337.5	12 18	1				
PENNSYLVANIA	81.15	37.1	12 19A	0				
TRIESTE	81.29	333.0	12 19	0				
PARIS	81.36	341.4	12 21A	1				
EAST MACHIAS	81.59	28.5	12 22	1				
CUMBERLAND	81.96	45.2	12 22	-1				
BESANCON	82.00	338.6	12 23	0				
FOLINIERE	82.01	343.2	12 23	0				
PALISADES	82.56	34.5	12 24	-2				
GARCHY	82.67	340.5	12 27A	0				
CLERMONT-FD.	84.08	339.9	12 37	3				
JERUSALEM	84.12	311.3	12 35A	1				
AQUILA	84.36	331.7	12 36	1	12 49		16 8	PP
ATHENS	84.38	322.7	12 35K	0				
ISOLA	84.58	336.7	12 37	1				
MONACO	84.89	336.3	12 38	0				
CARACAS	112.12	44.0					16 11	
LWIRO	114.95	295.7					16 50	
LA PAZ	133.87	63.1	19 21	2				
SOUTH POLE	136.85	180.0	19 19	-6				

OCTOBER 19 16.H 15.M 9.5 EPICENTRE 44.94 151.14 DEPTH= 0.KM

A=-0.62207 B= 0.34284 C= 0.70391 D= 0.4827 E= 0.8758
G=-0.6165 H= 0.3398 K=-0.7103 HT= -3.5

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
Y.-SAKHLINSK	6.23	292.5	1	38	2	2	44	-4				
MIZUSAWA	9.44	235.6	2	26	6	3	53	-15				
MATUSIRO	12.89	233.9	3	3	-4							
MAGADAN	14.64	359.3	3	29	-1							
ABUYAMA	15.59	235.2	3	39A	-4						4	13
YAKUTSK	21.16	331.5	4	48	-1	8	42	1				
ULAN-BATOR	30.33	291.7	6	15	-1							

ESEN BULAK	37.74	292.3	7	21	2					
MANILA	39.46	229.7	7	32	-2					
SEMIPALATNSK	46.39	303.4	8	30	0					
MOULD BAY	46.78	19.2	8	34K	1					
SHILLONG	50.95	268.5	9	4K	-1					
ALERT	51.70	5.3	9	11A	0					
RESOLUTE	52.99	17.7	9	21	0					
CHITTAGONG	53.01	265.4	9	28	7					
YELLOWKNIFE	53.20	35.3	9	23	1					
FRUNSE	53.23	296.7	9	23K	0	16	55	2		
CHATRA	53.52	273.1	9	25A	0					
SVERDLOVSK	54.23	317.4	9	29K	-1					
VICTORIA	55.71	53.3	9	40	-1					
TASHKENT	57.40	297.7	9	53	0	17	50	1		
DEHRA DUN	57.84	282.3	9	56	0					14 24
KHOROG	58.10	292.8	9	59	1	18	0	2		
APATITY	58.46	336.5	9	59K	-1					
EDMONTON	58.47	44.4	10	0K	0					
KEVO	58.59	340.3	10	0	-1					
NEW DELHI	59.48	281.2	10	5K	-2	18	12	-4		
LAHORE	59.68	285.6	10	8	-1					
WARSAK DAM	60.10	289.5	10	11K	-1					
SODANKYLA	60.44	338.5	10	13	-1					
TROMSOE	60.51	342.7	10	14	0					
HUNGRY HORSE	61.02	49.5	10	18	0					10 39
BLUE MTS.	61.24	54.2	10	19K	0					12 39
MINERAL	61.32	60.5	10	19A	-1					
KIRUNA	61.61	340.9	10	20A	-2					
CALISTOGA	61.72	62.6	10	22K	-1					
BERKELEY	62.38	63.1	10	27K	0					
KAJAANI	62.59	335.6	10	28	0					
LICK	63.09	63.2	10	32A	0					
PARAISO	63.24	64.5	10	36	3					
BOZEMAN	64.27	50.5	10	37	-2					
PRIEST	64.45	63.7	10	41K	0					
SCORESBY SD.	64.79	357.4	10	46A	3					
UMEA	64.88	338.3	10	42	-1				10 55	
PULKOVO	64.98	331.3	10	38	-6					
MOSCOW	65.15	325.1	10	41	-4					
EUREKA	65.29	58.3	10	46K	0					
QUETTA	65.52	288.8	10	47A	-1					16 16
ASHKABAD	66.19	300.3	10	54	2					
NURMIJARVI	66.25	334.2	10	51	-1					
VANNOVSKAYA	66.34	300.5	10	53	0					
HELSINKI	66.42	333.9	10	52	-1					
KIZYL-ARVAT	66.66	302.5	10	57A	2					
DUGWAY	66.72	56.0	10	55K	0					
SALT LAKE C.	66.92	55.0	11	6	10					
PASADENA	67.28	64.0	10	58	-1				11 30	
BOULDER CITY	68.21	60.6	11	5	0				11 38	
FLAMING GRGE	68.23	53.6	11	4	-1					
POONA	68.25	274.8	11	3A	-2					
UINTA BASIN	68.53	54.2	11	7K	0	20	11	3		25 11 SS
UPPSALA	68.85	336.9	11	8A	-1				11 21	
GLEN CANYON	69.54	58.0	11	12	-1					
LARAMIE	70.12	51.2	11	17	1					
KONGSBERG	71.09	340.5	11	23	1				11 36	
KIROVOBAD	71.42	309.1	11	24	0	20	42	0		
TONTO FOREST	71.51	59.9	11	25	0	20	50	7	11 58	14 3 PP
TEHERAN	71.85	302.5	11	28	1	20	50	3		
BRISBANE	71.99	178.5	11	25	-3					
GORIS	72.21	308.2	11	31	2	20	55	4		
GOTEBORG	72.22	338.4	11	28	-1				11 42	
KARLSKRONA	72.56	335.8	11	30A	-1				11 43	
COPENHAGEN	73.86	337.1	11	40	1					
ALBUQUERQUE	73.97	56.6	11	38	-1				12 12	
LWOW	75.01	327.7	11	46A	1					
SHIRAZ	75.30	297.2	11	47	0	21	22	-4		14 34 PP
KISHINEV	75.31	323.3	11	47	0	21	27	1		
KRAKOW	76.32	330.1	11	53	0					12 7 PCP
CHORZOW	76.45	330.7	12	6	13					12 20 PCP
UZHGOROD	76.63	327.9	11	54	0					
RACIBORZ	76.90	331.0	11	57	1					12 10 PCP
COLLMBERG	77.54	334.6	11	59	0					15 1 PP
WITTEVEEN	77.96	338.9	12	3	1					
PRUHONICE	78.20	333.0	12	4	1					
JENA	78.29	335.2	12	2	-2					15 9 PP
MUNSTER	78.48	338.0								13 5

WICHITA MTS.	78.67	52.0	12	5	-1	22	10	7			12	38		
BRATISLAVA	78.91	330.6	12	5	-2									
VIENNA-H.	79.09	331.1	12	9	1									
TULSA	79.33	49.5	12	9K	0				12	28	12	41	*SP	
BENSBERG	79.51	337.8	12	10	0									
STUTTGART	80.90	335.6	12	18	0									
DOURBES	80.97	338.9	12	17K	-1									
STRASBOURG	81.50	336.4	12	23	2									
BREBEUF	81.62	30.0	12	20K	-1									
WELSCHBRUCH	82.05	337.2	12	23	-1									
FOLINIERE	83.43	341.5	12	32	1									
GARCHY	83.97	338.8	12	43K	9									
JERUSALEM	84.00	309.6	12	35	1									
MORGANTOWN	84.11	37.2	12	36K	2									
CUMBERLAND	84.83	43.2	12	38	0						13	9		
CLERMONT-FD.	85.35	338.2	12	52	12									
PALISADES	85.39	32.5	12	41	0	23	16	5	13	13				
ISOLA	85.70	335.0	12	43	1									
MONACO	86.00	334.5	12	44	0									
TOLEDO	92.67	341.1	13	15	0									
BANGUI	115.17	305.7	19	50	66						20	41	PP	
BYRD STATION	133.76	166.0	19	19	0									

OCTOBER 20 0.H 53.M 11.S EPICENTRE 44.87 150.32 DEPTH= 26.KM

A=-0.61777 B= 0.35203 C= 0.70316 D= 0.4951 E= 0.8688
G=-0.6109 H= 0.3481 K=-0.7110 HT= -3.5

SE= 4.09

	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
KURILSK	1.78	282.4	0	31A	2	0	52	0				
NEMURO	3.75	247.4	0	54	-4							
ABASHIRI	4.41	261.0	1	6A	-1							
KUSIRO	4.68	248.2	1	7A	-4	2	1	-4				
OBIHIRO	5.51	251.7	1	22	0							
HIROO	5.71	245.4	1	24	-1							
Y.-SAKHLINSK	5.72	294.7	1	26A	1						2	44
ASAHIGAWA	5.81	261.9	1	28A	1	2	28	-6				
URAKAWA	6.12	246.2	1	27	-4	2	42	1				
WAKKANAI	6.14	278.1	1	35	4	2	55	13				
RUMOE	6.30	264.6	1	36	2						1	55
TOMAKOMAI	6.72	253.6	1	40	0	3	13	17				
SAPPORO	6.72	257.6	1	38	-2	2	50	-6				
UGLEGORSK	7.04	309.6	1	45A	1							
MURORAN	7.25	252.6	1	46	-1	3	40	31				
SUTTSU	7.59	257.7	1	55	3						2	17
HAKODATE	7.61	249.6	1	50	-2	3	16	-3				
MORI	7.62	252.1	1	52	0	3	27	8				
HATINOHE	7.80	239.2	1	56	1	3	27	4				
AOMORI	8.10	243.3	2	0	1	3	36	5				
MIYAKO	8.10	232.8	1	59	0	3	36	5				
MORIOKA	8.53	235.9	1	59	-6	3	29	-12				
MIZUSAWA	8.93	233.2	2	10	0	3	49	-2				
AKITA	9.16	239.3	2	31	18							
ISINOMAKI	9.32	229.4	2	7	-9	3	51	-10				
SENDAI	9.66	230.2	2	15	-5	4	1	-8				
PETROPAVLOVK	9.81	30.9	2	26	3							
SAKATA	9.84	236.3	2	23	0						3	18
YAMAGATA	9.98	231.9	2	26	1	4	12	-5				
HUKUSIMA	10.27	229.5	2	22	-7							
ONAHAMA	10.65	225.2	2	9	-25	4	5	-29				
SHIRAKAWA	10.87	228.0	2	32	-5	4	23	-16				
MITO	11.31	224.8	2	35	-8	4	34	-16				
AIKAWA	11.35	237.1	2	29	-15	5	1	10				
UTUNOMIYA	11.48	227.2	2	46	1	4	56	2				
KAKIOKA	11.57	225.2	2	37	-10	3	48	-68				
TUKUBASAN	11.62	225.5	2	40	-7							
TYOSI	11.65	221.6	2	48	0	4	51	-7				
TAKADA	11.97	233.7	2	42	-10	4	46	-20				
MAEBASI	12.02	229.1	2	46	-7	4	47	-20				
KUMAGAYA	12.04	227.4	2	45	-8						6	59
TOKYO C.M.O.	12.22	224.9	3	13	18	5	9	-3				
NAGANO	12.30	232.4	3	13	17	5	14	0				
TITIBU	12.33	227.8	2	56	-1	5	21	7				
OIWAKE	12.35	230.4	2	55	-2	5	10	-5				

MATUSIRO	12.39	232.0	2	51	-7	5	5	-11			
YOKOHAMA	12.46	224.5	3	13	14	5	49	31			
WAZIMA	12.58	238.1	3	7	7	6	5	45			
MATUMOTO	12.73	231.7	3	17	15	6	6	42			
MERA	12.78	222.6	2	49	-14						
KOHU	12.84	228.3	3	21	17	5	33	6			
TOYAMA	12.86	235.1	3	16	12	5	40	13			
HUNATU	12.86	227.3	3	4	0	5	26	-1			
AJIRO	13.04	225.1	3	6	0	5	29	-3			
MISIMA	13.06	225.7	3	14	7	5	16	-16			
KLYUCHI	13.25	26.4	3	6	-3						
KANAZAWA	13.29	235.9	2	46	-24						
IIDA	13.35	229.9	3	13	3				4	8	
SHIZUOKA	13.46	226.8	3	23	11	6	5	23			
NAGATURO	13.52	224.6	3	43	30	6	20	37			
HUKUI	13.87	235.4	3	12	-5						
HAMAMATU	14.01	228.0	3	39	20						
GIHU	14.02	232.2	3	14	-5						
NAGOYA	14.08	231.1	3	13	-7	5	46	-10			
TSURUGA	14.24	234.6	3	24	2	5	56	-4			
HIKONE	14.41	233.1	3	21	-3	5	54	-10			
KAMEYAMA	14.59	231.4	3	44	17	6	26	18			
TU	14.67	230.9	3	44	16						
MAGADAN	14.70	1.0	3	27	-1						
MAIZURU	14.76	235.6	3	42	13	6	58	45			
KYOTO	14.88	233.6	3	28	-2	6	16	1			
TOYOOKA	15.06	237.1	3	45	12				6	50	
NARA	15.07	232.5	3	37	4						
ABUYAMA	15.08	233.6	3	23A	-10	6	59	39			
OSAKA	15.26	233.1	3	52	17	6	53	29			
OWASE	15.32	230.1	3	34	-2	6	38	12			
KOBE	15.44	234.0	3	44	6						
TOTTORI	15.46	238.3	3	41	3	6	1	-28			
WAKAYAMA	15.77	232.8	3	59	17	6	49	13			
SUMOTO	15.84	233.7	3	52	9	7	12	34			
YONAGO	16.02	239.8	3	44	-1						
SIOMISAKI	16.02	229.6	4	2	17	6	55	13			
MATSUE	16.18	240.4	3	51	4	7	29	43			
OKAYAMA	16.18	236.6	4	15	28	7	5	19			
TOKUSIMA	16.22	233.7	3	48	0				8	0	
TAKAMATU	16.35	235.5	3	44	-5	6	47	-3			
TSURUGISAN	16.71	234.4	3	54	0				8	9	
MUROTO	17.05	232.6	4	2	4	7	17	11			
HAMADA	17.15	240.8	3	56	-3	7	20	12			
KOTI	17.20	234.7	3	59A	-1	7	8	-1			
HIROSIMA	17.29	238.8	4	6	5	7	41	30			
MATUYAMA	17.44	236.8	4	6	3	7	25	10			
UWAZIMA	18.00	235.9	4	15	5	7	36	9			
ASHIZURI	18.11	233.9	4	17	6	8	9	39			
SIMONOSEKI	18.49	240.5	4	23	7						
OOITA	18.56	237.6	4	18K	1	8	9	29			
NOBOEKA	18.97	236.1	4	23	1	7	48	-1			
HUKUOKA	19.08	240.6	4	14K	-9	7	15	-37			
ASOSAN	19.12	237.9	4	32	8	8	4	12			
SAGA	19.35	240.0	4	29	3	8	2	4			
ITUHARA	19.36	243.9	4	27A	1	8	2	4			
KUMAMOTO	19.40	238.4	4	29	2	7	54	-5			
MIYAZAKI	19.61	235.2	4	32	3	8	13	10			
NAGASAKI	19.96	239.6	4	30A	-3	8	41	30			
KAGOSIMA	20.37	236.1	4	42	5	8	35	16			
HUKUE	20C63	241.3	4	40	0	8	40	16			
YAKUTSK	20.94	332.3	4	39K	-4						
YAKUSIMA	21.22	234.0	4	45	-1	8	53	17			
TIKSI	28.75	346.0	5	53A	-5						
ULAN-BATOR	29.81	291.6	6	4	-3						
TAIPEI	30.56	239.3	6	15	1				12	48	
IRKUTSK	30.88	300.5	6	14	-3						
HSINCHU	31.07	239.7	6	17	-1						
HWALIEN	31.29	237.8	6	51	31						
GUAM	31.67	190.4	6	33	10						
TAICHUNG	31.72	239.2	6	33	9						
YUSHAN	32.06	238.0	7	19	52	12	37	61			
HSINKONG	32.09	237.0	6	37	10						
ALISHAN	32.12	238.3	6	43	16						
TAITUNG	32.49	236.9	6	35	4	11	53	10			
TAINAN	32.86	238.4	7	14	40	11	57	8			
TAWU	32.95	236.8	6	48	13	12	29	39			
KAOHSIUNG	33.12	237.9	6	21	-15						
HENGCHUN	33.30	236.5	7	4	26				14	12	

ESEN BULAK	37.22	292.1	7	9A	-2						
BAGUIO CITY	37.81	231.0	7	13	-3						
COLLEGE	38.83	36.9	7	22	-2	13	23	3			
MANILA	38.98	228.7	7	22	-4	13	19	-4			
PHU-LIEN	43.18	250.8	8	0	0				8	6	
SEMIPALATNSK	45.94	303.2	8	20A	-3						
SITKA	46.08	46.9	8	41	17	15	13	6			
KHEYS	46.45	346.9	8	23A	-3					15	22 PS
MOULD BAY	47.03	19.1	8	28	-3						
KIPAPA	48.22	101.5	8	41	1						
HONOLULU	48.24	101.7	8	38	-3	15	41	4			
RABAUL	48.88	177.6	8	42	-3						
SHILLONG	50.37	268.0	8	54A	-3					16	24 PS
HAWAII V.OB.	51.46	101.1	9	7	2						
ALERT	51.81	5.2	9	4	-4						
CHITTAGONG	52.42	264.9	9	10	-2						
FRUNSE	52.74	296.4	9	13A	-2						
PORT HARDY	52.82	52.2	9	37	22						
CHATRA	52.94	272.5	9	16K	0	16	52	10		11	17 PP
RESOLUTE	53.23	17.5	9	15	-3						
YELLOWKNIFE	53.59	35.1	9	18	-3						
PORT MORESBY	54.10	183.9	9	20	-5	17	9	11			
HONIARA	54.74	168.3	9	23K	-7	17	1	-6			
CALCUTTA	54.76	267.6	9	24	-6	17	18	11			
ANDIJAN	55.25	295.3	9	51K	18					12	7 PP
BOKARO	55.77	270.6	9	35A	-2	17	35	14		10	21 PCP
VICTORIA	56.21	53.0	9	37	-3						
TASHKENT	56.92	297.4	9	43A	-2					17	49 PS
DEHRA DUN	57.29	281.8	9	48	0	17	57	16		12	3 PP
SEATTLE	57.31	53.4	9	56	8	17	40	-1			
KHOROG	57.59	292.4	9	49A	-1					17	53 PS
APATITY	58.29	336.3	9	51K	-4	17	47	-7		12	8 PP
KEVO	58.45	340.0	9	52	-4	17	59	3		12	13 PP
EDMONTON	58.92	44.0	9	56	-3						
NEW DELHI	58.92	280.7	9	56A	-3	18	11	9		12	36 PPP
PORT BLAIR	59.04	254.7	9	59A	-1	18	14	10		12	12 PP
LAHORE	59.13	285.2	9	59	-2	18	18	13			
WARSAK DAM	59.58	289.1	10	2	-2						
DARWIN	59.66	202.2	9	58	-6						
SPOKANE	60.06	51.1	10	13	6	18	23	6			
SODANKYLA	60.28	338.2	10	4	-5						
TROMSOE	60.40	342.4	10	7	-2					10	57 PCP
SHASTA	61.16	60.1	10	11A	-4						
KIRUNA	61.48	340.6	10	14	-3	18	45	10		19	27
VISHAKHAPTNM	61.49	267.0	10	24K	7	19	11	36		12	52 PP
HUNGRY HORSE	61.50	49.1	10	13	-4						
UKIAH	61.57	62.0	10	20	3	18	47	11			
BLUE MTS.	61.75	53.8	10	14	-5	18	33	-5		10	50
MINERAL	61.85	60.0	10	22K	3						
LUGANVILLE	62.02	161.6	10	14A	-6						
CALISTOGA	62.26	62.1	10	20K	-2						
SEHORE	62.37	275.9	10	22	-1	18	57	11		10	48 PCP
KAJAANI	62.41	335.3	10	21	-2						
BERKELEY	62.92	62.6	10	24A	-2					10	46
LICK	63.63	62.8	10	29A	-2						
BUTTE	63.70	50.5	10	29	-2						
PARAISO	63.78	64.0	10	31	-1						
TANGERANG	64.15	229.8	10	32	-2						
PORT VILA	64.42	160.9	10	47A	11						
UMEA	64.72	338.0	10	36	-2	19	25	10			
PULKOVO	64.75	331.0	10	36A	-2	19	10	-6		11	2 PCP
BOZEMAN	64.75	50.0	10	32	-6						
CHARTERS TS.	64.75	184.2	10	33	-5	19	10	-6			
SCORESBY SD.	64.82	357.1	10	43	4	19	29	12			
MOSCOW	64.87	324.8	10	38	-1					12	59 PP
PRIEST	64.99	63.3	10	35A	-5						
QUETTA	64.99	288.4	10	39A	-1	19	24	5			
HYDERABAD	65.13	270.2	10	40K	-1	20	10	50		13	19 PP
ASHKABAD	65.72	299.9	10	43	-2	19	40	12		13	1 PP
EUREKA	65.81	57.8	10	42	-3					39	57 PKPPKP
NURMIJARVI	66.05	333.9	10	45	-2						
HELSINKI	66.22	333.5	10	45	-3					14	40 PPP
KOUMAC	66.35	165.7	11	4K	15	20	9	34			
MADRAS	66.89	265.4	10	48K	-4	19	52	10		13	23 PP
SKALSTUGAN	66.90	341.0	10	52	0					11	15
DUGWAY	67.23	55.6	10	50K	-4						
SALT LAKE C.	67.43	54.6	10	52	-3					11	27
POONA	67.67	274.3	10	55	-2	20	41	50			

PASADENA	67.83	63.5	10	59	1	19	54	1		39	39 PKPPKP
BOMBAY	68.16	275.2	10	51	-9	19	55	-2		13	29 PP
UPPSALA	68.68	336.5	11	0	-3	20	10	7		39	19 PKPPKP
FLAMING GRGE	68.73	53.1	11	1	-3						
BOULDER CITY	68.74	60.1	11	1	-3					39	31 PKPPKP
PRICE	68.79	55.0	11	9	5						
UINTA BASIN	69.03	53.7	11	2	-3	20	10	3		39	1 PKPPKP
RAPID CITY	69.99	47.3	11	8	-3						
GLEN CANYON	70.06	57.5	11	10	-2						
LARAMIE	70.61	50.8	11	13	-2						
KODAIKANAL	70.71	265.2	11	17	1	21	17	50		16	11 PPP
KONGSBERG	70.95	340.1	11	15	-2	20	33	3		13	57 PP
TIFLIS	71.11	310.3	11	19	1						
TEHERAN	71.39	302.0	11	19	-1	20	50	15			
GORIS	71.79	307.8	11	22A	0					15	51 PPP
GOLDEN	71.83	51.9	11	29	7	20	43	3			
BRISBANE	71.95	177.7	11	19	-4	20	44	3			
TONTO FOREST	72.05	59.4	11	19	-5	20	45	2	11 30	13	58 PP
GOTEBORG	72.06	338.0	11	21	-3					11	42
KARLSKRONA	72.37	335.4	11	23	-3						
COPENHAGEN	73.69	336.7	11	31A	-2	21	14	13			
WARSAW	73.90	330.3	11	30	-4	21	1	-2		11	55 PCP
SIMFEROPOL	74.21	318.5	11	35A	-1					21	45 PS
ALBUQUERQUE	74.49	56.1	11	35	-3					12	12
LWOW	74.75	327.2	11	37A	-2					14	26 PP
SHIRAZ	74.81	296.7	11	38A	-2	21	22	8	11 44	39	51 PKPPKP
IASI	75.40	323.7	11	45	2	21	27	7		21	59 SKS
KRAKOW	76.08	329.6	11	48	1	21	19	-9		11	53 PCP
BACAU	76.18	323.6	11	55	7	21	50	21			
CHORZOW	76.22	330.3	11	47	-1					14	31 PP
RACIBORZ	76.67	330.6	11	47	-3	21	37	3		12	9 PCP
FOCSANI	76.75	322.9	12	1	10	21	47	12			
COLLMBERG	77.34	334.1	12	18	24	21	54	13			
HALLE	77.49	334.8	11	53	-2	21	33	-10			
WITTEVEEN	77.80	338.4	11	57	0						
DURHAM	77.90	343.8	12	3A	6	21	56	9		14	58 PP
PRAGUE	77.95	332.7	11	57	0	22	4	16			
PRUHONICE	77.99	332.6	11	56	-2	21	56	8			
CAMPULUNG	78.01	323.9	12	11	13	22	3	14			
JENA	78.10	334.8	11	55	-3	21	49	-1		27	13 SS
LUBBOCK	78.15	54.3	12	3	4	21	56	6			
BUCHAREST	78.24	322.8	11	59	0	21	59	8		15	41 PP
MUNSTER	78.32	337.5	12	0	1						
RIVERVIEW	78.34	179.3	11	57	-3	21	54	2		22	8 SKS
CHEB	78.60	333.9	12	3	2					22	1
BRATISLAVA	78.67	330.2	11	59	-2	21	49	-7		13	29
DE BILT	78.84	338.9	12	0	-2	22	14	17			
VIENNA-H.	78.86	330.6	12	3	1					14	56 PP
TIMISOARA	79.16	326.4	12	13	9	22	11	10			
WICHITA MTS.	79.17	51.5	12	0	-4	21	43	-18		27	14
BENSBERG	79.35	337.3	12	4	-1	22	1	-2			
CHICAGO CGS.	79.38	40.2	12	2	-3	21	58	-5			
ISTANBUL UN.	79.62	318.9	12	5	-2	22	12	6			
TULSA	79.81	49.0	12	5	-3	22	6	-2		27	4 SS
CANBERRA	79.83	181.1	12	8	0	22	7	-1	12 14	12	22 PCP
ADELAIDE	80.16	189.7	12	9	-1	22	9	-2		12	24 PCP
BELGRADE	80.24	326.3	12	10	0	22	19	7		15	7 PP
UCCLE	80.24	338.9	12	3	-7	22	5	-7			
HEIDELBERG	80.31	335.7	12	6	-4						
FLORISSANT	80.40	43.7	12	7	-4	22	9	-5			
FAYETTEVILLE	80.53	47.8	12	35	24	22	11	-4			
STUTTGART	80.71	335.1	12	11	-1	22	29	12			
ANN ARBOR	80.72	37.4	12	17	5	22	16	-1			
KEW	80.74	341.9	12	10	-3	22	17	0			
KARLSRUHE	80.75	335.7	12	14	1	22	12	-5			
SOFIA	80.81	323.4	12	13	0	22	34	16		17	20 PPP
DOURBES	80.82	338.4	12	12K	-1	22	16	-2			
TUBINGEN	80.99	335.1	12	13	-1						
ZAGREB	81.08	329.6	12	13	-1	22	24	3			
LONDON ONT.	81.16	35.5	12	18	3						
OTTAWA	81.30	30.9	12	18K	3						
STRASBOURG	81.32	335.9	12	15A	-1	22	28	5		12	50
SHAWINIGAN	81.34	28.5	12	15	-1						
SCARBOROUGH	81.38	33.9	12	20K	4						
LJUBLJANA	81.40	330.6	12	14A	-2	22	28	4		15	28 PP
TERRE HAUTE	81.40	41.5	11	49	-27	21	49	-35			
RAVENSBURG	81.49	334.4	12	14	-2						
KSARA	81.69	310.0	12	17	-1	22	31	4			

FELDBERG -	81.88	335.4	12	18	-1					
WELSCHBRUCH	81.88	336.7	12	20	1				12	42
BREBEUF	81.96	29.5	12	16	-3	22	35	5		
TRIESTE	82.01	330.9	12	17A	-2	22	31	1	23	27
VALENTIA	82.13	348.0	12	27	7	22	32	0		
TOOLANGI	82.18	183.9	12	23	3	22	45	13	12	38 *SP
SKOPJE	82.21	324.1	12	20	0	22	35	3		
CLEVELAND	82.30	36.6	12	26	5				22	30
CARIBOU	82.51	25.5	12	26	4					
MUNDARING	82.54	208.7	12	16	-6	22	36	0		
PARIS	82.55	339.2	12	26A	4					
TITOGRAD	82.71	325.8	12	21	-2	22	18	-20	12	29 PCP
PADOVA	82.86	331.9	12	30	6	22	54	15	29	19 SS
BESANCON	83.04	336.4	12	17	-7				12	46
FOLINIERE	83.30	341.0	12	25	-1					
JERUSALEM	83.59	309.1	12	26	-1					
MILO	83.73	26.8	12	33	5					
GARCHY	83.81	338.3	12	28K	0					
PAVIA	83.95	333.5	12	31K	2	22	41	-9	23	13
PENNSYLVANIA	84.38	34.7	12	31A	0					
PRATO	84.47	331.7	12	37	5	23	27	32		
MORGANTOWN	84.51	36.6	12	37	5	22	51	-4		
ATHENS	84.51	320.4	12	30A	-2				23	3
EAST MACHIAS	84.67	26.0	12	37	4					
AQUILA	85.01	329.5	12	35	1	23	3	3	16	7 PP
TARANTO	85.17	326.0	12	19	-16				23	18 PS
CLERMONT-FD.	85.19	337.6	12	38	3	23	19	17		
CUMBERLAND	85.27	42.6	12	32	-4	22	57	-6	15	29 PP
ISOLA	85.51	334.4	12	36	-1	23	23	18		
KARAPIRO	85.51	160.2	12	33	-4					
ROME	85.74	329.8	12	35A	-3	23	3	-4	16	13 PP
PALISADES	85.75	32.0	12	42	4	23	4	-4	12 59	13 14 PCP
MONACO	85.80	334.0	12	38	0					
FORDHAM	85.90	32.0	12	43	4	22	57	-12		
HALIFAX	85.94	23.6	12	44	5					
PHILADELPHIA	86.18	33.3	12	58	18	23	9	-3		
BLACKSBURG	86.32	38.3	12	45	4					
GUADALAJARA	86.60	64.2	12	49	7					
CHATEAU	86.72	160.6	12	47	4				16	19 PP
TARRALEAH	86.86	182.9							13	8
MESSINA	87.80	326.0	12	46	-2					
REGGIO CALA.	87.84	325.8	12	53	5				18	49
CHAPEL HILL	88.00	38.1	12	52	3					
BAGNERES	88.49	338.6	12	55	4					
WELLINGTON	88.53	161.8	13	7	15	23	21	-13	28	55 SS
CUGLIERI	88.62	331.7	12	39	-13	23	29	-6		
COLUMBIA	88.71	40.5	12	57	5	23	43	7	17	5
BARCELONA	89.49	336.6	13	8	12	23	53	10		
TACUBAYA	90.15	62.2							13	35
TORTOSA	90.50	337.6	13	21	20	24	8	16		
ROXBURGH	91.53	166.8	13	16	10	23	43	-18	34	25
TOLEDO	92.54	340.5	13	10A	0	23	57	-13	16	44 PP
ALICANTE	93.07	337.4	13	15K	2	24	29	14	16	59 PP
OAXACA	93.45	62.0							14	4
MERIDA	94.76	54.3	13	19	-1	24	37	8		
GRANADA	94.99	339.4	14	0	39	24	45	14	18	18 PP
ALMERIA	95.01	338.4	13	24	2	24	30	36	17	10 PP
MALAGA	95.62	339.8	13	24	0	24	1	4		
PONTA DELGDA	97.70	356.8	13	46	12					
ADDIS ABABA	98.53	291.7	13	32	-5					
AVERROES	99.61	341.2	13	45	3				17	57 PP
SAN JUAN	108.83	36.6	14	29	777				19	30 PP
GALERAZAMBA	110.99	48.8							19	27 PP
TANANARIVE	112.05	264.9							19	12 PP
ST. CLAUDE	112.75	33.6							19	31 PP
LWIRO	113.51	291.7	14	50A	-226	25	41	22		
FORT FRANCE	114.15	33.6							19	15
WILKES	115.02	196.6	18	54	15	25	45	20	19	41 PP
CARACAS	115.42	41.2							19	20
CHINCHINA	115.60	52.6							19	43 PP
BOGOTA	116.76	51.3							19	45 PP
CAPE HALLETT	117.72	173.3	19	2	18				29	47
CHILEKA	118.82	276.5	18	52	6					
M.BOUR	119.91	345.8	19	14	26				20	51 PP
BROKEN HILL	122.54	282.6	18	56	3				20	51
SCOTT BASE	122.87	175.9	18	51	-3					
BULAWAYO	126.29	277.4	19	9A	8				19	33
CHANGALANE	127.64	268.9	19	8	5				21	7 PP
NANA	128.18	65.9	19	4	0					

LUANDA	128.47	300.8	19	43K	38					21	16 PP
MAWSON	129.59	209.8	19	4	-3						
PIETERMZBURG	130.89	266.6	19	48K	39						
BANDEIRA	133.04	295.6	18	55A	-18					21	45 PP
BYRD STATION	133.85	166.0	19	14	-1						
KIMBERLEY	134.38	271.5	19	17	1					19	50
SOUTH POLE	134.68	180.0	19	14	-2						
LA PAZ	137.11	61.2	19	20	-1					23	29
HERMANUS	141.44	268.3								23	5 PKS
SANTA LUCIA	146.58	84.4	19	37	-1						
G. G. VIDELA	152.89	149.1	19	51	4	26	30	-20		24	13 PP

OCTOBER 20 9.H 10.M 39.S EPICENTRE 44.50 150.14 DEPTH= 0.KM

A=-0.62062 B= 0.35630 C= 0.69849 D= 0.4979 E= 0.8672
G=-0.6058 H= 0.3478 K=-0.7156 HT= -3.4

SE= 2.55

	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
KURILSK	1.77	295.2	0	33A	1	0	55	0				
NEMURO	3.50	252.1	0	55	-1	1	34	-5				
ABASHIRI	4.24	265.6	1	8K	1							
KUSIRO	4.43	251.9	1	9	-1	1	57	-6				
OBIHIRO	5.27	255.0	1	21	-1							
HIROO	5.44	248.3	1	23	-1	2	23	-5				
ASAHIGAWA	5.64	265.4	1	28	1							
Y.-SAKHLINSK	5.77	298.5	1	30A	1						2	41
URAKAWA	5.86	248.9	1	29	-1	2	34	-5				
WAKKANAI	6.07	281.7	1	36	3	2	51	7				
RUMOE	6.15	267.9	1	35K	1							
TOMAKOMAI	6.49	256.3	1	47	8							
SAPPORO	6.52	260.4	1	40	1	2	51	-4				
MURORAN	7.02	255.1	1	45	-1	3	2	-6				
UGLEGORSK	7.19	312.5	1	49A	0	3	16	4				
HAKODATE	7.37	251.9	1	49	-2	3	10	-6				
MORI	7.38	254.4	1	53	2	3	48	31				
SUTTSU	7.39	260.2	1	52	1							
HATINOHE	7.49	241.0	1	53	0	3	7	-13				
MIYAKO	7.77	234.2	2	1	4	3	13	-14				
AOMORI	7.82	245.2	1	54	-3	3	17	-11				
MORIOKA	8.21	237.4	1	58	-5	3	24	-14				
MIZUSAWA	8.60	234.5	2	6	-2	3	35	-12				
AKITA	8.86	240.8	2	30	18							
ISINOMAKI	8.97	230.5	2	8	-6	3	41	-16				
SENDAI	9.32	231.3	2	13	-5	3	50	-15				
SAKATA	9.52	237.6	2	21	0							
YAMAGATA	9.65	233.0	2	19	-4							
HUKUSIMA	9.93	230.6	2	23	-4	4	10	-10				
PETROPAVLOVK	10.20	30.3	2	29	-1						4	32
SHIRAKAWA	10.52	228.9	2	20	-15	4	20	-15				
NIIGATA	10.62	235.6									4	13
MITO	10.95	225.5	2	41	0	4	31	-14				
AIKAWA	11.04	238.2	2	41	-1							
UTUNOMIYA	11.13	228.0	2	42	-1	4	34	-16				
KAKIOKA	11.21	226.0	2	40	-4	4	37	-15				
TAKADA	11.65	234.7	2	38	-12							
MAEBASI	11.68	229.9	2	47	-4							
KUMAGAYA	11.69	228.2	2	47	-4	4	52	-11				
TOKYO C.M.O.	11.86	225.6				4	52	-16				
NAGANO	11.97	233.3	3	5	10							
TITIBU	11.97	228.6	2	55	0	4	57	-14				
OIWAKE	12.02	231.2	2	53	-2							
MATUSIRO	12.06	232.8	2	50	-6	4	57	-15				
YOKOHAMA	12.11	225.2				5	5	-9				
MATUMOTO	12.40	232.5	2	59	-1							
MERA	12.42	223.1				5	7	-12				
KOHU	12.49	229.1	3	6	4	5	10	-13				
HUNATU	12.51	228.0	3	5	3	5	14	-9				
TOYAMA	12.53	236.0	2	41	-21							
AJIRO	12.68	225.7	2	56	-8	5	11	-16				
MISIMA	12.71	226.3	3	33	29							
IIDA	13.00	230.6	3	10	2							
SHIZUOKA	13.11	227.5									5	25
GIHU	13.69	233.0	3	16	-1							

NAGOYA	13.74	231.8	3	26	8					
HIKONE	14.08	233.9	3	21	-2					
KAMEYAMA	14.25	232.1							3	49
KYOTO	14.56	234.4	3	26	-3				6	4
NARA	14.74	233.2	3	28	-3					
ABUYAMA	14.75	234.3	3	28A	-3					
MAGADAN	15.08	1.3	3	36	0					
KOBE	15.12	234.7							10	6
SUMOTO	15.51	234.4	3	18	-23	6	45	10		
TAKAMATU	16.03	236.2	3	43	-5	6	57	10		
MUROTO	16.72	233.2							9	43
HAMADA	16.86	241.5	3	46	-13	7	12	6		
KOTI	16.88	235.3							10	17
HIROSIMA	16.98	239.5	3	57	-3	7	20	11		
MATUYAMA	17.13	237.5	4	0	-2	7	26	14		
OOITA	18.25	238.2	4	18	2	7	32	-6		
HUKUOKA	18.78	241.3	4	21	-1	7	58	8		
SAGA	19.05	240.6	4	38	12					
KUMAMOTO	19.09	239.0	4	25	-1	7	57	0		
NAGASAKI	19.66	240.2	4	33A	0	8	17	8		
KAGOSIMA	20.05	236.6	4	38	1	8	37	19		
YAKUTSK	21.22	333.0	4	46K	-3	8	38	-3		
TIKSI	29.09	346.3	6	0A	-4	10	46	-9	6	53 PP
ULAN-BATOR	29.83	292.1	6	10A	-1					
IRKUTSK	30.96	301.1	6	19	-2	11	20	-5	7	18 PP
HONG KONG	36.88	245.0	7	15	3	12	57	0		
ESEN BULAK	37.24	292.5	7	15A	0					
BAGUIO CITY	37.47	231.1	7	15	-2	13	2	-4		
COLLEGE	39.21	36.6	7	32	1	13	32	0		
PHU-LIEN	42.93	251.0	8	4K	2	14	30	2		
SITKA	46.43	46.6	8	42	12					
KHEYS	46.78	347.0	8	28K	-5	15	16	-7	10	21 PP
MOULD BAY	47.42	19.0	8	38K	0					
HONOLULU	48.30	101.2				15	59	15		
RABAUL	48.51	177.3	8	47K	1	15	52	5		
SHILLONG	50.23	268.2	8	58K	-1					
ALMATA	51.08	296.0	9	6A	0	16	24	1		
ALERT	52.20	5.1	9	13	-1					
CHITTAGONG	52.26	265.0	9	14	-1	16	37	-2		
FRUNSE	52.79	296.6	9	19A	0	16	48	1		
CHATRA	52.83	272.7	9	19K	0	16	48	1		
RESOLUTE	53.63	17.4	9	24K	-1					
PORT MORESBY	53.71	183.7	9	24	-2	17	1	2		
YELLOWKNIFE	53.97	34.9	9	28A	1					
SVERDLOVSK	54.07	317.2	9	26	-2	16	58	-6		
CALCUTTA	54.61	267.7	9	19	-13					
BOKARO	55.64	270.7	9	40	0					
VICTORIA	56.54	52.7	9	46	0					
TASHKENT	56.97	297.5	9	49	0	17	43	0	18	6 PS
DEHRA DUN	57.24	281.9	9	51K	0	17	46	0		
KHOROG	57.61	292.6	9	54	0	17	51	0		
APATITY	58.58	336.3	9	58K	-3	17	55	-9	12	13 PP
KEVO	58.75	340.1	9	59A	-3	18	5	-1	13	37 PPP
NEW DELHI	58.87	280.8	10	0A	-3	18	6	-2		
LAHORE	59.11	285.3	10	3	-1	18	9	-2		
EDMONTON	59.28	43.8	10	5A	0					
WARSAK DAM	59.58	289.2	10	7	0					
SODANKYLA	60.58	338.3	10	12	-2					
TROMSOE	60.71	342.4	10	13	-2					
SHASTA	61.46	59.8	10	20K	0					
KIRUNA	61.79	340.7	10	20	-3	18	41	-4		
HUNGRY HORSE	61.84	48.8	10	23	0				10	34
BLUE MTS.	62.08	53.5	10	24K	0	18	55	6		
MINERAL	62.16	59.8	10	25K	0				10	51
CALISTOGA	62.55	61.8	10	28K	0				13	9 PP
KAJAANI	62.69	335.3	10	27	-2					
BERKELEY	63.21	62.3	10	32K	0	19	11	8		
TANGERANG	63.80	229.7	10	34A	-2					
LICK	63.92	62.5	10	36K	-1					
BUTTE	64.04	50.2	10	37	0				10	49
PARAISO	64.07	63.8	10	42	4					
CHARTERS TS.	64.37	184.0	10	37	-3	19	5	-12		
QUETTA	64.99	288.4	10	43K	-1	19	25	0		
UMEA	65.02	337.9	10	41K	-3	19	30	5		
BOZEMAN	65.09	49.8	10	42	-2				10	57
MOSCOW	65.10	324.8	10	43A	-1					
PRIEST	65.28	63.0	10	46K	1					
ASHKABAD	65.79	300.0	10	49	0	19	35	0	13	15 PP
EUREKA	66.12	57.6	10	51K	0				11 3	13 15 PP

NURMIJARVI	66.33	333.9	10	50	-2	19	37	-4			20	46 SCS
HELSINKI	66.49	333.5	10	51	-2							
MADRAS	66.73	265.4	10	58	3	19	51	5			20	12 PS
SKALSTUGAN	67.21	341.0	10	58	0							
DUGWAY	67.56	55.3	11	1K	1							
POONA	67.57	274.3	11	1K	1							
AFIAMALU	67.66	139.6				20	1	4				
SALT LAKE C.	67.75	54.4	11	1	0							
BOMBAY	68.06	275.3									20	4
PASADENA	68.11	63.3	11	3	0	20	8	5	11	20		
UPPSALA	68.97	336.5	11	7K	-2							
BOULDER CITY	69.04	59.9	11	10	1				11	19	11	28 *SP
FLAMING GRGE	69.07	52.9	11	10	1							
UINTA BASIN	69.36	53.5	11	11	0	20	17	-1			14	2 PP
GLEN CANYON	70.38	57.3	11	19	2							
LARAMIE	70.95	50.6	11	21	0							
TIFLIS	71.25	310.3	11	24	1	20	41	1				
KONGSBERG	71.26	340.1	11	22K	-1	20	40	0				
TEHERAN	71.48	302.0	11	25	1	20	44	1				
BRISBANE	71.58	177.5	11	24K	-1	20	53	9				
GORIS	71.92	307.8	11	28A	1	20	52	4				
GOLDEN	72.17	51.7	11	29	1	20	53	3				
TONTO FOREST	72.35	59.2	11	30	1	20	57	5	11	41	11	47 PCP
GOTEBORG	72.36	337.9	11	28	-1				11	37		
KARLSKRONA	72.66	335.3	11	29	-2				11	41		
COPENHAGEN	73.99	336.6	11	38K	-1							
SIMFEROPOL	74.40	318.5	11	42A	1	21	16	0			16	20 PPP
ALBUQUERQUE	74.81	55.9	11	44	0						12	1 *SP
SHIRAZ	74.86	296.6	11	43K	-1	21	10	-11			14	30 PP
LWOW	74.99	327.2	11	45A	0	21	21	-1			11	55 PCP
IASI	75.63	323.6	11	49	1	21	49	20			21	29
KRAKOW	76.34	329.6	11	53K	1	21	38	1			12	3 PCP
BACAU	76.41	323.6	11	54	1							
CHORZOW	76.48	330.2	11	53	0						12	4 PCP
RACIBORZ	76.93	330.5	11	56	0						12	7 PCP
SKALNATE PL.	76.94	328.9	11	59	3	21	44	0			12	8 PCP
COLLMBERG	77.62	334.1	11	59	0	21	49	-2				
HALLE	77.77	334.8	12	1	1	21	47	-6				
RIVERVIEW	77.96	179.1	12	2	1	22	0	5				
WITTEVEEN	78.10	338.3	12	4K	2							
LAWRENCE	78.16	46.4	12	2	0							
DURHAM	78.22	343.7	12	1	-2	21	38	-19				
PRAGUE	78.23	332.6	12	5	2							
PRUHONICE	78.26	332.5	12	3	0	21	55	-3				
JENA	78.38	334.7	12	3	-1	21	51	-8			13	42
LUBBOCK	78.47	54.1	12	4	0							
MUNSTER	78.61	337.4	12	7	2							
BRATISLAVA	78.93	330.1	12	7	0							
VIENNA-H.	79.12	330.6	12	8	0						15	0 PP
KASPERSKE H.	79.32	332.6	12	9A	0							
TIMISOARA	79.40	326.3	12	21	12	22	11	1				
CANBERRA	79.45	180.9	12	10A	1				12	22		
WICHITA MTS.	79.50	51.3	12	9	-1						15	24 PP
BENSBERG	79.64	337.2	12	11K	1							
ADELAIDE	79.77	189.5	12	11A	0				12	23		
ISTANBUL UN.	79.81	318.9	12	14A	3	22	17	3				
TULSA	80.16	48.8	12	13K	0	22	16	-2				
BELGRADE	80.48	326.3	12	16A	1	22	23	2			12	45
UCCLE	80.55	338.8	12	20	5							
HEIDELBERG	80.60	335.6	12	16	0							
FLORISSANT	80.76	43.6	12	16	0							
FAYETTEVILLE	80.88	47.7	12	16	-1							
STUTTGART	80.99	335.0	12	17	-1							
SOFIA	81.03	323.3	12	19	1	22	28	1			12	43
KARLSRUHE	81.04	335.6	12	21	3							
KEW	81.05	341.8	12	18	0	22	21	-6				
ANN ARBOR	81.10	37.3	12	18	0	22	27	-1				
DOURBES	81.12	338.4	12	17	-1	22	26	-2				
TUBINGEN	81.27	335.0	12	19	0							
ZAGREB	81.34	329.5	12	21	2	22	21	-9				
LONDON ONT.	81.54	35.4	12	20	0							
STRASBOURG	81.61	335.8	12	22A	1	22	39	6			28	51
LJUBLJANA	81.66	330.5	12	20	-1							
OTTAWA	81.69	30.7	12	22	1							
SHAWINIGAN	81.74	28.3	12	21	-1							
SCARBOROUGH	81.77	33.8	12	22	0							
RAVENSBURG	81.77	334.3	12	22	0							
TOOLANGI	81.80	183.7	12	22	0						12	57

KSARA	81.83	309.9	12	22	0	22	42	7	12	59		
HUNDARING	82.15	208.6	12	23	-1							
FELDBERG	82.17	335.3	12	25	1							
WELSCHBRUCH	82.18	336.6	12	23	-1							
TRIESTE	82.28	330.8				22	37	-3			32	25 SSS
BREBEUF	82.36	29.4	12	24A	-1	22	39	-2	12	36		
SKOPJE	82.43	324.0	12	21	-4							
PARIS	82.85	339.1	12	29	2							
CARIBOU	82.90	25.3	12	29	1							
TITOGRAD	82.95	325.7	12	21	-7	22	46	-1			12	37 PCP
PADOVA	83.13	331.8				22	51	3			13	11
BESANCON	83.33	336.3	12	30	0							
FOLINIERE	83.62	340.9	12	32	1							
JERUSALEM	83.73	309.0	12	33K	1							
MILO	84.12	26.7	12	36	2							
ATHENS	84.71	320.3	12	26K	-11						12	55
PRATO	84.74	331.6	12	43	6	22	53	-11				
PENNSYLVANIA	84.77	34.5	12	37	0							
MORGANTOWN	84.89	36.5	12	38	0							
EAST MACHIAS	85.06	25.9	12	41	3							
AQUILA	85.27	329.4	12	41	1	23	11	1	12	59	35	21
CLERMONT-FD.	85.49	337.5	12	47	6							
CUMBERLAND	85.64	42.5	12	41	0						28	57
ISOLA	85.79	334.3	12	43	1							
ROME	86.00	329.7	12	43A	0	23	11	-6			24	28 PS
MONACO	86.08	333.9	12	44	0							
PALISADES	86.14	31.8	12	44	0	23	16	-2	12	55		
HALIFAX	86.33	23.4	12	45A	0							
MESSINA	88.03	325.8	12	53	0	23	26	-10			25	5
BAGNERES	88.79	338.5	12	58	1							
TOLEDO	92.85	340.4	13	15A	0	23	52	-27			25	36 PS
MALAGA	95.93	339.7	13	29	-1							
LWIRO	113.53	291.4									19	35
BANGUI	114.84	304.6	18	42	0						19	39 PP
CARACAS	115.79	41.2									20	2 PP
FUQUENE	116.58	50.5									19	54 PP
BOGOTA	117.09	51.3				26	3	24			20	13 PP
MIRNY	118.99	202.6	19	2	12						20	9
BROKEN HILL	122.49	282.2	18	58	1							
SCOTT BASE	122.50	175.9	18	57	0							
CHANGALANE	127.50	268.5	19	6	-1							
MAWSON	129.20	209.6	19	10	0				19	22		
HUANCAYO	129.48	64.6	19	14	3							
BYRD STATION	133.51	166.1	19	19	1						22	41
SOUTH POLE	134.31	180.0	19	9	-11							
AREQUIPA	135.23	64.8	19	47	26							
LA PAZ	137.40	61.4	19	28	3				19	40		
SANTA LUCIA	146.74	84.8	19	43	1							

OCTOBER 20 11.H 52.M 27.S EPICENTRE 45.15 150.35 DEPTH= 86.KM

A=-0.61497 B= 0.35012 C= 0.70656 D= 0.4948 E= 0.8690
G=-0.6140 H= 0.3496 K=-0.7077 HT= -3.6

DEPTH OF FOCUS= 0.008R

SE= 4.61

	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
KURILSK	1.75	273.5	0	42	13						1	23
NEMURO	3.88	243.7	0	48	-11	1	30	-13				
ABASHIRI	4.48	257.5	1	0A	-7							
KUSIRO	4.80	245.3	1	0A	-11	1	48	-18			4	37
OBIHIRO	5.61	249.1	1	13	-9							
Y.-SAKHLINSK	5.63	292.1	1	19A	-4						2	36
HIROO	5.84	243.1	1	15	-11	2	18	-14				
ASAHIGAWA	5.87	259.3	1	20	-6							
WAKKANAI	6.12	275.6	1	27	-2	2	59	20				
URAKAWA	6.25	244.0	1	22	-9	2	47	5				
RUMOE	6.35	262.2	1	27A	-6							
SAPPORO	6.80	255.4	1	31A	-8	2	53	-2				
TOMAKOMAI	6.82	251.4	1	30	-9							
MURORAN	7.35	250.7	1	36	-10	3	4	-5				
SUTTSU	7.67	255.7	1	41	-10							
MORI	7.72	250.2	1	21	-30							
HAKODATE	7.73	247.8	1	41	-11	3	3	-15				

HATINOHE	7.95	237.6	1	45	-10	3	2	-22				
AOMORI	8.24	241.7	1	47	-12	3	13	-18				
MIYAKO	8.28	231.3	1	43	-16	3	9	-23				
MORIOKA	8.70	234.4	1	53	-12	3	20	-22				
MIZUSAWA	9.11	231.9	1	59	-11	3	32	-20				
AKITA	9.31	238.0	2	19	6							
ISINOMAKI	9.51	228.2	2	1	-15	3	37	-25				
PETROPAVLOVK	9.57	31.6	2	15	-2						4	16
OKHA	9.70	332.8	2	21	3						4	26
SENDAI	9.85	229.0	2	15	-5	3	45	-25				
SAKATA	10.00	235.1	2	15	-7							
YAMAGATA	10.16	230.8	2	12	-13							
HUKUSIMA	10.46	228.5	2	18	-11	4	3	-22				
ONAHAMA	10.85	224.3	2	57	23							
SHIRAKAWA	11.07	227.1	2	23	-14	4	15	-24				
NIIGATA	11.12	233.4	3	35	58							
AIKAWA	11.51	236.0	2	34	-9	4	46	-4				
MITO	11.51	223.9	2	45	2	4	26	-24				
UTUNOMIYA	11.68	226.3	2	39	-6	4	30	-24				
KAKIOKA	11.78	224.4	2	37	-9	4	30	-26				
TAKADA	12.15	232.8	2	41	-10							
MAEBASI	12.21	228.2	2	40	-12							
KUMAGAYA	12.24	226.6	2	41	-11	4	46	-21				
TOKYO C.M.O.	12.42	224.1	3	6	11							
NAGANO	12.48	231.5	2	59	3							
TITIBU	12.53	226.9	3	0	4							
OIWAKE	12.54	229.5	2	47	-9							
MATUSIRO	12.57	231.1	2	44K	-13	5	7	-8				
YOKOHAMA	12.67	223.7				5	7	-10				
WAZIMA	12.74	237.1	2	55	-4							
MATUMOTO	12.92	230.8	3	0	-1							
MERA	13.00	221.8									4	46
KOHU	13.04	227.5	2	59	-4	5	3	-23				
HUNATU	13.06	226.4	3	3	0	5	3	-24				
MISIMA	13.27	224.9	3	21	15							
IIDA	13.54	229.1	3	10	1							
SHIZUOKA	13.66	226.0				5	22	-19				
GIHU	14.20	231.4	3	0	-18							
NAGOYA	14.26	230.3	3	30	11							
MAGADAN	14.43	0.9	3	19	-2	6	5	6			4	11
HIKONE	14.59	232.3	3	13	-10	6	18	15				
KAMEYAMA	14.77	230.7	3	37	12							
KYOTO	15.06	232.9	3	18	-11	6	13	-1				
TOYOOKA	15.22	236.3	3	17	-14						6	57
ABUYAMA	15.26	232.8	3	21A	-11	6	55	37				
SUMOTO	16.02	233.0									8	15
MATSUE	16.33	239.6									4	50
TAKAMATU	16.52	234.7	3	42	-5	6	33	-14				
HAMADA	17.30	240.1	3	49	-8	7	13	8				
KOTI	17.38	234.0									7	27
HIROSIMA	17.44	238.1	3	51	-8	7	14	6				
MATUYAMA	17.60	236.2	4	1	0	7	16	4				
OOITA	18.72	237.0	3	59	-15	7	49	13				
HUKUOKA	19.23	240.0	4	13	-7	7	47	0				
SAGA	19.50	239.4	3	53	-29							
KUMAMOTO	19.56	237.8	4	20	-3	7	53	-1				
MIYAZAKI	19.78	234.6	3	59	-26							
NAGASAKI	20.11	239.0	4	23A	-6	8	10	5				
KAGOSIMA	20.54	235.5	4	24	-9	8	23	10				
YAKUTSK	20.71	332.0	4	32A	-3	8	28	12				
TIKSI	28.49	345.9	5	47A	-2						6	36 PP
IRKUTSK	30.76	300.1	6	6A	-3	11	0	-5			7	21 PP
ESEN BULAK	37.13	291.8	7	3	-1							
HONG KONG	37.29	244.5	7	3	-2	12	49	3			8	28 PP
BAGUIO CITY	38.00	230.7	7	5	-6	12	55	-1				
COLLEGE	38.60	37.1	7	16	0	13	15	9				
MANILA	39.17	228.5	7	16	-5							
PHU-LIEN	43.28	250.6									9	56
KHEYS	46.18	346.9	8	16A	-2						10	14 PP
MOULD BAY	46.76	19.2	8	23A	1							
HONOLULU	48.28	101.9	8	33	-1	15	32	6				
RABAUL	49.15	177.6	8	35	-6	15	47	9				
SHILLONG	50.40	267.8	8	48A	-2	16	6	10				
ALERT	51.54	5.2	8	58	-1							
CHITTAGONG	52.46	264.7	9	4	-2	16	28	4				
FRUNSE	52.63	296.2	9	7A	0	16	35	9				
CHATRA	52.95	272.4	9	9A	-1							
RESOLUTE	52.96	17.6	9	9A	-1							

YELLOWKNIFE	53.35	35.2	9	13	0						
SVERDLOVSK	53.69	317.0	9	13K	-2						
PORT MORESBY	54.37	183.9	9	14	-6	16	49	-1			
CALCUTTA	54.79	267.4	9	23	0						
HONIARA	55.01	168.4	9	15	-10	16	57	-1			
BOKARO	55.78	270.4	9	28	-2						
TASHKENT	56.80	297.2	9	37A	0	17	32	10			
SEATTLE	57.13	53.5	9	58	18						11 50 PP
DEHRA DUN	57.25	281.6	9	45	4	17	43	15			
KHOROG	57.50	292.3	9	42A	0						17 44 PS
APATITY	58.04	336.2	9	44	-2	17	43	5			13 14 PPP
KEVO	58.19	340.0	9	46	-1	17	45	5			13 23 PPP
EDMONTON	58.71	44.2	9	51K	0						
NEW DELHI	58.89	280.5	9	49A	-3	17	54	5			
LAHORE	59.08	285.0	9	52	-1	18	0	8			
PORT BLAIR	59.12	254.6	9	54	0						
SODANKYLA	60.03	338.2	9	58	-2						
TROMSOE	60.14	342.4	10	0	-1						
KIRUNA	61.23	340.6	10	7A	-1	18	38	19			
BLUE MTS.	61.57	53.9	10	10	0	18	38	14			25 40 SSS
MINERAL	61.70	60.2	10	11A	0						
CALISTOGA	62.12	62.2	10	15K	1						
KAJAANI	62.17	335.3	10	13	-1						
BERKELEY	62.78	62.8	10	22A	4	18	49	10			
LICK	63.50	62.9	10	20A	-3						
BUTTE	63.52	50.6	10	16	-7				10	34	
PARAISO	63.65	64.2	10	28	4						
UMEA	64.47	337.9	10	28A	-1	19	12	12			20 17 SCS
PULKOVO	64.52	331.0	10	29A	-1						13 3 PP
SCORESBY SD.	64.55	357.1	10	31K	1						
BOZEMAN	64.56	50.2	10	27	-3				10	41	
MOSCOW	64.66	324.7	10	29	-2						10 57 PCP
PRIEST	64.85	63.4	10	36A	4						
QUETTA	64.92	288.2	10	32A	0	19	15	10			
CHARTERS TS.	65.03	184.2	10	28	-5	19	0	-7			
ASHKABAD	65.59	299.8	10	37	0						11 8 PCP
EUREKA	65.65	58.0	10	37	0				10	53	
NURMIJARVI	65.81	333.9	10	37A	-1	19	30	14			15 3 PCS
HELSINKI	65.98	333.5	10	37	-2						
DUGWAY	67.07	55.7	10	46	0						
SALT LAKE C.	67.26	54.7	10	53	6						
PASADENA	67.69	63.7	10	51	1	19	48	9	11	1	
AFIAMALU	68.06	140.0				19	38	-5			20 53 SS
UPPSALA	68.43	336.5	10	53A	-2	19	58	10			
FLAMING GRGE	68.56	53.2	10	56	1						
BOULDER CITY	68.59	60.2	10	55	0				11	8	11 12 *SP
UINTA BASIN	68.86	53.8	10	57	0	20	3	10			13 47 PP
GLEN CANYON	69.90	57.6	11	6	2						
KONGSBERG	70.70	340.1	11	8A	0	20	31	17			21 17 SCS
TIFLIS	70.95	310.3	11	10	0	20	30	13			
BERGEN	71.01	342.5	11	10	0						
TEHERAN	71.26	301.9	11	13A	1	20	34	13			
GORIS	71.64	307.7	11	16A	2	20	40	15			13 58 PP
GOLDEN	71.65	52.0	11	16	2	20	33	8			
GOTEBORG	71.82	337.9	11	15A	0						
TONTO FOREST	71.89	59.5	11	16	1				11	29	13 58 PP
KARLSKRONA	72.13	335.3	11	16A	-1						
BRISBANE	72.22	177.7	11	13	-4	20	23	-9			
COPENHAGEN	73.45	336.7	11	25A	0	20	59	13			
WARSAW	73.66	330.3	11	27	1	20	55	7			21 7 *SS
SIMFEROPOL	74.01	318.5	11	29A	1	21	4	12			
ALBUQUERQUE	74.32	56.2	11	31	1				11	44	
LWOW	74.52	327.2	11	31	0	21	9	11			14 15 PP
SHIRAZ	74.70	296.6	11	32A	0	21	1	1	11	45	14 21 PP
IASI	75.19	323.6	11	35	0						
KRAKOW	75.86	329.6	11	39	1	21	25	13			11 53 PCP
CHORZOW	75.99	330.2	11	40	1						11 52 PCP
RACIBORZ	76.44	330.6	11	43	1						11 55 PCP
SKALNATE PL.	76.46	328.9	11	41	-1						
COLLMBERG	77.10	334.1	11	46A	1	21	29	3			
HALLE	77.25	334.8	11	47	1	21	50	23			
WITTEVEEN	77.55	338.4	11	50A	2						
LAWRENCE	77.61	46.6	11	48	0						
DURHAM	77.64	343.8	11	47K	-1						12 2 PCP
PRAGUE	77.72	332.7	11	52	3						
PRUHONICE	77.76	332.6	11	50	1	21	49	16			
JENA	77.86	334.7	11	50	0	21	38	4			22 9
LUBBOCK	77.98	54.4	11	50	0						
MUNSTER	78.07	337.5	11	51	0						

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.

BRATISLAVA	78.44	330.2	11	52	-1							
RIVERVIEW	78.61	179.3	11	51	-3	21	44	2				
VIENNA-H.	78.63	330.6	11	56A	2				12	19		
KASPERSKE H.	78.81	332.7	11	56A	1							
WICHITA MTS.	78.98	51.5	11	55	-1						14	46 PP
BENSBERG	79.10	337.3	11	57	1							
ISTANBUL UN.	79.42	318.9	12	0A	2	22	8	17				
TULSA	79.62	49.0	12	0	1	21	58	5			26	18 SS
UCCLE	79.99	338.9	12	3	2	22	9	12				
BELGRADE	80.02	326.3	12	2K	1	22	19	22			12	18 PCP
HEIDELBERG	80.07	335.7	12	3	1							
CANBERRA	80.10	181.1	12	1	-1	22	1	3	12	12		
FAYETTEVILLE	80.33	47.9	12	3	0							
ADELAIDE	80.44	189.7	12	0	-4							
STUTTGART	80.47	335.1	12	5	1	22	13	11				
KEW	80.48	341.9	12	5	1	22	11	9				
ANN ARBOR	80.49	37.5	12	5	1	22	9	7				
KARLSRUHE	80.51	335.7	12	6A	2							
DOURBES	80.57	338.4	12	3	-1							
SOFIA	80.60	323.4	12	7	3	22	13	10				
TUBINGEN	80.74	335.1	12	7	2							
ZAGREB	80.85	329.6	11	57	-9							
LONDON ONT.	80.93	35.5	12	7	1							
OTTAWA	81.06	30.9	12	6	-1							
STRASBOURG	81.08	335.9	12	9A	2							
SCARBOROUGH	81.15	34.0	12	8	1							
LJUBLJANA	81.17	330.6	12	7A	0						13	3
RAVENSBURG	81.25	334.4	12	9	1							
KSARA	81.52	310.0	12	10	1	22	32	20	12	22		
WELSCHBRUCH	81.64	336.7	12	9	-1							
BREBEUF	81.72	29.6	12	9	-1				12	22		
TRIESTE	81.78	330.9	12	10	-1	22	27	12			27	54 SS
VALENTIA	81.86	348.0	12	12	1							
CARIBOU	82.25	25.5	12	14	1							
PARIS	82.30	339.2	12	15	2							
TOOLANGI	82.46	183.9	12	31	17							
TITOGRAD	82.49	325.7	12	17	3	22	36	14			16	42
PADOVA	82.63	331.9				22	38	14			45	23
MUNDARING	82.79	208.7	12	13	-3							
FOLINIERE	83.05	341.0	12	19	2							
JERUSALEM	83.43	309.1	12	21A	2							
MILO	83.48	26.8	12	21	2							
PRATO	84.24	331.7	12	25	2						16	22 PP
ATHENS	84.31	320.4	12	23A	0							
EAST MACHIAS	84.41	26.1	12	26	2							
AQUILA	84.78	329.5	12	28	2	22	53	8	12	43	15	48 PP
CLERMONT-FD.	84.94	337.6	12	30	3							
CUMBERLAND	85.06	42.7	12	27	0	22	56	8			16	13 PP
ISOLA	85.27	334.4	12	29	1							
ROME	85.51	329.8	12	30A	1	23	7	15			15	53 PP
PALISADES	85.51	32.0	12	30	1	23	0	8	12	43		
MONACO	85.56	334.0	12	31	1							
HALIFAX	85.68	23.6	12	31	1							
MESSINA	87.58	326.0	12	38	-1	23	12	0			15	28 PP
BAGNERES	88.24	338.6	12	45	2							
TOLEDO	92.28	340.6	13	2K	0	24	9	15			16	49 PP
MALAGA	95.37	339.9	13	16	0	23	39	-3				
LWIRO	113.42	291.9	18	43	15						19	24 PP
BANGUI	114.58	305.1	18	30	0						18	34 PP
BROKEN HILL	122.50	282.7	18	42	-3							
SCOTT BASE	123.14	175.9	18	45	-2							
HUANCAYO	129.07	64.3	19	14	16							
MAWSON	129.84	209.9	18	58	-1							
BANDEIRA	132.94	295.8	18	56	-9						19	24
BYRD STATION	134.11	165.9	19	9	2							
SOUTH POLE	134.96	180.0	19	8	-1							
LA PAZ	136.96	61.0	19	14	1				19	28		
SANTA LUCIA	146.53	84.0	19	35	5							
N-LAZARVSKYA	147.38	204.0	19	31A	0							

OCTOBER 20 12.H 59.M 59.S EPICENTRE 24.11 4.99 DEPTH= 0.KM

A= 0.91034 B= 0.07948 C= 0.40615 D= 0.0870 E=-0.9962
G= 0.4046 H= 0.0353 K=-0.9138 HT= 3.6

SE= 1.91

	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	
AVERROES	14.22	312.9	3	21	-3	6	19	15			4	5	PP
ALMERIA	14.23	334.9	3	22K	-2						3	35	PP
MALAGA	14.94	329.4	3	31	-3								
ALICANTE	14.94	343.1	3	32K	-2						3	42	PP
GRANADA	14.97	332.5	3	33	-1								
REGGIO CALA.	16.65	30.6	3	54	-2						4	1	PP
MESSINA	16.69	30.2	3	55A	-1	7	6	4	4	1	4	11	PP
TOLEDO	17.48	336.3	4	7	1								
ROME	18.81	17.6	4	25	2						4	41	PP
LISBON	18.88	323.8	4	25K	1						4	39	PP
AQUILA	19.49	19.0	4	32	1								
MONACO	19.68	5.3	4	33	0								
ISOLA	20.09	4.3	4	38	0								
PRATO	20.35	12.8	4	42	2						5	46	
ATHENS	21.12	44.8	4	48K	0								
CLERMONT-FD.	21.67	356.5	4	56	2								
PADOVA	21.97	13.0	5	9	12						5	51	
TRIESTE	22.63	16.1	5	4	1	9	18	11					
M.BOUR	22.85	248.9	5	5	0	9	13	2					
LJUBLJANA	23.21	17.0	5	10	1								
ZAGREB	23.42	19.6	5	14	3								
BANGUI	23.61	144.1	5	11	-2						5	41	PP
FELDBERG	23.85	5.0	5	15	0								
SOFIA	23.96	34.8	5	20	4								
EBINGEN	24.23	6.5	5	15	-4								
WELSCHBRUCH	24.28	2.2	5	20	1								
STRASBOURG	24.52	4.5	5	23K	1						6	53	
TUBINGEN	24.59	6.5	5	22K	0								
PARIS	24.73	356.0	5	25	1								
STUTTGART	24.85	6.8	5	25A	0								
FOLINIERE	24.99	351.4	5	26	0								
KARLSRUHE	25.00	5.3	5	27	1								
HEIDELBERG	25.42	5.7	5	30A	0								
VIENNA-H.	25.73	17.7	5	34	1						6	14	PP
KASPERSKE H.	25.87	13.0	5	35	0								
DOURBES	25.95	359.4	5	33A	-2								
UCCLE	26.65	359.1	5	52	10	10	35	19					
BENSBERG	26.86	3.1	5	44A	0								
PRUHONICE	26.88	13.7	5	44	0								
PRAGUE	26.94	13.5	5	50	6								
JENA	27.26	9.1	5	43	-4						6	43	PPP
KEW	27.62	352.8	5	51	0								
JERUSALEM	27.71	67.2	5	53	2								
COLLMBERG	27.84	10.8	5	52	-1	10	29	-6					
HALLE	27.87	9.3	5	54	1	10	28	-8					
MUNSTER	27.89	3.5	5	53	0								
RACIBORZ	27.90	18.3	5	52	-1						7	5	
KRAKOW	28.40	20.5	5	58	0						6	26	
LWOW	29.66	25.3	6	10K	1								
DURHAM	31.01	352.6	6	18A	-3								
SIMFEROPOL	31.48	41.4	6	25	0								
KARLSKRONA	32.95	10.9	6	37	-1								
GOTEBORG	33.94	6.7	6	46	-1								
LWIRO	34.96	135.2	6	55K	0								
ADDIS ABABA	35.55	109.2	7	1	1								
KONGSBERG	35.67	4.0	7	1	0								
BERGEN	36.27	0.3	7	5	-1								
HELSINKI	38.64	15.9	7	26	0								
NURMIJARVI	38.86	15.4	7	26	-2						8	43	
BANDEIRA	39.61	167.3	7	35K	1								
MOSCOW	39.63	28.6	7	34	-1								
PULKOVO	39.80	19.8	7	36K	0								
UMEA	40.97	10.3	7	45	-1								
TEHERAN	41.51	62.7	7	51	1								
SHIRAZ	42.52	71.8	7	58A	0						10	51	PP
KAJAANI	42.67	14.5	7	59	-1								
BROKEN HILL	44.66	146.7	8	14A	-2								
SODANKYLA	45.31	11.6	8	20	-1								
KIZYL-ARVAT	45.59	58.1	8	23	0								
TROMSOE	46.29	6.7	8	28	-1								
VANNOVSKAYA	46.97	59.9	8	34	0								
ASHKABAD	47.17	59.9	8	36	0								
KEVO	47.50	10.2	8	37	-1								
CHILEKA	49.21	140.5	8	52K	1								
BULAWAYO	49.63	150.4	8	53A	-2								
SVERDLOVSK	51.48	35.5	9	7	-2								

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.

QUETTA	54.89	69.1	9	32	-2	
TASHKENT	55.55	55.4	9	39	0	
KIMBERLEY	55.90	159.0	9	39	-2	
CHANGALANE	56.58	150.6	9	44	-2	
WARSAK DAM	58.13	63.8	9	55	-2	
HALIFAX	58.50	308.8	9	58	-2	
TANANARIVE	59.58	132.1	10	10K	3	10 32
EAST MACHIAS	61.25	309.2	10	20	1	
MILO	62.29	309.9	10	27	1	
ALERT	63.33	352.2	10	32A	-1	
NEW DELHI	63.97	68.7	10	24A	-13	
SAN JUAN	65.91	280.2	10	50	1	
PENNSYLVANIA	69.48	306.5	11	7	-5	
RESOLUTE	69.52	343.8	11	12	0	
LONDON ONT.	71.28	309.4	11	22A	-1	
CLEVELAND	71.96	307.9	11	29	2	
CHATRA	72.94	67.8	11	35	2	
MOULD BAY	74.28	348.1	11	40	0	
TIKSI	77.08	15.7	11	55A	-1	
SHILLONG	77.33	67.6	11	57A	-1	
CHITTAGONG	78.44	70.6	12	4A	0	
ULAN-BATOR	80.00	41.9	12	13	1	
YELLOWKNIFE	81.37	335.9	12	19	0	
BALBOA HTS.	81.45	276.0	12	21	1	
LA PAZ	81.96	248.0	12	23	0	
LAWRENCE	82.66	309.3	12	27	1	
FAYETTEVILLE	83.10	306.3	12	29	1	
TULSA	84.35	306.7	12	35A	0	
RAPID CITY	85.64	316.6	12	42	1	
HUANCAYO	86.21	255.1	12	47	3	
EDMONTON	86.26	328.1	12	45A	1	
COLLEGE	88.84	348.7	12	56	-1	
GOLDEN	89.25	313.7	13	0	1	
BOZEMAN	89.53	320.9	13	3	3	
HUNGRY HORSE	89.61	324.3	13	0	0	
BUTTE	90.19	321.8	13	5	2	
FLAMING GRGE	91.19	316.3	13	8	0	
ALBUQUERQUE	92.46	310.1	13	16	2	
SALT LAKE C.	92.82	317.3	13	16	1	
SOCORRO	93.26	309.5	13	21	4	
GLEN CANYON	94.83	314.0	13	25	0	
EUREKA	96.12	318.1	13	32A	2	
TUCSON	96.98	309.8	13	36	2	
BOULDER CITY	97.53	314.8	13	39	2	
SCOTT BASE	125.51	175.3	19	3	0	
TOOLANGI	143.79	121.2	19	36	-1	
CHARTERS TS.	143.97	91.4	19	37	0	
CANBERRA	146.97	118.2	19	46	4	
BRISBANE	150.85	103.4	19	56	8	

OCTOBER 20 17.H 41.M 33.S EPICENTRE 44.68 149.44 DEPTH= 62.KM

A=-0.61436 B= 0.36270 C= 0.70072 D= 0.5084 E= 0.8611
G=-0.6034 H= 0.3562 K=-0.7134 HT= -3.4

DEPTH OF FOCUS= 0.005R

SE= 4.10

	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
KURILSK	1.25	296.9	0	20A	-2				0	40		1
Y.-SAKHLINSK	5.25	298.9	1	19	1							
MIZUSAWA	8.31	231.1	2	2	2				3	20		-14
PETROPAVLOVK	10.31	32.7	2	33	5							
MATUSIRO	11.78	230.2	2	38	-9				4	51		-7
ABUYAMA	14.46	232.1	3	24A	1							
YAKUTSK	20.83	333.4	4	35K	-4							
TIKSI	28.80	346.6	5	50	-4							
ULAN-BATOR	29.30	291.7	5	34	-25							
HONG KONG	36.51	244.0							12	53		15
ESEN BULAK	36.72	292.1	7	1	-2							
BAGUIO CITY	37.20	230.0	7	11	4							
COLLEGE	39.36	36.8	7	23	-2							
MOULD BAY	47.42	19.0	8	26	-4							
RABAUL	48.72	176.4	8	44	4							
HONOLULU	48.82	100.8							16	1		23

SHILLONG	49.74	267.5	8	45A	-3						
CHITTAGONG	51.78	264.3	9	18	15						
ALERT	52.07	5.1	9	3	-3						
FRUNSE	52.26	296.1	9	5A	-2						
CHATRA	52.33	272.1	9	6	-2						
SVERDLOVSK	53.60	316.9	9	5A	-12						
RESOLUTE	53.60	17.3	9	15	-2						
PORT MORESBY	53.86	182.8	9	39	20	16	56	8			
YELLOWKNIFE	54.11	34.8	9	26	5						
TASHKENT	56.45	297.1	9	36A	-2						
DEHRA DUN	56.72	281.4	9	39K	-1	17	37	11			
KHOROG	57.08	292.1	9	42	0						
APATITY	58.21	336.0	9	56K	6						
NEW DELHI	58.34	280.3	9	47A	-4	17	57	10			
LAHORE	58.58	284.8	9	50	-3						
WARSAK DAM	59.05	288.7	9	54	-2						
EDMONTON	59.50	43.6	9	57K	-2						
SODANKYLA	60.23	338.0	10	1	-3						
TROMSOE	60.39	342.2	10	3	-2						
KIRUNA	61.46	340.4	10	18	6						
SHASTA	61.80	59.6	10	17K	2						
KAJAANI	62.32	335.0	10	17K	-1						
BLUE MTS.	62.37	53.3	10	15	-3	18	58	19			
MINERAL	62.49	59.5	10	30A	11						
TANGERANG	63.54	229.0	10	22	-4						
BUTTE	64.31	50.0	10	28	-3						
VIBORG	64.44	332.0	10	28	-4						
QUETTA	64.46	287.9	10	30	-2	19	21	16			
PULKOVO	64.62	330.7	10	32	-1						
UMEA	64.66	337.6	10	39	6						
MOSCOW	64.67	324.5	10	31K	-2						
VANNOVSKAYA	65.42	299.7	10	37	-1						
NURMIJARVI	65.95	333.6	10	39	-3						
HELSINKI	66.11	333.2	10	40	-3						
EUREKA	66.45	57.3	10	42	-3					35	3
SKALSTUGAN	66.88	340.7	10	55	7						
UPPSALA	68.61	336.2	11	4A	6						
BOULDER CITY	69.38	59.6	11	1	-2				11	12	
UINTA BASIN	69.66	53.2	11	2	-3	20	27	20		14	5 PP
KIROVOBAD	70.64	308.2	11	9	-2						
GLEN CANYON	70.70	57.0	11	8	-3						
KONGSBERG	70.92	339.7	11	11	-1				11	21	
TEHERAN	70.96	301.6	11	13	0						
BERGEN	71.27	342.1	11	22	7				11	34	
GORIS	71.42	307.3	11	16	1						
BAKURIANI	71.45	310.6	11	17	1						
BRISBANE	71.78	176.9	11	22	4						
GOTEBORG	72.01	337.6	11	26	7				11	38	
KARLSKRONA	72.29	334.9	11	18	-3				11	39	
GOLDEN	72.45	51.3	11	20	-2						
TONTO FOREST	72.68	58.9	11	21	-2				11	31	14 22
COPENHAGEN	73.62	336.3	11	28K	0						
SIMFEROPOL	73.94	318.1	11	39	9						
SHIRAZ	74.33	296.2	11	30	-3	21	10	9		21	40
TUCSON	74.34	60.2	11	30	-3				11	40	
LWOW	74.57	326.8	11	33	-1					11	54
ALBUQUERQUE	75.12	55.5	11	35	-2				11	45	
KRAKOW	75.93	329.2	11	40	-2					12	29
SCHEFFERVLLE	76.21	20.6	11	39	-4						
SKALNATE PL.	76.53	328.5	11	46	1					12	16 PCP
RACIBORZ	76.53	330.1	11	45	0					12	46
COLLMBERG	77.24	333.7	11	48A	-1	21	47	15			
HALLE	77.40	334.4	11	59	9	21	50	16			
WITTEVEEN	77.75	337.9	11	52	0					12	14
PRUHONICE	77.88	332.1	11	53	0					12	14
JENA	78.01	334.3	11	52	-1						
RIVERVIEW	78.15	178.5				22	1	19			
BRATISLAVA	78.53	329.7	11	55	-1						
VIENNA-H.	78.72	330.1	11	58	1					12	30
LUBBOCK	78.77	53.7	12	6	9						
KASPERSKE H.	78.93	332.2	11	57A	-1						
BENSBERG	79.29	336.8	12	1	1						
ISTANBUL UN.	79.35	318.4	12	9	8	22	12	17			
CANBERRA	79.62	180.4	11	56	-6						
WICHITA MTS.	79.78	50.9	12	0	-3						
BELGRADE	80.05	325.8	12	11	7					12	36
UCCLE	80.20	338.4	12	21	16						
TULSA	80.41	48.4	12	4	-2						
SOFIA	80.59	322.9	12	6	-1						

DOURBES	80.77	337.9	12 14	6				
ZAGREB	80.93	329.1	12 25	16				
FAYETTEVILLE	81.12	47.3	12 8	-2				
STRASBOURG	81.24	335.4	12 11	0			12 33	
ANN ARBOR	81.26	36.9	12 24	13				
LJUBLJANA	81.26	330.1	12 9	-2				
WELSCHBRUCH	81.81	336.2	12 10	-4				
SHAWINIGAN	81.81	27.9	12 20	6				
TRIESTE	81.88	330.3	12 11	-3				
TOOLANGI	81.95	183.2	12 14	0				
BREBEUF	82.44	29.0	12 22	5				
PARIS	82.51	338.7	12 17	0				
CARIBOU	82.95	24.9	12 18	-1				
JERUSALEM	83.23	308.5	12 22	1				
FOLINIERE	83.28	340.5	12 21	0				
MILO	84.19	26.2	12 25	-1				
ATHENS	84.26	319.8					22 57	
PRATO	84.34	331.1	12 46	19				
AQUILA	84.86	328.9	12 31	2	22 42	-9	12 47	27 27 SS
EAST MACHIAS	85.12	25.5	12 30	0				
CLERMONT-FD.	85.13	337.1	12 42	12				
ISOLA	85.41	333.9	12 32	0			12 53	
ROME	85.59	329.3	12 54	21	23 15	17	17 36	PP
MONACO	85.70	333.4	12 46	13				
CUMBERLAND	85.84	42.0	12 32	-2			23 17	
PALISADES	86.25	31.4			23 21	17		
HALIFAX	86.36	23.0	12 45	9				
BANGUI	114.32	304.1	18 36	3			19 40	PP
BULAWAYO	125.69	276.6	18 49A	-6				
LA PAZ	137.75	60.5	19 18	1				

OCTOBER 20 17.H 58.M 55.S EPICENTRE 44.43 149.82 DEPTH= 19.KM

A=-0.61933 B= 0.36019 C= 0.69763 D= 0.5027 E= 0.8644
G=-0.6031 H= 0.3507 K=-0.7165 HT= -3.3

SE= 2.46

	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
Y.-SAKHLINSK	5.60	300.0	1	26	1							
MIZUSAWA	8.38	233.8	2	11	7	3	26	-13				
PETROPAVLOVK	10.38	31.0	2	31	0							
MATUSIRO	11.83	232.2	2	47A	-4	5	5	1				
ABUYAMA	14.53	233.8	3	28A	1							
YAKUTSK	21.17	333.3	4	45	-2	8	39	2				
TIKSI	29.10	346.5	5	59	-3							
HONG KONG	36.64	244.7	7	31	24							
BAGUIO CITY	37.25	230.8	7	11	-1							
COLLEGE	39.40	36.6	7	32	2							
MOULD BAY	47.56	18.9	8	37	1							
RABAUL	48.46	176.9	8	43	0							
SHILLONG	50.00	268.0	8	55A	0							
CHITTAGONG	52.02	264.8	9	13	2							
ALERT	52.29	5.1	9	12	-1							
CHATRA	52.60	272.5	9	15	0							
RESOLUTE	53.76	17.3	9	23	-1							
DEHRA DUN	57.03	281.8	9	48	1							
APATITY	58.55	336.2	10	6A	8							
NEW DELHI	58.65	280.6	9	56A	-3	17	58	-2				
LAHORE	58.90	285.2	10	0	0							
WARSAK DAM	59.38	289.1	10	3	-1							
EDMONTON	59.49	43.7	10	5	1							
SODANKYLA	60.56	338.2	10	11	-1							
TROMSOE	60.71	342.3	10	13	0							
SHASTA	61.70	59.6	10	20K	1							
KIRUNA	61.78	340.6	10	20	0							
HUNGRY HORSE	62.06	48.7	10	22	0						10	44
BLUE MTS.	62.30	53.4	10	24	1						10	56
MINERAL	62.39	59.6	10	24K	0							
KAJAANI	62.66	335.2	10	26	0							
CALISTOGA	62.79	61.6	10	27K	0							
BERKELEY	63.45	62.1	10	31A	0							
TANGERANG	63C58	229.4	10	30	-2							
BUTTE	64.26	50.1	10	37	1							
CHARTERS TS.	64.29	183.7	10	35	-2							
PARAISO	64.30	63.6	10	41	4							

VIBORG	64.78	332.2	10 38	-2				11 3	
QUETTA	64.79	288.3	10 39	-1					
PULKOVO	64.96	330.9	10 39	-2					
UMEA	64.99	337.8	10 40	-1					
MOSCOW	65.03	324.7	10 41	0					
BOZEMAN	65.31	49.6	10 41	-2			10 52		
PRIEST	65.51	62.8	10 46A	2					
ASHKABAD	65.63	299.8	10 38	-7					
VANNOVSKAYA	65.78	299.9	10 46	0					
KIZYL-ARVAT	66.13	302.0	10 53	5					
NURMIJARVI	66.29	333.8	10 49	0					
EUREKA	66.36	57.4	10 51	1			11 3	11 37	
HELSINKI	66.45	333.4	10 49	-1					
SKALSTUGAN	67.20	340.9	10 54	-1					
AFIAMALU	67.75	139.3						20 24	SKKS
UPPSALA	68.94	336.4	11 4	-2			11 17		
BOULDER CITY	69.28	59.7	11 10	2			11 22	11 27	*SP
UINTA BASIN	69.59	53.3	11 10	0					
GLEN CANYON	70.61	57.1	11 17	1					
TIFLIS	71.12	310.2	11 18	-1	20 38	4			
LARAMIE	71.17	50.4	11 21	1					
TEHERAN	71.32	301.8	11 21	0					
BAKURIANI	71.81	310.9	11 25	2					
GOTEBORG	72.34	337.8	11 26	-1			11 37		
GOLDEN	72.39	51.5	11 28	1					
TONTO FOREST	72.58	59.0	11 29	1			11 42	11 47	PCP
KARLSKRONA	72.62	335.2	11 27A	-1			11 39		
COPENHAGEN	73.96	336.5	11 38K	2					
TUCSON	74.23	60.3	11 38	0			11 50		
SIMFEROPOL	74.30	318.3	11 46	8					
SHIRAZ	74.68	296.5	11 40A	0	21 13	-1	11 52		
LWOW	74.92	327.0	11 43K	1					
KISHINEV	75.14	322.6	11 42	-1					
IASI	75.55	323.4	11 47	2					
KRAKOW	76.28	329.4	11 49	0				12 1	PCP
SCHEFFERVLLE	76.35	20.8	11 50	0					
UZHGOROD	76.55	327.2						14 52	
RACIBORZ	76.88	330.4	11 53	0				12 5	PCP
HALLE	77.74	334.6	11 57	-1	21 50	2			
WITTEVEEN	78.08	338.2	12 1	2					
PRAGUE	78.18	332.5	12 8	8					
PRUHONICE	78.22	332.3	12 1	1					
JENA	78.35	334.5	12 1	0					
MUNSTER	78.59	337.2	12 4	2					
LUBBOCK	78.70	53.9	12 14	11					
VIENNA-H.	79.07	330.4	12 7	2				12 19	PCP
KASPERSKE H.	79.27	332.5	12 6	0					
CANBERRA	79.38	180.7	12 8A	1					
BENSBERG	79.62	337.0	12 9	1					
WICHITA MTS.	79.73	51.1	12 .9	1				12 58	
TULSA	80.38	48.6	12 13A	1					
SOFIA	80.95	323.1	12 16	1					
STUTTGART	80.96	334.8	12 17	2					
KEW	81.04	341.6	12 17	2					
DOURBES	81.10	338.2	12 17	1					
ANN ARBOR	81.29	37.1	12 18	1				12 29	PP
STRASBOURG	81.58	335.6	12 21	3					
LJUBLJANA	81.61	330.3	12 20	2					
TOOLANGI	81.71	183.5	12 20	1					
OTTAWA	81.86	30.5	12 19	-1					
SHAWINIGAN	81.91	28.1	12 21	1					
WELSCHBRUCH	82.15	336.4	12 21	0					
TRIESTE	82.22	330.6	12 23	1			12 34	31 30	SSS
BREBEUF	82.53	29.2	12 23	0					
PARIS	82.83	338.9	12 28	3					
CARIBOU	83.06	25.1	12 27	1					
JERUSALEM	83.59	308.8	12 31	2					
FOLINIERE	83.60	340.7	12 30	1					
MILO	84.29	26.5	12 33	1					
AQUILA	85.21	329.1	12 38	1	23 15	11	12 49	28 5	55
EAST MACHIAS	85.22	25.7	12 38	1					
ISOLA	85.75	334.1	12 43	4					
CUMBERLAND	85.84	42.3	12 40	0	23 5	-6			
MONACO	86.04	333.7	12 41	0					
TOLEDO	92.83	340.2	13 25	12					
BANGUI	114.68	304.3	18 14	-25				20 48	
CHILEKA	118.51	275.9						20 16	PP
MAWSON	129.03	209.5						16 46	

LA PAZ	137.64	61.1	19 27	4					19 38			
N-LAZARVSKYA	146.58	203.7	19 11	-28								

OCTOBER 21 15.H 38.M 30.S EPICENTRE 45.77 149.74 DEPTH= 98.KM

A=-0.60458 B= 0.35277 C= 0.71417 D= 0.5040 E= 0.8637
G=-0.6168 H= 0.3599 K=-0.7000 HT= -3.8

DEPTH OF FOCUS= 0.010R

SE= 2.35

	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	1.42	248.4	0	21	-4	0	38	-7				
Y.-SAKHLINSK	5.01	287.0	1	14K	0							
UGLEGORSK	6.17	305.3	1	33K	3							
MIZUSAWA	9.19	226.8	2	9	-2	3	35	-18				
MATUSIRO	12.65	227.3	2	48	-9	5	8	-8				
ABUYAMA	15.31	229.6	3	32	1							
YAKUTSK	19.96	331.8	4	27K	1	8	14	14				
TIKSI	27.78	346.0	5	40	-1							
COLLEGE	38.37	37.6	7	14	1							
MOULD BAY	46.32	19.3	8	18	1							
CHITTAGONG	52.10	263.7	9	1A	-1							
RESOLUTE	52.50	17.6	9	4A	-1							
YELLOWKNIFE	53.10	35.3	9	10A	1							
PORT MORESBY	54.96	183.1	9	26	3							
TASHKENT	56.14	296.6	9	31	0							
APATITY	57.30	335.8	9	40K	0							
KEVO	57.46	339.7	9	40	-1						10	33
DUZHANBE	58.02	294.1	9	45	0							
EDMONTON	58.57	44.2	9	49A	1							
SODANKYLA	59.30	337.9	9	53	0							
TROMSOE	59.42	342.1	9	54	0							
KIRUNA	60.50	340.3	10	1	-1							
HUNGRY HORSE	61.23	49.2	10	6	-1				10	21		
KAJAANI	61.42	334.9	10	8	0						10	48 PCP
BLUE MTS.	61.56	53.9	10	9	0							
MINERAL	61.77	60.1	10	10A	0							
CALISTOGA	62.21	62.2	10	13A	0							
BERKELEY	62.88	62.7	10	17A	-1							
LUGANVILLE	63.00	161.1	9	39A	-39							
BUTTE	63.45	50.5	10	21	0						10	37
VIBORG	63.58	331.9	10	16	-6							
LICK	63.59	62.8	10	22A	0							
UMEA	63.73	337.6	10	24	1							
PARAISO	63.77	64.1	10	27	4							
QUETTA	64.32	287.6	10	27A	0							
BOZEMAN	64.49	50.1	10	26	-2							
PRIEST	64.96	63.3	10	31+	0							
NURMIJARVI	65.06	333.5	10	33	1							
VANNOVSKAYA	65.07	299.4	10	33	1							
HELSINKI	65.23	333.1	10	33	0							
KIZYL-ARVAT	65.38	301.4	10	36A	2							
CHARTERS TS.	65.62	183.6	10	32	-3							
SKALSTUGAN	65.92	340.7	10	36	-1							
DUGWAY	67.07	55.6	10	45A	0							
SALT LAKE C.	67.25	54.6	10	44	-2							
UPPSALA	67.69	336.1	10	47	-1						11	14 PCP
PASADENA	67.80	63.5	10	49	0				11	5		
FLAMING GRGE	68.53	53.1	10	54	0							
PRICE	68.61	54.9	10	55A	1							
BOULDER CITY	68.66	60.1	10	55	1				11	10		
UINTA BASIN	68.84	53.7	10	56A	0						39	2 PKPPKP
RAPID CITY	69.69	47.3	11	1	0							
KIROVOBAD	70.13	308.1	11	5	2							
TEHERAN	70.57	301.4	11	8	2							
BAKURIANI	70.90	310.5	11	28	20							
KARLSKRONA	71.39	334.9	11	9	-2							
GOLDEN	71.61	51.8	11	13	1							
TONTO FOREST	71.95	59.3	11	15A	1				11	31		
BRISBANE	72.86	177.2	11	16	-4							
TUCSON	73.62	60.6	11	24	0				11	40		
SHIRAZ	74.04	296.1	11	28	1				11	45		
ALBUQUERQUE	74.33	55.9	11	30	2				11	45		
KRAKOW	75.10	329.2	11	34A	1						13	3

SCHEFFERVLLE	75.12	20.9	11 33A	0			
UZHGOROD	75.40	327.0	11 36	2			
COLLMBERG	76.36	333.7	11 40A	0		11 55	
HALLE	76.50	334.4	11 41	0		11 55	
WITTEVEEN	76.82	338.0	12 45	63			
PRUHONICE	77.01	332.2	11 44	1			
JENA	77.12	334.3	11 44	0			
MUNSTER	77.33	337.1	11 47	2			
LAWRENCE	77.49	46.4	11 46	0			
VIENNA-H.	77.88	330.2	11 51	3			
KASPERSKE H.	78.06	332.3	11 51	2			
BENSBERG	78.36	336.9	11 52A	1			
WICHITA MTS.	78.93	51.3	11 54A	0			
UCCLE	79.26	338.5	12 2	6			
TULSA	79.54	48.7	11 58A	1			
STUTTGART	79.72	334.7	11 59A	1			
KEW	79.76	341.5	12 0	1			
DOURBES	79.83	338.0	11 59	0			
STRASBOURG	80.34	335.5	12 3K	1			14 44
SHAWINIGAN	80.75	28.2	12 4A	0			
WELSCHBRUCH	80.90	336C3	12 4	-1			
ADELAIDE	80.98	189.1	12 3	-2			
TRIESTE	81.03	330.4	12 5A	0			
BREBEUF	81.39	29.2	12 7A	0			
PARIS	81.56	338.8	12 10	2			
CARIBOU	81.88	25.1	12 11	1			
FOLINIERE	82.32	340.6	12 14K	2			
GARCHY	82.83	337.8	12 16A	2			
TOOLANGI	83.05	183.4	12 14	-2			12 45
MILO	83.12	26.5	12 18	2			
ATHENS	83.56	320.0	12 19K	1			
PENNSYLVANIA	83.88	34.3	12 21A	1			
MORGANTOWN	84.03	36.3	12 22K	1			
EAST MACHIAS	84.04	25.7	12 22	1			
CLERMONT-FD.	84.21	337.2	12 26	5			
ISOLA	84.52	334.0	12 25	2			
CUMBERLAND	84.89	42.3	12 26A	1			
KARAPIRO	86.49	159.8	12 32	-1		12 47	
TOLEDO	91.56	340.1	12 52K	-5			
SCOTT BASE	123.79	175.7	18 46	0			
HUANCAYO	129.18	63.3	19 0	3			
SOUTH POLE	135.58	180.0	18 54	-15			
LA PAZ	137.03	59.8	19 3	-8		19 15	
N-LAZARVSKYA	147.77	204.6	19 33A	3			

OCTOBER 21 17.H 20.M 38.S EPICENTRE 44.15 150.53 DEPTH= 0.KM

A=-0.62672 B= 0.35415 C= 0.69412 D= 0.4920 E= 0.8706
G=-0.6043 H= 0.3415 K=-0.7199 HT= -3.2

SE= 2.25

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KURILSK	2.18	300.6	0 40	2				
Y.-SAKHLINSK	6.19	300.4	1 37K	2	2 43	-5		
UGLEGORSK	7.63	313.2	1 53	-3				
MIZUSAWA	8.64	237.7	2 10	0	3 33	-16		
PETROPAVLOVK	10.37	28.3			4 4	-28		
MATUSIRO	12.08	235.2	2 54A	-3	5 20	7		
ABUYAMA	14.79	236.3	3 28K	-5				
YAKUTSK	21.65	333.0	4 51	-3				
TIKSI	29.49	346.2	6 5	-3				
ULAN-BATOR	30.22	292.8	6 15	0				
COLLEGE	39.32	36.4	7 34	1				
SEMIPALATNSK	46.46	303.8	8 30	-1				
MOULD BAY	47.66	18.9	8 41	1				
SHILLONG	50.50	268.7	9 9A	7				
ALMATA	51.49	296.4	9 13A	3				
CHITTAGONG	52.51	265.6	9 15	-2				
CHATRA	53.13	273.2	9 21	-1				
FRUNSE	53.20	297.0	9 22A	-1				
PORT MORESBY	53.38	184.2	9 23	-1				
RESOLUTE	53.87	17.4	9 26	-1				
YELLOWKNIFE	54.10	34.8	9 28	-1				
SVERDLOVSK	54.51	317.5	9 30A	-2				

TASHKENT	57.38	297.9	9	53	0	17	47	-2				
DEHRA DUN	57.59	282.4	9	55	1							
APATITY	59.01	336.5	10	3K	-1							
KEVO	59.18	340.3	10	5	0							
NEW DELHI	59.21	281.2	10	3	-3	18	10	-3				
DUZHANBE	59.21	295.4	10	6A	0	18	15	2				
EDMONTON	59.34	43.8	10	6	-1							
LAHORE	59.47	285.7	10	6	-1							
SODANKYLA	61.01	338.5	10	15	-3							
TROMSOE	61.13	342.6	10	17	-2				10	31		
SHASTA	61.40	59.9	10	20A	-1							
HUNGRY HORSE	61.86	48.9	10	21	-3							
BLUE MTS.	62.06	53.6	10	24	-1						11	5
KIRUNA	62.21	340.8	10	26A	0				10	39		
KAJAANI	63.13	335.5	10	31	-1							
CHARTERS TS.	64.04	184.5	10	37	-1						19	31
BUTTE	64.05	50.3	10	38	0							
BOZEMAN	65.10	49.9	10	42	-3							
VIBORG	65.27	332.6	10	44	-2							
QUETTA	65.36	288.8	10	46	-1				11	1		
UMEA	65.44	338.2	10	56A	9				11	1		
MOSCOW	65.55	325.1	10	48	0							
KAP TOBIN	65.62	357.2	10	49	1							
VANNOVSKAYA	66.36	300.4	10	54	1							
KIZYL-ARVAT	66.71	302.5	10	58	3	19	53	6				
NURMIJARVI	66.77	334.1	10	54A	-2							
HELSINKI	66.93	333.8	10	55	-2							
AFIAMALU	67.21	139.9									12	21
DUGWAY	67.52	55.4	11	0A	0							
SKALSTUGAN	67.63	341.2	11	2	1							
SALT LAKE C.	67.73	54.4	11	4	2							
PASADENA	68.02	63.4	11	5	1							
BOULDER CITY	68.98	60.0	11	9	-1				11	26		
FLAMING GRGE	69.05	53.0	11	11	1							
UINTA BASIN	69.35	53.6	11	12	0						11	45
UPPSALA	69.40	336.7	11	10A	-2				11	25		
GLEN CANYON	70.33	57.4	11	18	0							
BRISBANE	71.22	177.9	11	24	1							
KIROVOBAD	71.58	309.0	11	24	-1	20	45	1				
KONGSBERG	71.68	340.3	11	27	1				11	41		
TIFLIS	71.69	310.6	11	28	2	20	48	2				
TEHERAN	71.90	302.3	11	29	2							
BERGEN	72.00	342.7	11	29	1				11	42		
GOLDEN	72.16	51.8	11	30	1							
TONTO FOREST	72.29	59.3	11	29	-1				11	46	11	48 PCP
GORIS	72.36	308.1	11	32A	2							
BAKURIANI	72.38	311.3	11	30	0							
GOTEBORG	72.79	338.2	11	31	-2				11	47		
KARLSKRONA	73.09	335.5	11	34	0				11	47		
TUCSON	73.92	60.7	11	39	0				11	55		
COPENHAGEN	74.42	336.9	11	42	0							
ALBUQUERQUE	74.77	56.0	11	44	0							
SHIRAZ	75.27	297.0	11	46A	-1	21	20	-6			14	15 PP
LWOW	75.44	327.5	11	49	1							
IASI	76.08	323.9	11	54	2							
KRAKOW	76.78	329.8	11	55	0						12	10 PCP
RACIBORZ	77.38	330.8	12	0	1						12	7 PCP
SKALNATE PL.	77.39	329.1	12	0	1						12	51
COLLMBERG	78.06	334.3	12	1	-2						14	59 PP
HALLE	78.21	335.0	12	3	0	22	8	10				
WITTEVEEN	78.53	338.6	12	8	3							
PRUHONICE	78.70	332.8	12	5	-1							
JENA	78.82	334.9	12	5	-2						12	27
MUNSTER	79.04	337.7	12	9	1							
CANBERRA	79.11	181.3	12	11	3							
BRATISLAVA	79.38	330.4	12	10	0							
WICHITA MTS.	79.50	51.5	12	9	-1						12	30
VIENNA-H.	79.57	330.8	12	12	1						12	43
KASPERSKE H.	79.76	332.9	12	10	-2							
BENSBERG	80.07	337.5	12	14	1							
TULSA	80.18	49.0	12	14	0							
FAYETTEVILLE	80.90	47.9									17	11
UCCLE	80.97	339.0	12	14	-4							
STUTTGART	81.43	335.2	12	24	3							
TOOLANGI	81.47	184.0	12	24	3							
SOFIA	81.48	323.6	12	21	0							
DOURBES	81.55	338.6	12	21	0							
MUNDARING	81.98	208.9	12	22	-1							

STRASBOURG	82.05	336.1	12	25	1				13	18	
LJUBLJANA	82.10	330.8	12	25	1						
KSARA	82.27	310.2	12	27	2	13	4				
BREBEUF	82.52	29.6	12	28	2						
WELSCHBRUCH	82.61	336.8	12	26	-1						
TRIESTE	82.72	331.0	12	26	-1				12	49	
PARIS	83.28	339.4	12	30	0						
FOLINIERE	84.04	341.2	12	34	0						
JERUSALEM	84.16	309.3	12	36A	1						
GARCHY	84.54	338.4	12	38	1						
KARAPIRO	84.78	160.4	12	39	1						
ATHENS	85.16	320.6	12	40	0						
CUMBERLAND	85.70	42.7	12	42	0						
AQUILA	85.71	329.6	12	43	1	13	1		19	42	
CLERMONT-FD.	85.92	337.8	12	55	12						
ISOLA	86.23	334.6	12	47	2						
ROME	86.44	330.0	12	46	0				17	51	PPP
BAGNERES	89.21	338.8	13	5	6						
TOLEDO	93.27	340.7	13	31	13						
MALAGA	96.36	340.0							16	37	
BANGUI	115.26	304.9	18	41	-3				19	47	PP
SOUTH POLE	133.96	180.0	19	21	1						
LA PAZ	137.32	62.1	19	19	-7				19	29	
N-LAZARVSKYA	146.52	203.4	19	44	2						

OCTOBER 21 23.H 18.M 35.S EPICENTRE 44.05 150.35 DEPTH= 0.KM

A=-0.62662 B= 0.35669 C= 0.69291 D= 0.4947 E= 0.8691
G=-0.6022 H= 0.3428 K=-0.7210 HT= -3.2

SE= 2.33

	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	2.13	304.5	0	39	2							
Y.-SAKHLINSK	6.12	301.6	1	34	0	2	37	-8				
UGLEGORSK	7.60	314.3	1	54	0							
MIZUSAWA	8.48	237.7	2	6	-1	3	33	-11				
MATUSIRO	11.92	235.1	2	51K	-3	5	7	-2				
YAKUTSK	21.68	333.3	4	50	-4							
TIKSI	29.55	346.4	6	4	-4							
ULAN-BATOR	30.14	292.9	6	12	-1							
COLLEGE	39.47	36.3	7	35	2							
SEMIPALATNSK	46.41	303.8	8	35	5							
MOULD BAY	47.80	18.9	8	41	0							
SHILLONG	50.37	268.7	9	0K	-1							
ALMATA	51.41	296.4	9	9	1							
ALERT	52.63	5.1	9	16	-2							
FRUNSE	53.12	297.0	9	21K	0							
RESOLUTE	54.01	17.4	9	27	-1							
SVERDLOVSK	54.50	317.5	9	30K	-1							
TASHKENT	57.31	297.9	9	31	-21	17	47	0				
DEHRA DUN	57.48	282.3	9	53K	0						20	32
DARWIN	58.91	202.4	10	3	0						11	35
APATITY	59.04	336.5	10	3	-1							
NEW DELHI	59.10	281.2	10	2K	-2							
KEVO	59.22	340.2	10	4	-1							
LAHORE	59.37	285.7	10	5	-1							
SODANKYLA	61.05	338.4	10	16	-2							
TROMSOE	61.18	342.6	10	18	0							
SHASTA	61.56	59.7	10	20K	-1							
HUNGRY HORSE	62.02	48.7	10	24	0							
BLUE MTS.	62.22	53.4	10	25	0						11	3
MINERAL	62.25	59.7	10	25K	-1							
KIRUNA	62.26	340.8	10	25	-1				10	39		
CALISTOGA	62.63	61.7	10	28A	0							
KAJAANI	63.16	335.5	10	31	-1							
BERKELEY	63.29	62.3	10	33A	0							
CHARTERS TS.	63.94	184.3	10	35	-2							
LICK	64.00	62.4	10	37K	0							
PARAISO	64.13	63.7	10	41	3							
BOZEMAN	65.27	49.8	10	41	-4							
QUETTA	65.27	288.7	10	45K	0	19	28	-1				
VIBORG	65.30	332.5	10	49	3							
PRIEST	65.35	62.9	10	45K	-1							
PULKOVO	65.48	331.2	10	16	-31							
UMEA	65.48	338.1	10	45	-2							

MOSCOW	65.55	325.0	10 47	0					
ASHKABAD	66.14	300.2	10 50	-1					
VANNOVSKAYA	66.30	300.4	10 52	0					
KIZYL-ARVAT	66.65	302.4	10 56	2					
NURMIJARVI	66.80	334.1	10 53	-2					
HELSINKI	66.96	333.7	10 54	-2					
BOULDER CITY	69.14	59.9	11 10	0			11 25	11 32	*SP
FLAMING GRGE	69.21	52.9	11 12	2					
UPPSALA	69.44	336.7	11 9	-3			11 25		
UINTA BASIN	69.51	53.5	11 12K	0				11 48	
GLEN CANYON	70.49	57.3	11 19	1					
BRISBANE	71.13	177.7	11 22	0					
KIROVOBAD	71.53	308.9	11 24	0	20 44	1			
TIFLIS	71.66	310.6	11 27	2					
TEHERAN	71.85	302.3	11 28	2					
BAKURIANI	72.35	311.2	11 30	1					
TONTO FOREST	72.45	59.2	11 30	0			11 44	14 9	PP
TUCSON	74.08	60.5	11 39	0			11 54		
ALBUQUERQUE	74.93	55.9	11 45	1			11 59		
SHIRAZ	75.19	296.9	11 45	-1	21 18	-6		14 34	PP
LWOW	75.45	327.4	11 52	5					
KISHINEV	75.67	323.0	11 53K	4					
KRAKOW	76.80	329.7	11 54	-1				12 11	PCP
UZHGOROD	77.08	327.6	11 56	0					
SKALNATE PL.	77.40	329.0	11 59	1					
COLLMBERG	78.09	334.2	12 1	-1			12 19		
HALLE	78.24	334.9	12 19	16					
PRUHONICE	78.73	332.7	12 6	0					
JENA	78.85	334.8	12 6	0					
CANBERRA	79.01	181.1	12 8	1			12 23		
BRATISLAVA	79.40	330.3	12 11	2					
WICHITA MTS.	79.66	51.4	12 10	-1				12 31	
KASPERSKE H.	79.78	332.8	12 11	0					
TULSA	80.34	48.9	12 14K	0					
FAYETTEVILLE	81.07	47.8						16 58	
TOOLANGI	81.36	183.9	12 21	1			12 35		
STUTTGART	81.46	335.1	12 20	0					
DOURBES	81.59	338.5	12 19	-2					
LJUBLJANA	82.13	330.6	12 25	1					
WELSCHBRUCH	82.64	336.7	12 28	2					
BREBEUF	82.67	29.5	12 46	20					
TRIESTE	82.74	330.9	12 30	3					
PARIS	83.32	339.3	12 31	1					
FOLINIERE	84.08	341.1	12 34	0					
GARCHY	84.58	338.3	12 37A	1					
AQUILA	85.73	329.5	12 44	2				23 23	
CUMBERLAND	85.86	42.6	12 42	-1				13 3	
ISOLA	86.26	334.5	12 45	1					
ROME	86.46	329.9	12 54	9				23 37	
BANGUI	115.21	304.7						19 43	PP
LA PAZ	137.48	62.0	19 28	2					
N-LAZARVSKYA	146.38	203.4	19 43	2					

OCTOBER 21 23.H 29.M 14.S EPICENTRE 43.97 150.26 DEPTH= 0.KM

A=-0.62692 B= 0.35810 C= 0.69190 D= 0.4960 E= 0.8683
G=-0.6008 H= 0.3432 K=-0.7220 HT= -3.2

SE= 2.81

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KURILSK	2.12	307.1	0 39	2	1 3	-2		
Y.-SAKHLINSK	6.11	302.5	1 34	0	2 40	-6		
MIZUSAWA	8.38	237.9	2 6	0	3 33	-9		
PETROPAVLOVK	10.62	28.6	2 48	11				
MATUSIRO	11.82	235.2	2 52A	-1	5 17	10		
ABUYAMA	14.53	236.2	3 28A	-1				
TIKSI	29.62	346.5	6 5	-4				
COLLEGE	39.58	36.3	7 35	0				
MOULD BAY	47.89	18.8	8 41	-1				
SHILLONG	50.30	268.7	9 0K	0				
ALERT	52.71	5.1	9 17	-2				
CHATRA	52.95	273.2	9 15	-5				
FRUNSE	53.11	297.0	9 22	0				
RESOLUTE	54.10	17.3	9 27	-2				
SVERDLOVSK	54.51	317.5	9 31	-1				

TASHKENT	57.29	297.9	9 50	-2				
NEW DELHI	59.05	281.2	10 3K	-1				
APATITY	59.09	336.5	10 4	-1				
KEVO	59.28	340.2	10 5	-1				
LAHORE	59.33	285.7	10 6	0				
SODANKYLA	61.10	338.4	10 17	-1				
TROMSOE	61.24	342.5	10 18	-1		10 34		
SHASTA	61.65	59.7	10 22K	0				
HUNGRY HORSE	62.12	48.7	10 25	0				
KIRUNA	62.32	340.8	10 25A	-2				
BLUE MTS.	62.32	53.4	10 26	-1			11 1	
MINERAL	62.34	59.6	10 26K	-1				
CALISTOGA	62.72	61.6	10 29A	0				
KAJAANI	63.21	335.5	10 32	0			11 8	PCP
BERKELEY	63.38	62.2	10 34A	0				
CHARTERS TS.	63.85	184.2	10 36	-1				
LICK	64.09	62.3	10 38A	0				
PARAISO	64.22	63.6	10 42	3				
QUETTA	65.24	288.7	10 44	-2				
VIBORG	65.34	332.5	10 55	9				
BOZEMAN	65.36	49.7	10 43	-3			14 41	
PRIEST	65.44	62.9	10 47A	0				
PULKOVO	65.52	331.2	10 43	-4				
UMEA	65.54	338.1	10 46A	-2		11 1		
MOSCOW	65.58	325.0	10 48	0				
VANNOVSKAYA	66.29	300.4	10 53	1				
EUREKA	66.33	57.5	10 52	-1		11 7	11 14	*SP
NURMIJARVI	66.84	334.1	10 54	-2			11 21	
HELSINKI	67.00	333.7	10 56	-1			11 23	
SKALSTUGAN	67.74	341.1	11 2	0				
BOULDER CITY	69.23	59.8	11 10	-1		11 25	11 33	*SP
FLAMING GRGE	69.31	52.8	11 12	1				
UPPSALA	69.49	336.6	11 10	-2		11 25	11 38	PCP
UINTA BASIN	69.60	53.4	11 12	-1			11 48	
GLEN CANYON	70.59	57.2	11 21	2				
BRISBANE	71.05	177.6	11 23	1				
KIROVOBAD	71.54	308.9	11 24	-1				
TIFLIS	71.66	310.5	11 29	3	20 50	5		
BERGEN	72.11	342.6	11 33	5		11 44		
GORIS	72.31	308.0	11 31	1				
BAKURIANI	72.36	311.2	11 31	1				
TONTO FOREST	72.54	59.1	11 31	0		11 53	14 7	PP
KARLSKRONA	73.17	335.4	11 32A	-3				
TUCSON	74.17	60.5	11 40	0			12 5	*SP
COPENHAGEN	74.50	336.8	11 59K	17				
ALBUQUERQUE	75.03	55.9	11 45	0		12 0		
SHIRAZ	75.18	296.8	11 46K	0	21 22	-3	14 38	PP
LWOW	75.48	327.3	11 54	6				
KISHINEV	75.70	323.0	11 53	4				
KRAKOW	76.84	329.7	11 55	-1			12 10	PCP
UZHGOROD	77.11	327.6	11 58	1				
COLLMBERG	78.13	334.2	12 2	-1		12 17		
HALLE	78.29	334.9	12 20	16		12 35		
PRUHONICE	78.77	332.6	12 6	0				
JENA	78.90	334.8	12 7	0				
CANBERRA	78.93	181.1	12 10	3		12 25		
WICHITA MTS.	79.76	51.3	12 10	-2			12 47	
KASPERSKE H.	79.83	332.8	12 12	0				
BENSBERG	80.16	337.3	12 19	5				
TULSA	80.44	48.8	12 14K	-1				
DOURBES	81.64	338.5	12 11	-10			12 35	
MUNDARING	81.73	208.7	12 22	0				
STRASBOURG	82.13	335.9	12 28	4				
WELSCHBRUCH	82.69	336.7	12 25	-2				
BREBEUF	82.77	29.4	12 27K	0				
TRIESTE	82.78	330.9	12 26	-1				
PARIS	83.37	339.2	12 37	7				
FOLINIERE	84.14	341.0	12 34	0				
GARCHY	84.63	338.3	12 38K	1				
CUMBERLAND	85.96	42.5	12 43	0			13 19	
ISOLA	86.30	334.4	12 47	2				
BAGNERES	89.31	338.6	13 16	16				
CARACAS	116.13	41.5					20 19	PP
LA PAZ	137.57	62.0	19 28	2		19 43		
N-LAZARVSKYA	146.28	203.3	19 33	-9				

OCTOBER 22 3.H 17.M 16.S EPICENTRE 45.31 150.53 DEPTH= 35.KM

A=-0.61439 B= 0.34721 C= 0.70850 D= 0.4920 E= 0.8706
G=-0.6168 H= 0.3486 K=-0.7057 HT= -3.7

DEPTH OF FOCUS= 0.000R

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	
KURILSK	1.88	268.6	0	31	1	0	54	1					
Y.-SAKHLINSK	5.69	290.3	1	26A	2						2	33	
UGLEGORSK	6.89	306.3	1	46K	5								
MIZUSAWA	9.31	231.8	2	11	-4	3	36	-23					
MATUSIRO	12.77	231.0	2	52	-10	5	7	-17					
MAGADAN	14.27	0.6	3	18	-3								
ABUYAMA	15.46	232.8	3	29K	-8								
YAKUTSK	20.63	331.6	4	39K	0						8	30	
TIKSI	28.37	345.7	5	51K	-2								
ULAN-BATOR	29.79	290.9	6	3	-3	11	1	3					
IRKUTSK	30.79	299.9	6	15	1	11	16	2					
COLLEGE	38.40	37.2	7	21	1								
MANILA	39.37	228.6									8	9	
SEMIPALATNSK	45.83	302.9	8	18	-2								
KHEYS	46.06	346.8	8	19	-3	14	56	-8					
MOULD BAY	46.57	19.3	8	28	2								
HONOLULU	48.19	102.2				15	44	9					
RABAUL	49.31	177.8	8	43	-5								
SHILLONG	50.53	267.8	8	54A	-3								
ALERT	51.37	5.3	9	2	-1								
CHITTAGONG	52.61	264.7	9	11	-1								
FRUNSE	52.68	296.2	9	12A	-1								
RESOLUTE	52.77	17.7	9	13	-1								
CHATRA	53.07	272.4									10	14	
YELLOWKNIFE	53.15	35.3	9	18	1								
SVERDLOVSK	53.66	317.0	9	19	-1								
PORT MORESBY	54.54	184.1	9	33	6	16	55	-7					
TASHKENT	56.85	297.2	9	42	-1	17	35	2					
DEHRA DUN	57.34	281.7	9	47K	0						17	40	
KHOROG	57.56	292.3	9	48	0	17	46	4					
APATITY	57.95	336.2	9	50K	-1								
KEVO	58.09	340.0	9	52	0						22	9	SS
EDMONTON	58.51	44.3	9	55A	0								
DUZHANBE	58.72	294.8	9	55A	-2						17	58	
NEW DELHI	58.99	280.6	9	55A	-3								
LAHORE	59.16	285.1	9	58	-2								
PORT BLAIR	59.29	254.6	10	12	11								
SODANKYLA	59.94	338.2	10	3	-2								
TROMSOE	60.03	342.4	10	4	-2								
SHASTA	60.82	60.4	10	11A	0								
HUNGRY HORSE	61.11	49.3	10	13	0								
KIRUNA	61.12	340.6	10	12	-1								
BLUE MTS.	61.38	54.1	10	15A	0	18	40	9			19	20	SPP
MINERAL	61.51	60.3	10	16K	0								
CALISTOGA	61.93	62.4	10	15A	-3								
KAJAANI	62.08	335.3	10	18	-1								
BERKELEY	62.60	62.9	10	22A	-1								
LICK	63.31	63.1	10	14A	-14								
BUTTE	63.32	50.7	10	27	-1								
PARAISO	63.47	64.3	10	32	3								
VIBORG	64.24	332.3	10	38	4								
BOZEMAN	64.36	50.3	10	32	-2								
UMEA	64.37	338.0	10	33	-2								
SCORESBY SD.	64.40	357.2	10	37K	2								
KAP TOBIN	64.46	357.2	10	36	1								
MOSCOW	64.60	324.8	10	35	-1								
PRIEST	64.67	63.6	10	36A	0								
QUETTA	64.99	288.3	10	36	-3	19	20	4					
CHARTERS TS.	65.19	184.4	10	35	-5								
EUREKA	65.46	58.1	10	41	-1				10	53			
ASHKABAD	65.63	299.9	10	43	0	19	38	14					
NURMIJARVI	65.73	333.9	10	42	-1	19	28	3			24	0	SS
HELSINKI	65.89	333.5	10	43	-1								
KIZYL-ARVAT	66.09	302.0	10	47A	1	19	38	8					
SKALSTUGAN	66.54	341.0	10	50	2								
DUGWAY	66.87	55.8	10	51A	0								
SALT LAKE C.	67.06	54.8	10	52	0								
PASADENA	67.51	63.8	10	55	0	19	55	8	11	9			
UPPSALA	68.34	336.6	10	58	-2								

FLAMING GRGE	68.36	53.4	11	U	0							
BOULDER CITY	68.40	60.4	11	U	0				11	12		
UINTA BASIN	68.66	54.0	11	2	0						12	22
RAPID CITY	69.60	47.6	11	8	1				11	22		
GLEN CANYON	69.71	57.8	11	9	1							
LARAMIE	70.23	51.0	11	12	1						19	48
KIROVOBAD	70.85	308.7	11	15A	0	20	29	3				
TEHERAN	71.29	302.0	11	19A	1	20	39	8				
BAKURIANI	71.62	311.0	11	21	1							
GORIS	71.64	307.8	11	2U	0	20	42	6				
TONTO FOREST	71.70	59.7	11	20	0				11	35	14	2 PP
KARLSKRONA	72.04	335.4	11	22	0							
BRISBANE	72.37	177.9	11	24	0	20	44	0				
COPENHAGEN	73.35	336.7	11	31	1							
TUCSON	73.36	61.0	11	3U	0							
SIMFEROPOL	73.98	318.6	11	33A	-1							
ALBUQUERQUE	74.13	56.3	11	33	-1							
SHIRAZ	74.74	296.7	11	37A	-1	21	14	3			14	18 PP
KISHINEV	74.75	322.9	11	37A	-1	21	19	8				
IASI	75.14	323.7	11	42	2							
SCHEFFERVLLE	75.35	21.3	11	42	0							
KRAKOW	75.78	329.7	11	44K	0						11	58 PCP
UZHGOROD	76.09	327.5	11	47	1							
RACIBORZ	76.37	330.7	11	47	0						12	0 PCP
SKALNATE PL.	76.39	329.0	11	46	-1							
COLLMBERG	77.02	334.2	11	51	0				12	4		
HALLE	77.16	334.9	11	52	0	21	41	4				
LAWRENCE	77.40	46.8	11	52	-1							
DURHAM	77.53	343.9				21	48	7				
PRAGUE	77.64	332.8	11	52	-2							
PRUHONICE	77.68	332.7	11	55	0							
JENA	77.77	334.8	11	55	0							
MUNSTER	77.97	337.6	12	0	4							
BRATISLAVA	78.37	330.2	11	58	0							
VIENNA-H.	78.56	330.7	12	U	1						12	14 PCP
KASPERSKE H.	78.73	332.8	12	1A	1							
RIVERVIEW	78.77	179.5				21	59	5				
WICHITA MTS.	78.79	51.7	12	1	0	22	5	10			22	53 PS
BENSBERG	79.01	337.4	12	2A	0							
ISTANBUL UN.	79.39	319.0	12	4A	0	22	4	3				
TULSA	79.42	49.1	12	4A	0	22	4	3			27	22 SS
UCCLE	79.89	339.0	12	9	2							
BELGRADE	79.96	326.4	12	9K	2	22	26	19			15	25 PP
FAYETTEVILLE	80.13	48.0									17	4
CANBERRA	80.26	181.3	12	14	5							
KEW	80.37	342.0	12	9	0	22	18	7				
STUTTGART	80.38	335.2	12	11	2							
DOURBES	80.47	338.5	12	10K	0	22	23	11				
SOFIA	80.55	323.5	12	15	5	22	38	25			15	19 PP
ZAGREB	80.78	329.7	12	12	1							
OTTAWA	80.85	31.0	12	10	+2							
SHAWINIGAN	80.90	28.6	12	11	-1							
STRASBOURG	80.99	336.0	12	14	1	22	25	7			27	14
LJUBLJANA	81.09	330.7	12	13A	0						12	44
BREBEUF	81.52	29.7	12	15K	0							
KSARA	81.52	310.1	12	14	-1	22	20	-3	12	25	15	21 PP
WELSCHBRUCH	81.54	336.8	12	15	0							
TRIESTE	81.71	331.0	12	16A	0	22	28	3			12	21 PCP
CARIBOU	82.06	25.6	11	49	-29							
PARIS	82.19	339.3	12	20A	1							
PADOVA	82.55	332.0									14	14
FOLINIERE	82.94	341.1	12	23	0							
MILO	83.28	26.9	12	26	2							
JERUSALEM	83.43	309.2	12	26A	1							
GARCHY	83.46	338.4	12	26A	1							
MORGANTOWN	84.07	36.8	12	30	2							
EAST MACHIAS	84.22	26.2	12	31	2							
ATHENS	84.27	320.5	12	28K	-1							
AQUILA	84.71	329.6	12	33	1						15	56 PP
CLERMONT-FD.	84.85	337.8	12	47	15							
CUMBERLAND	84.86	42.8	12	33	1	23	4	7			28	54 SS
ISOLA	85.18	334.6	12	36	2							
PALISADES	85.31	32.1				23	8	7				
ROME	85.44	330.0	12	35A	0	23	11	9			15	58 PP
MESSINA	87.52	326.1				23	2	-20				
TOLEDO	92.18	340.7	13	8K	1						26	4
LWIRO	113.48	292.1									19	30 PP
BANGUI	114.60	305.3									18	37

CARACAS	115.00	41.3				25	44	22			19	44	PP
BROKEN HILL	122.59	283.0	18	52K	0								
HUANCAYO	128.88	64.4	19	5	1								
SOUTH POLE	135.11	180.0	19	1	-15								
LA PAZ	136.77	61.0	19	20	1								
N-LAZARVSKYA	147.58	204.1	19	38	0								

OCTOBER 23 9.H 47.M 8.S EPICENTRE 41.42 144.35 DEPTH= 40.KM

A=-0.61117 B= 0.43837 C= 0.65902 D= 0.5828 E= 0.8126
G=-0.5355 H= 0.3841 K=-0.7521 HT= -2.2

DEPTH OF FOCUS= 0.001R

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
HIROO	1.16	318.6	0	20A	0	0	37	2				
URAKAWA	1.38	302.5	0	25A	2	0	46	5				
KUSIRO	1.56	1.4	0	25A	-1	0	46	1				
OBIHIRO	1.73	330.7	0	28A	0	0	45	-4				
NEMURO	2.12	25.1	0	33A	-1	0	58	-1				
HATINOHE	2.31	248.4	0	33	-4	1	0	-4				
TOMAKOMAI	2.39	301.4	0	41	3							
MIYAKO	2.53	226.6	0	35	-5	1	2	-8				
ABASHIRI	2.60	358.9	0	40A	-1	1	14	3				
MURORAN	2.67	290.8	0	41A	-1	1	11	-2				
HAKODATE	2.72	279.5	0	42K	0	1	15	1				
AOMORI	2.76	258.7	0	41	-2	1	13	-3				
SAPPORO	2.77	307.6	0	43	0	1	18	2				
ASAHIGAWA	2.78	328.9	0	43K	0	1	20	4				
MORI	2.91	284.8	0	46	1	1	39	20				
MORIOKA	2.97	235.7	0	44A	-2	1	17	-4				
RUMOE	3.23	322.4	0	50	0							
MIZUSAWA	3.36	228.2	0	48	-3	1	24	-7				
SUTTSU	3.36	295.6	0	53	2	1	32	1				
AKITA	3.65	243.8	0	57	1	1	36	-2				
ISINOMAKI	3.78	219.0	0	53A	-4	1	33	-8				
SAKATA	4.28	235.5	1	4	0	1	54	0				
YAMAGATA	4.41	225.5	1	2A	-4	1	50	-7				
WAKKANAI	4.45	335.0	1	8	1	2	1	3				
KURILSK	4.60	32.8	1	8	-1							
HUKUSIMA	4.73	220.6	1	6A	-5	2	2	-3				
ONAHAMA	5.20	212.1	1	12	-5	2	6	-11				
SHIRAKAWA	5.35	218.1	1	14	-6	2	12	-9				
NIIGATA	5.38	231.2	1	32	12	2	35	14				
Y.-SAKHLINSK	5.72	348.7	1	23	-2	2	29	-1				
AIKAWA	5.80	236.2	1	23K	-3	2	26	-6				
MITO	5.87	212.3	1	20K	-7	2	22	-12				
UTUNOMIYA	5.98	217.1	1	24	-4							
KAKIOKA	6.12	213.5	1	23	-7	2	27	-13				
TYOSI	6.31	206.9	1	26K	-7	2	33	-12				
TAKADA	6.40	229.6	1	29	-5	2	44	-3				
MAEBASI	6.48	221.1	1	31A	-4							
KUMAGAYA	6.54	218.0	1	31	-5	2	43	-7				
HONGO	6.73	213.7	1	34	-5						2	46
NAGANO	6.73	227.3	1	30	-9							
TOKYO C.M.O.	6.77	213.7	1	25	-14	2	45	-11				
OIWAKE	6.80	223.6	1	36	-4							
TITIBU	6.81	218.9	1	33	-7	2	48	-9				
MATUSIRO	6.82	226.5	1	36A	-4	2	50	-8				
YOKOHAMA	7.02	213.2	1	47	4	2	52	-10				
WAZIMA	7.04	237.5	1	44	1							
MATUMOTO	7.17	226.0	1	45	0	2	52	-14				
TOYAMA	7.29	232.1	1	40	-7	4	17	68				
KOHU	7.31	220.2	1	43	-4	3	7	-3				
HUNATU	7.35	218.3	1	45	-3	3	4	-7				
MERA	7.40	210.2	1	42	-6							
AJIRO	7.58	214.7	1	44	-7	3	4	-12				
MISIMA	7.58	215.8	1	46	-5							
OSIMA	7.70	212.1	1	52	0							
IIDA	7.80	223.1	1	49	-5	3	19	-3				
UGLEGORSK	7.83	348.9	1	54K	0	3	26	3				
OMAESAKI	8.35	217.4	2	12	11							
GIHU	8.45	227.2	1	59	-4							
HAMAMATU	8.48	220.1	2	12	9							

NAGOYA	8.51	225.3	1	58	-6	3	40	0			
TSURUGA	8.67	231.1	2	5	-1						
HIKONE	8.84	228.6	2	8	0						
KAMEYAMA	9.02	226.0	2	5	-6	4	3	11			
KYOTO	9.31	229.5	2	11	-4	4	21	22			
NARA	9.50	227.7	2	15	-2						
TOYOOKA	9.50	234.9	2	15	-2						
ABUYAMA	9.51	229.4	2	11A	-6						
OSAKA	9.69	228.7	2	17	-3	4	12	3			
SUMOTO	10.27	229.6	1	56	-32	5	22	59			
TAKAMATU	10.79	232.3	2	30	-5	5	31	56			
KOTI	11.63	231.0	2	21	-25						
HUKUOKA	13.56	239.3	3	17	5	6	3	21			
KUMAMOTO	1 .85	236.1	3	24	8						
NAGASAKI	14.43	237.7	3	19	-4	6	31	28			
PETROPAVLOVK	15.10	34.9	3	30	-2						
MAGADAN	18.60	10.3	4	15	-1						
BODAYBO	25.23	320.9	5	22	-2						
ULAN-BATOR	27.22	296.6	5	41K	-1						
IRKUTSK	29.10	305.6	5	22	-37						
TIKSI	31.26	350.6	6	17	-1	11	26	5			
HONG KONG	31.71	242.4				11	30	2			
MANILA	33.43	223.9	6	36	-1						
ESEN BULAK	34.58	294.8	6	47	0	12	14	2			
COLLEGE	44.18	34.6	8	7	0						
SHILLONG	45.84	266.8	8	19K	-1						
RABAUL	45.96	169.1	8	20	-1						
CHATRA	48.69	271.4	8	42K	0						
KHEYS	48.85	347.4	8	43A	-1	15	44	1			
FRUNSE	50.35	296.3	8	55K	0						
PORT MORESBY	50.63	176.4	8	41	-16						
MOULD BAY	51.68	17.7	9	5K	0						
SVERDLOVSK	53.43	317.1	9	23A	5						
DEHRA DUN	53.67	280.6	9	21A	1						
TASHKENT	54.59	296.7	9	26K	-1						
KHOROG	54.83	291.6	9	27	-1	17	8	3			
NEW DELHI	55.21	279.3	9	29K	-2						
ALERT	55.61	4.1	9	33K	-1						
LAHORE	55.77	284.0	9	34	-1						
DUZHANBE	56.22	294.0	9	47	9						
RESOLUTE	57.79	15.7	9	48K	-2						
APATITY	59.65	335.4	10	1K	-2						
KEVO	60.16	339.1	10	5	-1						
CHARTERS TS.	61.22	178.0	10	10	-3						
VICTORIA	61.78	48.9	10	16	-1						
SODANKYLA	61.82	337.1	10	16K	-1						
QUETTA	61.85	286.6	10	15	-2	18	41	4			
TROMSOE	62.31	341.2	10	20	-1						
SEATTLE	62.88	49.3	10	29	5						
KIRUNA	63.23	339.3	10	25	-2						
ASHKABAD	63.57	298.3	10	26	-3	18	52	-6			
KAJAANI	63.66	334.0	10	29K	0						
VANNOVSKAYA	63.74	298.4	10	30	0						
KIZYL-ARVAT	64.25	300.4	10	34K	1	19	12	6			
MOSCOW	65.10	323.3	10	38	-1						
VIBORG	65.52	330.8	10	40K	-1						
PULKOVO	65.58	329.5	10	42	0						
UMEA	66.20	336.3	10	45	-1				10	57	
SHASTA	66.70	55.7	10	56K	7						
HUNGRY HORSE	67.05	45.2	10	51	0						
NURMIJARVI	67.15	332.2	10	51K	-1	19	36	-6			20 36 SCS
HELSINKI	67.28	331.8	10	52	-1						
BLUE MTS.	67.32	49.7	10	53K	0						13 15
MINERAL	67.39	55.7	10	53K	0				11	6	
CALISTOGA	67.77	57.6	10	56K	0						
SCORESBY SD.	67.97	355.1	10	58A	1						
BERKELEY	68.43	58.2	11	0K	0						
SKALSTUGAN	68.66	339.1	11	0	-1						
BRISBANE	68.90	172.0	11	1A	-2						
LICK	69.14	58.3	11	4K	0						
PARAISO	69.27	59.5	11	8	3						
KIROVOBAD	69.65	306.5	11	7K	0	20	17	6			
TIFLIS	69.91	308.2	11	12	3						20 21
UPPSALA	70.01	334.5	11	8	-2						12 25
BOZEMAN	70.31	46.1	11	9	-2				11	23	
GORIS	70.35	305.6	11	11K	-1	20	28	8			
PRIEST	70.49	58.8	11	13K	1						
BAKURIANI	70.66	308.8	11	14	1						

EUREKA	71.37	53.6	11 18	0		11 30		
SHIRAZ	72.33	294.1	11 22K	-1	20 42 -1		21 14	
KONGSBERG	72.60	337.8	11 25	0		11 37		
DUGWAY	72.80	51.4	11 27K	1				
SALT LAKE C.	73.00	50.5	11 28	1				
BERGEN	73.14	340.1	11 28	0				
PASADENA	73.32	59.1	11 29	0		11 42		
GOTEBORG	73.51	335.6	11 30	0				
KARLSKRONA	73.57	332.9	11 30	-1				
SIMFEROPOL	73.78	316.1	11 33	1				
BOULDER CITY	74.28	55.9	11 35	0		11 48		
FLAMING GRGE	74.31	49.1	11 36	1		11 50		
PRICE	74.36	50.8	11 36K	1				
UINTA BASIN	74.61	49.6	11 37K	0			14 25 PP	
KISHINEV	74.99	320.3	11 38K	-1				
COPENHAGEN	75.01	334.1	11 39K	0				
LWOW	75.16	324.7	11 41	1				
IASI	75.47	321.0	11 43	1				
RAPID CITY	75.53	43.5	11 42K	0				
GLEN CANYON	75.62	53.3	11 38	-5				
LARAMIE	76.18	46.8	11 47	1				
CANBERRA	76.48	176.1	11 47A	0				
KRAKOW	76.72	326.9	11 49K	0			12 2 PCP	
RACIBORZ	77.40	327.8	11 54	1			12 10 PCP	
GOLDEN	77.40	47.9	11 53	0				
TONTO FOREST	77.59	55.2	11 54K	0		12 8	14 48 PP	
TOOLANGI	78.62	179.1	11 58K	-1		12 11		
HALLE	78.62	331.9	12 0	1		12 16		
PRUHONICE	78.90	329.6	12 2	1				
JENA	79.22	331.8	12 2	-1				
TUCSON	79.23	56.5	12 3K	0		12 16		
VIENNA-H.	79.58	327.6	12 6	1			12 16 PCP	
KASPERSKE H.	79.96	329.7	12 7	0			15 9	
ALBUQUERQUE	80.05	52.0	12 8	1		12 22		
BENSBERG	80.70	334.2	12 11K	0				
STUTTGART	81.84	331.8	12 17	1				
LJUBLJANA	82.10	327.3	12 18K	0			12 40	
DOURBES	82.27	335.2	12 17	-2		12 30		
KEW	82.51	338.6	12 20	0				
STRASBOURG	82.53	332.6	12 20	0			12 40	
TRIESTE	82.74	327.5	12 20K	-1				
WELSCHBRUCH	83.17	333.3	12 21	-2				
LUBBOCK	83.72	50.2	12 26	0				
KARAPIRO	83.95	155.7	12 29	2				
ATHENS	84.21	316.9	12 28	-1				
WICHITA MTS.	84.73	47.4	12 31	0				
FOLINIERE	84.99	337.5					13 4	
GARCHY	85.23	334.7	12 26K	-8				
TULSA	85.37	44.9	12 35K	1		12 48		
AQUILA	85.59	325.8	12 36	1		12 50	15 54 PP	
ANN ARBOR	86.07	33.5	12 39	1		12 52		
OTTAWA	86.44	27.0	12 38	-2				
CLERMONT-FD.	86.55	334.0	12 46	6				
ISOLA	86.56	330.7	12 41	1				
MONACO	86.81	330.3	12 41	0				
CARIBOU	87.41	21.6	12 48	3				
MILO	88.69	22.9	12 54	3				
EAST MACHIAS	89.60	22.1	12 58	3				
PENNSYLVANIA	89.65	30.7	12 56K	1				
MORGANTOWN	89.83	32.6	12 57A	1				
BAGNERES	89.92	334.6	12 56	0				
CUMBERLAND	90.74	38.6	13 0	0				
PALISADES	90.93	27.9	13 2	1		13 13		
TOLEDO	94.13	336.2	13 16K	0				
AVERROES	101.24	336.2					17 35	
BANGUI	112.83	298.6	18 33	0			19 27 PP	
SCOTT BASE	119.79	174.7	18 45	-1				
HAWSON	124.47	207.4	18 54	-1				
SOUTH POLE	131.22	180.0	19 7	-1				
LA PAZ	142.63	58.1	19 27	-2				
ANTOFAGASTA	146.07	69.5	19 37	2				

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.

OCTOBER 24 1.H 6.M 31.S EPICENTRE 45.28 150.09 DEPTH= 53.KM

A=-0.61199 B= 0.35199 C= 0.70821 D= 0.4986 E= 0.8668
G=-0.6139 H= 0.3531 K=-0.7060 HT= -3.7

DEPTH OF FOCUS= 0.003R

SE= 4.35

	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	3.78	240.5	0	50	-7							
ABASHIRI	4.34	255.1	1	2A	-3							
KUSIRO	4.70	242.7	1	3	-7	1	52	-12				
Y.-SAKHLINSK	5.41	291.3	1	21A	1						2	38
OBIHIRO	5.50	247.0	1	16	-5							
ASAHIGAWA	5.72	257.5	1	22	-2							
HIROO	5.75	240.9	1	30	5							
WAKKANAI	5.93	274.3									11	30
URAKAWA	6.16	242.0	1	25K	-6	2	35	-6				
SAPPORO	6.67	253.7	1	32A	-6	2	44	-9				
TOMAKOMAI	6.69	249.7	1	54	16							
MURORAN	7.23	249.0	1	39	-7							
SUTTSU	7.53	254.2	1	44	-6							
MORI	7.60	248.6	1	41	-10							
HAKODATE	7.62	246.2	1	43	-8	3	7	-10				
HATINOHE	7.88	235.9									2	39
AOMORI	8.15	240.1	2	5	7	3	27	-3				
MIYAKO	8.23	229.7	1	50	-9	3	9	-23				
MORIOKA	8.63	232.9	1	55	-10	3	44	2				
MIZUSAWA	9.05	230.4	2	2A	-9							
AKITA	9.24	236.5	2	24	11							
ISINOMAKI	9.47	226.7	1	58	-18	3	42	-20				
PETROPAVLOVK	9.55	32.8	2	23	5						4	49
SAKATA	9.94	233.7	2	27	4							
YAMAGATA	10.11	229.4	2	30	5							
HUKUSIMA	10.42	227.1	2	22	-7							
ONAHAMA	10.83	223.0				4	24	-11				
SHIRAKAWA	11.03	225.8	2	26	-12	4	22	-18				
NIIGATA	11.06	232.2									3	16
AIKAWA	11.44	234.8	2	34	-9							
MITO	11.49	222.6	2	39	-5	4	31	-21				
UTUNOMIYA	11.65	225.1	1	41	-65							
KAKIOKA	11.75	223.1	2	42	-5	4	34	-24				
TAKADA	12.09	231.6	2	50	-2							
MAEBASI	12.17	227.0	2	57	4	4	47	-21				
KUMAGAYA	12.21	225.4	2	40	-13	4	49	-20				
TOKYO C.M.O.	12.40	222.9									4	34
NAGANO	12.43	230.3	3	2	6							
TITIBU	12.49	225.8	2	46	-11							
MATUSIRO	12.52	229.9	2	47	-11	4	47	-29				
YOKOHAMA	12.65	222.5				6	17	58			3	33
WAZIMA	12.66	236.0	3	6	6						7	53
KLYUCHI	12.96	27.7	3	11	7						8	37
TOYAMA	12.96	233.1	3	2	-2							
MERA	12.98	220.7	3	32	28							
KOHU	13.00	226.4	3	3	-1							
MISIMA	13.24	223.8	3	20	13							
GIHU	14.15	230.4	2	52	-27							
NAGOYA	14.21	229.3	3	9	-11							
MAGADAN	14.30	1.5	3	21	0						6	55
HIKONE	14.53	231.3	3	15	-9	7	6	62				
KAMEYAMA	14.72	229.7	3	33	7	6	41	32				
KYOTO	15.00	231.9	3	14	-16						4	29
ABUYAMA	15.20	231.9	3	21A	-12							
OSAKA	15.38	231.4	3	50	15							
KOBE	15.56	232.3									8	54
SUMOTO	15.96	232.0	3	39	-3	6	40	3				
SIOMISAKI	16.17	228.0				6	49	7			5	26
TAKAMATU	16.46	233.9	3	50	1							
MUROTO	17.17	231.1									9	24
HAMADA	17.22	239.2	3	52	-6	7	14	8				
KOTI	17.31	233.1	3	47	-12							
HIROSIMA	17.36	237.2	3	51	-9	7	7	-3				
MATUYAMA	17.53	235.3	3	57	-5	7	4	-9				
OOITA	18.64	236.2	4	13	-3	7	42	4				
HUKUOKA	19.14	239.2	4	16	-5	7	54	5				
KUMAMOTO	19.48	237.0	4	18	-7	7	54	-3				
NAGASAKI	20.03	238.2	4	26A	-5	8	17	9				
KAGOSIMA	20.47	234.7	4	41	5	8	24	7				

YAKUTSK	20.51	332.0	4	37A	1	8	29	12				
TIKSI	28.32	346.0	5	50A	-1	10	32	0				
ULAN-BATOR	29.51	290.8	6	1	0							
ESEN BULAK	36.92	291.5	7	7	2							
HONG KONG	37.19	244.0	7	5	-3	12	53	3			8	34 PP
COLLEGE	38.60	37.2	7	19	0							
PHU-LIEN	43.16	250.2	7	55K	-2							
SEMIPALATNSK	45.58	302.7	8	16	-1							
MOULD BAY	46.69	19.2	8	26	1							
HONOLULU	48.48	101.8				15	43	8				
RABAUL	49.30	177.3	8	51	5							
SHILLONG	50.22	267.5	8	51A	-2							
ALERT	51.42	5.2	9	1A	-1							
CHITTAGONG	52.30	264.4	9	9	1							
FRUNSE	52.41	296.0	9	10A	1	16	40	10				
CHATRA	52.77	272.1	9	10A	-2							
RESOLUTE	52.89	17.6	9	11	-2							
YELLOWKNIFE	53.35	35.2	9	13	-3							
SVERDLOVSK	53.47	316.8	9	17K	0							
PORT MORESBY	54.49	183.6	9	32	7	16	53	-5				
HONIARA	55.18	168.1	9	27	-2							
VICTORIA	56.10	53.1	9	39	3							
TASHKENT	56.58	297.0	9	40A	0	17	36	10			17	56 PS
KHOROG	57.28	292.1	9	45A	0	17	44	9				
APATITY	57.85	336.1	9	46	-3						13	14 PPP
KEVO	58.01	339.9	9	47	-3	17	47	3			22	3 SS
NEW DELHI	58.69	280.3	9	52A	-2	17	57	4				
LAHORE	58.87	284.8	9	55	-1	17	59	3				
WARSAK DAM	59.29	288.7	9	58	-1							
SODANKYLA	59.84	338.1	10	2	0							
TROMSOE	59.96	342.3	10	3	0							
KIRUNA	61.04	340.5	10	6	-5							
SHASTA	61.10	60.2	10	8	-3							
HUNGRY HORSE	61.35	49.1	10	11	-2							
BLUE MTS.	61.64	53.9	10	12	-3	18	40	9			20	1 SCS
MINERAL	61.79	60.1	10	27A	11							
KAJAANI	61.97	335.1	10	16	-1							
CALISTOGA	62.21	62.2	10	22A	4							
BERKELEY	62.88	62.7	10	26K	3							
BUTTE	63.57	50.5	10	28	1				10	39		
LICK	63.59	62.8	10	21A	-7							
PARAISO	63.75	64.1	10	24	-5							
UMEA	64.28	337.8	10	31	-1							
PULKOVO	64.31	330.8	10	32	0						11	1 PCP
MOSCOW	64.44	324.6	10	33	0	19	10	4			11	1 PCP
BOZEMAN	64.61	50.1	10	30	-4				10	44		
QUETTA	64.71	288.0	10	34A	-1	19	13	4				
PRIEST	64.95	63.3	10	23K	-13							
CHARTERS TS.	65.15	184.0	10	37	-1	19	7	-8				
ASHKABAD	65.37	299.6	10	39	0						11	3 PCP
NURMIJARVI	65.61	333.7	10	40	-1	19	34	13			20	37 SCS
EUREKA	65.73	57.9	10	39	-2				10	53		
HELSINKI	65.78	333.4	10	41	-1							
MADRAS	66.76	265.1	11	0	12	19	53	19			13	37 PP
DUGWAY	67.14	55.6	10	48K	-2							
SALT LAKE C.	67.32	54.6	10	56	5							
PASADENA	67.79	63.6	10	54	0	19	53	6	11	13		
BOMBAY	67.96	274.9									14	10
UPPSALA	68.24	336.4	10	56A	-1							
BOULDER CITY	68.68	60.1	10	58	-2				11	11		
UINTA BASIN	68.92	53.7	10	59	-2	20	7	7			24	27 SS
RAPID CITY	69.84	47.3	11	5	-2				11	19		
GLEN CANYON	69.98	57.5	11	16	8							
KONGSBERG	70.51	339.9	11	12	1	20	34	15				
TIFLIS	70.72	310.1	11	14	2	20	34	13				
TEHERAN	71.04	301.8	11	16A	2	20	36	11				
GOTEBORG	71.62	337.8	11	17	-1							
GOLDEN	71.71	51.9	11	22	4	20	43	10				
KARLSKRONA	71.93	335.2	11	19A	-1							
TONTO FOREST	71.98	59.4	11	17	-3	20	34	-2	11	30	12	54 PP
BRISBANE	72.36	177.5	11	29	7						20	44
COPENHAGEN	73.25	336.5	11	29K	2	21	7	17				
WARSAW	73.46	330.1							11	38	11	47 PCP
TUCSON	73.64	60.7	11	27	-3				11	44		
SIMFEROPOL	73.79	318.3	11	32A	2						11	45 PCP
ALBUQUERQUE	74.39	56.1	11	33	-1				11	48		
SHIRAZ	74.48	296.4	11	34A	0	21	6	2	12	29	11	47 PCP
IASI	74.98	323.5	11	38	1							

KRAKOW	75.65	329.4	11	42A	1							11	55	PCP
CHORZOW	75.78	330.1	11	43	1							11	55	PCP
RACIBORZ	76.24	330.4	11	45	0							11	58	PCP
SKALNATE PL.	76.26	328.8	11	40	-5									
COLLMBERG	76.90	334.0	11	48	0									
HALLE	77.05	334.7	11	50	1	21	56	24				14	43	PP
WITTEVEEN	77.36	338.2	11	53	2									
DURHAM	77.46	343.6	12	3K	12									
PRAGUE	77.52	332.5	11	52	0									
PRUHONICE	77.55	332.4	11	53	1	21	45	7						
JENA	77.66	334.6	11	53	1	21	45	6				12	32	
BRATISLAVA	78.24	330.0	11	56	0									
VIENNA-H.	78.43	330.5	11	57	0							12	12	PCP
KASPERSKE H.	78.61	332.5	11	59A	1									
RIVERVIEW	78.75	179.1	11	59	1	21	50	0						
BENSBERG	78.91	337.1	12	0A	1				12	13				
WICHITA MTS.	79.04	51.4	11	58	-2	21	56	2				27	11	SS
ISTANBUL UN.	79.20	318.7	12	2A	1	22	5	10						
TULSA	79.67	48.9	12	1	-2	22	2	2				27	19	SS
UCCLE	79.80	338.7	12	7	3	22	11	9						
HEIDELBERG	79.87	335.5	12	5	0									
CANBERRA	80.23	180.9	12	4	-2				12	15				
STUTTGART	80.27	334.9	12	7	0	22	13	7						
KEW	80.30	341.7	12	7	0	22	11	4						
DOURBES	80.38	338.3	12	6K	-1	22	16	8						
SOFIA	80.39	323.2	12	8	1	22	18	10				15	0	PP
ADELAIDE	80.54	189.5	12	2	-6									
TUBINGEN	80.55	334.9	12	9	1									
ZAGREB	80.64	329.4	12	11	2									
STRASBOURG	80.88	335.7	12	11A	1	22	25	12				23	11	SP
LJUBLJANA	80.96	330.4	12	11A	1									
RAVENSBURG	81.05	334.2	12	11	0									
SHAWINIGAN	81.06	28.4	12	9	-2									
KSARA	81.30	309.8	12	12	0	22	29	12				12	49	
WELSCHBRUCH	81.44	336.5	12	13	0									
FELDBERG	81.44	335.3	12	13	0									
TRIESTE	81.58	330.7	12	14A	0	22	33	13				27	53	SS
BREBEUF	81.69	29.4	12	12	-2	22	23	2						
PARIS	82.11	339.0	12	18A	2									
FOLINIERE	82.86	340.9	12	21	1									
JERUSALEM	83.21	308.9	12	24A	2									
GARCHY	83.37	338.1	12	24A	1									
PRATO	84.04	331.5	12	33	7	23	39	54						
ATHENS	84.09	320.2	12	26A	0							12	53	
AQUILA	84.58	329.3	12	31	2	22	55	5	12	46		15	58	PP
CLERMONT-FD.	84.75	337.5	12	30	0									
ISOLA	85.07	334.3	12	32	1									
CUMBERLAND	85.08	42.5	12	29	-2	22	57	2				28	45	SS
ROME	85.30	329.7	12	34A	2	23	8	11	12	46		23	52	PS
MONACO	85.36	333.8	12	33	0									
PALISADES	85.49	31.8	12	32	-1	23	0	1						
MESSINA	87.37	325.8	12	44	2	23	15	-2				24	21	PS
BAGNERES	88.05	338.5	12	49	3									
TOLEDO	92.10	340.4	13	5	0	24	8	8				16	50	PP
GRANADA	94.55	339.2										18	14	PP
MALAGA	95.18	339.7	13	32	13							26	5	PS
LWIRO	113.21	291.7										19	28	
BANGUI	114.36	304.9										18	23	
CARACAS	115.22	40.9				27	11	112				19	37	PP
FUQUENE	116.10	50.1										20	0	PP
BOGOTA	116.63	51.0										20	32	PP
LA PAZ	137.05	60.6	19	16	-1									
N-LAZARVSKYA	147.43	204.2	19	34A	-1									

OCTOBER 24 7.H 26.M 29.S EPICENTRE -5.07 102.90 DEPTH= 99.KM

A=-0.22243 B= 0.97099 C=-0.08772 D= 0.9748 E= 0.2233
G= 0.0196 H=-0.0855 K=-0.9961 HT= 7.0

DEPTH OF FOCUS= 0.010R

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
TANGERANG	3.87	106.6	0	57A	-2							
DJAKARTA	4.06	106.0	1	1K	0						1	44

PORT BLAIR	19.47	328.7	4	22	1	8	6	16		4	43 PP
PHU-LIEN	25.96	8.0	5	32A	7						
MANILA	26.63	42.3	5	35	4	10	35	38			
DARWIN	28.52	106.6	5	50	2					5	59 PP
MADRAS	28.84	308.7	5	51	0	10	39	7		6	50 PP
CHITTAGONG	29.34	338.7	6	5	10						
HONG KONG	29.35	21.7	5	57	2	10	50	10		7	5
KODAIKANAL	29.54	301.0	5	56	-1	10	53	10			
VISHAKHAPTNM	29.78	319.9	6	1K	2	10	53	6			
SHILLONG	32.28	341.1	6	20A	-1	11	28	2			
HYDERABAD	32.91	313.3	6	28	1	11	40	4		7	49 PP
BOKARO	33.21	330.6	6	29	0	11	48	7		7	46 PP
CHATRA	35.17	335.1	6	45A	-1	12	15	4		17	1
POONA	37.01	310.1	7	1A	-1	12	42	3		8	23 PP
BOMBAY	38.02	309.6	7	11	1					7	23 PP
NEW DELHI	41.61	324.9	7	38A	-2	13	52	4	7 52	14	11 *SS
DEHRA DUN	42.48	327.4	7	46A	-1	14	2	1		14	24 *SS
PORT MORESBY	44.08	98.2	8	1A	1	14	31	7			
ADELAIDE	44.49	136.7	8	4A	1	14	35	5	8 15	18	3
CHARTERS TS.	44.71	113.5	8	6A	1	14	41	8			
GUAM	45.43	65.6	8	11	1						
LAHORE	45.48	325.1	8	8	-3	14	44	0			
WARSAK DAM	48.86	325.0	8	38	1						
RABAUL	49.11	91.2	8	39	0					15	30
QUETTA	49.13	317.8	8	38	-1	15	37	1			
ABUYAMA	50.24	35.3	8	47A	-1						
TOOLANGI	50.50	135.8	8	52A	2	16	7	12	9 6	9	49 PCP
KHOROG	51.43	328.0	8	57A	0	16	13	6			
ESEN BULAK	51.58	354.1	8	57	-1	16	17	7			
CANBERRA	52.02	131.6	9	3A	2	16	26	10	9 15	16	34 SP
BRISBANE	52.34	120.8	9	5	1	16	31	11			
ULAN-BATOR	52.88	3.4	9	7	-1						
MATUSIRO	52.94	35.7	9	7A	-1	16	25	-3			
RIVERVIEW	53.07	129.0	9	11A	2	16	42	12	9 24	11	15 PP
TARRALEAH	53.53	140.5	9	15	2						
DUZHANBE	53.71	326.9	9	10A	-4	16	39	1			
TUKUBASAN	53.84	37.3	9	11	-4	16	53	13	9 21	17	13 SP
MOORLANDS	54.07	140.3	9	18	2						
FRUNSE	54.13	334.5	9	13A	-4						
TASHKENT	55.45	329.6	9	24A	-2	17	5	3			
TANANARIVE	55.64	250.6	9	30	2					9	52
MIZUSAWA	56.39	35.3	9	30	-3						
HONIARA	56.71	97.9	9	35A	0						
IRKUTSK	57.13	1.0	9	38	0	17	33	9			
SEMIPALATNSK	58.61	343.2	9	47	-2	17	46	3			
SHIRAZ	59.35	308.8	9	52A	-2	17	56	3		11	10 PP
ASHKABAD	59.51	319.9	9	54	-1	17	59	4			
VANNOVSKAYA	59.67	319.8	9	54	-2						
WILKES	61.40	176.5	10	9	1	18	25	6	10 18		
KOUMAC	61.46	110.6	10	11K	3						
KIZYL-ARVAT	61.56	320.0	10	6A	-3	18	22	1			
Y.-SAKHLINSK	62.64	29.6	10	15	-1	18	40	5			
TEHERAN	63.04	314.4	10	17A	-2	18	45	5			
NOUMEA	63.64	112.3	10	24K	1						
LUGANVILLE	63.84	104.7	10	25	1						
KURILSK	64.15	33.7	10	27	1						
PORT VILA	65.07	107.1	10	33K	1						
ADDIS ABABA	65.44	282.3	10	35	1						
CHILEKA	67.40	255.2	10	47A	0						
MAWSON	68.07	195.4	10	50	-1	19	46	5			
GORIS	68.35	316.0	10	51A	-2	19	49	5			
KIROVOBAD	68.86	317.1	10	54	-2	19	53	3			
MONOWAI	68.88	137.3	10	57	1						
ROXBURGH	69.96	136.7	11	2	0				11 14	28	13
YAKUTSK	70.01	13.1	11	1	-2	20	6	2			
TIFLIS	70.37	317.6	11	3	-2	20	13	5			
SVERDLOVSK	70.62	336.9	11	4K	-2	20	13	2			
BAKURIANI	71.24	317.1	11	10	0	20	27	9			
WELLINGTON	73.06	131.5	11	22	1	20	37	-2	11 33	14	18 PP
KARAPIRO	73.22	128.0	11	25	3					14	19 PP
CHATEAU	73.37	129.3	11	25	2				11 36		
BROKEN HILL	73.70	256.5	11	24K	-1						
JERUSALEM	73.97	304.9	11	27	1						
LWIRO	73.97	269.1	11	26	0						
KSARA	74.03	307.1	11	30	3	21	1	11		21	27 PS
PETROPAVLOVK	74.41	31.2	11	29	0						
MAGADAN	74.65	23.1	11	30	0						
KIMBERLEY	77.17	241.8	11	37	-7						

TIKSI	78.42	8.1	11	49A	-2						
SIMFEROPOL	78.80	317.6	11	52A	-1	21	42	1			
SCOTT BASE	79.70	168.9	11	58	0						
ISTANBUL UN.	81.29	312.7	12	6A	-1	22	11	4			
KISHINEV	82.93	318.5	12	16	1	22	28	4			
IASI	83.81	318.4	12	23	4						
AFIAMALU	84.27	103.4	12	26K	4	22	31	-6			
ATHENS	84.61	308.8	12	23A	0	22	43	2			
BANGUI	84.70	274.9								14	13
SOUTH POLE	84.97	180.0	12	25	0						
N-LAZARVSKYA	85.61	199.4	12	30A	2						
PULKOVO	85.69	331.0	12	29	0						
SOFIA	85.78	313.4	12	30	1	23	7	15			
VIBORG	86.69	331.7	12	34	0						
APATITY	86.95	338.9	12	35A	0	23	9	6		22	48 SKS
UZHGOROD	87.58	319.1	12	39	1	23	11	2			
KAJAANI	88.10	334.8	12	41	1						
BELGRADE	88.20	315.1	12	41A	0	23	23	8		24	55 PPS
KHEYS	88.32	353.4	12	40	-2						
BANDEIRA	88.32	255.3	12	42K	0				12 57	12	45 PCP
HELSINKI	88.39	330.7	12	42	0						
NURMIJARVI	88.61	331.0	12	43K	0	23	24	5		16	13 PP
SKALNATE PL.	89.00	319.4	12	46	1					16	9 PP
KRAKOW	89.34	320.2	12	49A	3					23	33
SODANKYLA	89.39	337.9	12	46	-1						
DABROWA	89.83	320.4	12	49	0						
KEVO	89.87	340.3	12	49K	0					16	13 PP
CHORZOW	89.97	320.4	12	50	1					13	43
RACIBORZ	90.45	320.1	12	54	2					14	44
BRATISLAVA	90.94	318.1	12	55	1						
MESSINA	91.02	308.1	12	57K	3	23	47	6	13 12	16	37 PP
UMEA	91.27	333.9	12	55A	0					16	35 PP
VIENNA-H.	91.43	318.1	12	58	2					16	45 PP
ZAGREB	91.45	315.7	12	59	3	23	47	3			
KIRUNA	91.81	337.9	12	58	0				13 11		
UPPSALA	91.96	329.8	12	58A	-1					16	39 PP
LJUBLJANA	92.49	315.8	13	2A	1					16	49 PP
TROMSOE	92.61	339.6	13	2	0						
KARLSKRONA	92.67	326.0								16	47 PP
PRUHONICE	92.78	319.8	13	3	1	23	51	-5			
PRAGUE	92.86	319.8	13	3	0					16	47
TRIESTE	92.99	315.4	13	3	0	24	3	5		30	13 SS
AQUILA	93.01	312.1	13	5	2	24	3	5		16	51 PP
KASPERSKE H.	93.35	318.9	13	5	0					17	2
ROME	93.66	311.6	13	19	13	24	5	1		16	49 PP
COLLMBERG	93.85	321.0	13	7A	0	24	13	8			
PADOVA	94.30	315.1	14	11	62	24	11	2			
HALLE	94.52	321.2	13	11	1	24	20	9			
JENA	94.73	320.6	13	12	1	24	1	-12		16	40 PP
GOTEBORG	94.74	327.4	13	11	0					16	16
SKALSTUGAN	94.78	333.3	13	11A	0					17	1 PP
KONGSBERG	96.00	329.4	13	17	0					17	16 PP
STUTTGART	96.17	318.4	13	19	1						
STRASBOURG	97.17	318.2								27	49 SPP
MONACO	97.43	313.3								17	11
BENSBERG	97.52	320.6	13	40	16					17	19
ISOLA	97.70	313.8								17	36 PP
WELSCHBRUCH	98.11	318.0	13	18	-9						
DOURBES	99.19	319.8	13	29	-2						
UCCLE	99.31	320.5	13	33	1	25	1	61			
GARCHY	100.37	317.0	13	38K	1						
CLERMONT-FO.	100.43	315.5								18	19
ALERT	102.35	358.0	13	46	0						
FOLINIERE	102.61	318.7	13	48	1						
COLLEGE	102.69	24.4	13	46	-1					18	0 PP
BAGNERES	102.76	312.9								18	1
GRANADA	106.19	307.1	18	1K	777					20	43 PP
TOLEDO	106.23	309.9							26 29 117	18	24 PP
MALAGA	106.87	306.7								18	43 PP
YELLOWKNIFE	116.40	18.4	18	31	-1						
SEATTLE	122.63	34.7	18	49	5						
SHASTA	126.14	42.0	18	54K	3						
HUNGRY HORSE	126.62	30.0	18	54	2						
MINERAL	126.84	42.0	18	55K	3						
CALISTOGA	126.98	44.3	18	46K	-6						
BLUE MTS.	127.07	35.1	18	55	2						
BERKELEY	127.55	45.1	18	58A	4						
PARAISO	128.16	46.9	18	53	-2						
LICK	128.23	45.4	18	50K	-5						

BUTTE	128.92	31.3	18	58	2				20	47	PP
PRIEST	129.48	46.3	18	52K	-5						
SCHEFFERVLLE	129.70	352.3	19	0	2						
BOZEMAN	129.94	30.7	19	0	2						
PASADENA	132.21	47.4	19	4	2				21	25	PP
DUGWAY	132.52	37.3	19	2K	-1				22	32	PKS
SALT LAKE C.	132.74	36.1	19	9	6						
BOULDER CITY	133.66	43.3	19	0	-5				21	29	PP
BARRETT	134.00	48.3	19	4	-2				22	31	SKP
UINTA BASIN	134.35	35.0	19	6	0				21	46	PP
RAPID CITY	134.87	26.6	18	58	-9						
GLEN CANYON	135.24	40.1	19	12	4						
LARAMIE	135.83	31.0	18	59	-10						
TONTO FOREST	137.02	43.0	18	42	-29			19 17	21	57	PP
GOLDEN	137.11	32.5	19	3	-8						
CARIBOU	137.59	350.9	19	15	2						
TUCSON	138.47	45.2	19	9	-5				22	51	SKP
SHAWINIGAN	138.51	355.5	19	16	2						
HALIFAX	138.86	345.3	19	18	3						
MILO	139.38	351.3	19	19	3						
EAST MACHIAS	139.60	349.4	19	16	0						
BREBEUF	139.61	356.2	19	13	-3			22 26	22	12	PP
OTTAWA	139.81	358.5	19	19	3						
SANTA LUCIA	141.22	188.6	19	37	18				40	51	
SCARBOROUGH	141.46	2.5	19	21	2				22	22	
LONDON ONT.	142.01	4.9	19	18	-2						
CHICAGO JSA.	142.13	12.9	19	17	-4						
LAWRENCE	142.45	23.5	19	19	-2						
ANN ARBOR	142.47	8.0	19	20	-1						
LUBBOCK	143.47	36.0	19	24	1						
PALISADES	144.10	355.9	19	24	0	26 20	-1	20 48			
FLORISSANT	144.32	17.9	19	24	0						
WICHITA MTS.	144.41	31.2	19	25A	0				22	37	PP
PENNSYLVANIA	144.42	1.0	19	25K	0						
TULSA	144.81	26.8	19	27A	2				33	1	PS
MORGANTOWN	145.50	3.9	19	30A	4						
GEORGETOWN	146.32	360.0	19	31	3						
CUMBERLAND	148.64	13.3	19	33	1				23	1	PP
CHAPEL HILL	149.24	3.1	19	33	0						
ANTOFAGASTA	150.68	192.6	19	44	9				23	34	PP
LA PAZ	156.81	202.3	19	47	4			20 4			
AREQUIPA	157.90	194.4	19	49	4						
ST. CLAUDE	161.37	306.9	19	52	4				20	36	PKP2
ST. KITTS	161.38	312.1	19	53	5						
FORT FRANCE	161.60	302.6	19	54	5				20	38	PKP2
HUANCAYO	162.91	185.9	19	56	6						
SAN JUAN	162.97	321.9	19	52	2			20 7	24	21	PP
NANA	163.05	180.9	19	55	5						
TRINIDAD	163.50	290.6	19	58	8						
CARACAS	168.57	298.8	19	58K	3				24	57	PP
FUQUENE	176.62	277.0	20	2K	4				25	42	PP
BOGOTA	176.95	261.8	20	3	5				22	3	PKP2
CHINCHINA	178.52	266.3	20	0	2				26	2	PP

OCTOBER 24 20.H 18.M 13.S EPICENTRE 44.51 149.83 DEPTH= 41.KM

A=-0.61849 B= 0.35961 C= 0.69868 D= 0.5026 E= 0.8645
G=-0.6040 H= 0.3512 K=-0.7154 HT= -3.4

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
KURILSK	1.56	297.9	0	28A	2	0	44	-2				
Y.-SAKHLINSK	5.57	299.2	1	24K	1							
MIZUSAWA	8.43	233.3	2	4	1	3	31	-7				
PETROPAVLOVK	10.31	31.2	2	33	4							
MATUSIRO	11.89	231.9	2	46	-4	5	5	3				
ABUYAMA	14.58	233.5	3	25A	-1							
MAGADAN	15.07	1.9	3	29	-3							
YAKUTSK	21.10	333.2	4	42K	-2							
TIKSI	29.02	346.5	5	54K	-5							
ULAN-BATOR	29.61	292.0	6	4	0							
ESEN BULAK	37.03	292.4	7	7	-1							

COLLEGE	39.33	36.6	7	28	1					
MOULD BAY	47.48	19.0	8	33	0					
RABAUL	48.54	176.9	8	41	0					
SHILLONG	50.00	267.9	8	53K	0					
ALERT	52.20	5.1	9	7	-2					
FRUNSE	52.58	296.4	9	13	1					
RESOLUTE	53.68	17.4	9	18	-2					
SVERDLOVSK	53.90	317.1	9	20A	-2					
TASHKENT	56.76	297.3	9	41	-2					
DEHRA DUN	57.01	281.7	9	44	0					
APATITY	58.47	336.2	9	53	-2					
NEW DELHI	58.64	280.6	9	55K	-1					
KEVO	58.66	340.0	9	54	-2					
LAHORE	58.88	285.1	9	56	-1					
SODANKYLA	60.48	338.2	10	6	-2					
TROMSOE	60.63	342.3	10	7	-2					
SHASTA	61.65	59.7	10	16	0					
KIRUNA	61.70	340.5	10	16	-1					10 57 PCP
HUNGRY HORSE	62.00	48.7	10	19	0					
BLUE MTS.	62.25	53.4	10	19	-1					11 17
KAJAANI	62.59	335.2	10	21	-2					
CALISTOGA	62.74	61.7	10	41K	17					
BERKELEY	63.40	62.2	10	40A	12					
LICK	64.12	62.3	10	33A	0					
PARAISO	64.26	63.6	10	37	3					
CHARTERS TS.	64.37	183.7	10	33	-1					
VIBORG	64.71	332.2	10	33	-4					
QUETTA	64.77	288.2	10	37	0					
UMEA	64.92	337.8	10	36	-2					
MOSCOW	64.96	324.7	10	42	4					
PRIEST	65.47	62.8	10	41K	0					
ASHKABAD	65.59	299.8	10	45	3					
VANNOVSKAYA	65.74	299.9	10	44	1					
KIZYL-ARVAT	66.09	302.0	10	50	5					
NURMIJARVI	66.22	333.8	10	44	-2					11 20 PCP
EUREKA	66.31	57.4	10	47	0			10 59	11 5	*SP
HELSINKI	66.38	333.4	10	42	-5				11 27	
DUGWAY	67.73	55.2	10	55K	-1					
UPPSALA	68.87	336.4	11	1K	-2					
BOULDER CITY	69.23	59.7	11	6	1			11 18		
UINTA BASIN	69.53	53.3	11	6	-1					
RAPID CITY	70.50	47.0	11	11	-2					
GLEN CANYON	70.56	57.1	11	13	0					
KIROVOBAD	70.95	308.5	11	16A	1					
TIFLIS	71.07	310.1	11	19	3					
TEHERAN	71.28	301.8	11	19	2					
BERGEN	71.50	342.3	11	19	0					
BRISBANE	71.61	177.2	11	19	0					
GORIS	71.73	307.6	11	22	2	20 47	11			
BAKURIANI	71.76	310.9	11	23	3					
TONTO FOREST	72.54	59.0	11	25	0				11 38	11 42 PCP
KARLSKRONA	72.55	335.2	11	24	-1					
COPENHAGEN	73.88	336.5	11	19K	-14					
TUCSON	74.18	60.3	11	34	-1				11 48	
SHIRAZ	74.65	296.4	11	38A	1	21 11	2		11 51	14 29 PP
LWOW	74.85	327.0	11	40	2					
ALBUQUERQUE	74.98	55.7	11	40	1				11 53	11 59 *SP
KISHINEV	75.08	322.6	11	40	0					
IASI	75.48	323.4	11	25	-17					
KRAKOW	76.21	329.4	11	47	1					12 9 PCP
UZHGOROD	76.49	327.2	11	47	-1					
COLLMBERG	77.51	333.9	11	53	0				12 5	
HALLE	77.66	334.6	11	58	4			12 7		
JENA	78.27	334.5	11	57	-1					12 29
VIENNA-H.	79.00	330.4	12	4	2					
KASPERSKE H.	79.20	332.5	12	3	0					12 39
CANBERRA	79.46	180.7	12	2	-2					
BENSBERG	79.54	337.0	12	6	1					
WICHITA MTS.	79.67	51.1	12	5	0					
ADELAIDE	79.75	189.3	12	7	1					
STUTTGART	80.88	334.8	12	15	3					
BREBEUF	82.45	29.2	12	19	-1					
PARIS	82.76	338.9	12	25	4					
FOLINIERE	83.53	340.7	12	27	2					
JERUSALEM	83.54	308.8	12	28	3					
GARCHY	84.01	338.0	12	29K	1					
AQUILA	85.14	329.1	12	34	1					
ISOLA	85.68	334.1	12	8	-28					
MONACO	85.96	333.7	12	38	1					

LA PAZ	137.59	61.0	19	24	4									
N-LAZARVSKYA	146.65	203.8	19	39	3									

OCTOBER 25 19.H 59.M 0.S EPICENTRE 12.33 144.49 DEPTH= 33.KM

A=-0.79550 B= 0.56760 C= 0.21215 D= 0.5808 E= 0.8140
G=-0.1727 H= 0.1232 K=-0.9772 HT= 6.2

DEPTH OF FOCUS= 0.000R

SE= 2.59

	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
GUAM	1.15	12.1	0	21	1							
RABAUL	18.11	154.6	4	8	-2	7	31	3				
PORT MORESBY	21.75	172.9	4	49K	-1	8	46	2				
MANILA	22.88	278.5	5	6	5	9	16	12				
ABUYAMA	23.86	341.6	5	9K	-2							
TUKUBASAN	24.12	351.3	5	10A	-3	9	22	-4			9	32 *SS
TAITUNG	24.51	298.2	5	23	6							
HWALIEN	24.58	301.3	5	26	8							
TAWU	24.59	297.1	5	15	-3							
MATUSIRO	24.76	347.9	5	16	-4	9	47	10				
HONIARA	26.52	143.9	5	32	-4							
DARWIN	28.04	209.4	5	51	1							
HONG KONG	30.54	293.1	6	13	1	11	8	-3			7	18 PP
CHARTERS TS.	32.26	176.9	6	27	-1	11	38	1				
Y.-SAKHLINSK	34.61	357.9	6	43	-5							
BRISBANE	40.29	168.6	7	34	-1	13	38	-3				
TANGERANG	41.89	246.1	7	49K	0							
PETROPAVLOVK	42.14	12.7	7	51	0							
RIVERVIEW	46.34	172.3	8	24	0	15	7	-2			18	23 SS
ULAN-BATOR	47.32	326.1	8	30	-2							
ADELAIDE	47.35	186.4	8	32	0							
CANBERRA	47.58	175.0	8	40	6							
TOOLANGI	49.64	179.0	8	50	0	16	0	5	9	2	9	12 *SP
AFIAMALU	50.58	119.7	8	57	0	16	0	-8				
PORT BLAIR	50.58	275.0									9	53
SHILLONG	51.18	292.9	9	1A	-1	16	20	4				
IRKUTSK	51.23	329.4	9	2	0	16	18	1				
MUNDARING	51.71	210.9	9	6	0	16	26	2				
CALCUTTA	54.23	288.9				17	3	4			11	18
TARRALEAH	54.39	178.2	9	26	0							
MOORLANDS	54.55	177.5	9	40	13							
HONOLULU	55.43	72.6	9	38	5	17	30	16				
CHATRA	55.48	294.1	9	31	-3	17	21	6				
KIPAPA	55.50	72.4	9	33	-1							
KARAPIRO	57.85	151.2	9	49	-2							
CHATEAU	58.87	152.1	9	56	-2							
TIKSI	60.03	354.3	10	3	-3	18	11	-3				
MADRAS	62.59	278.3	10	25	2	18	56	9			12	48 PP
DEHRA DUN	63.62	297.8	10	29	-1	18	59	-1				
SEMIPALATNSK	64.23	320.2	10	31	-3							
NEW DELHI	64.36	295.8	10	31A	-4	19	5	-4				
LAHORE	66.82	299.1	10	48	-2	19	37	-2				
FRUNSE	66.98	311.4	10	50A	-1							
POONA	68.02	285.1	10	57A	-1							
BOMBAY	68.95	285.6	11	24	20							
KHOROG	69.12	305.5	11	4A	-1							
WARSAK DAM	69.13	301.8	11	4	-1							
COLLEGE	69.50	24.9	11	3	-4							
TASHKENT	70.89	309.6	11	14A	-1	20	29	2				
DUZHANBE	71.30	306.7	11	17	-1	20	27	-5				
QUETTA	73.22	298.0	11	29	0	20	55	1				
SVERDLOVSK	76.43	325.8	11	48	0							
ASHKABAD	79.52	306.7	12	5	0							
MOULD BAY	79.59	14.0	12	3	-2							
VANNOVSKAYA	79.72	306.7	12	4	-2							
KIZYL-ARVAT	80.96	308.1	12	14	1	22	21	3				
WILKES	82.36	193.2	12	19	-1	22	41	9			12	41
SEATTLE	83.15	42.8	12	28	4							
YELLOWKNIFE	84.14	27.3	12	14	-15							
SHASTA	84.41	49.7	12	31A	1							
ALERT	84.52	3.4	12	29A	-2							
CALISTOGA	84.67	51.8	12	34A	2							
MINERAL	85.07	49.9	12	35K	2						12	46

BERKELEY	85.07	52.5	12	35A	1							
PARAISO	85.30	54.0	12	40	5							
TEHERAN	85.39	305.4	12	49	14	23	1	-1				
LICK	85.67	52.9	12	37A	1							
SHIRAZ	85.69	299.3	12	36	-1	23	8	3			22	57 SKS
RESOLUTE	85.86	13.3	12	36	-1							
CAPE HALLETT	86.15	172.4	12	40	1							
APATITY	86.50	339.0	12	40A	-1							
BANFF	86.66	38.4	12	39	-2							
PRIEST	86.69	53.9	12	42A	1							
BLUE MTS.	87.14	44.8	12	43	-1						16	30 PP
KEVO	87.60	342.0	12	45	-1							
KIROVOBAD	88.16	311.1	12	47K	-2	23	29	1				
HUNGRY HORSE	88.38	40.8	12	51	1							
GORIS	88.45	310.0	12	49	-1	23	19	-12				
SODANKYLA	88.92	340.0	12	50	-2							
PASADENA	89.14	55.3	12	54	1				13	4		
EUREKA	89.48	49.8	12	55	0						16	25 PP
BAKURIANI	89.92	312.7	12	57	0							
TROMSOE	90.02	343.5	12	56	-1							
BUTTE	90.02	42.8	13	56	59							
KAJAANI	90.17	336.9	12	59	1						13	23
KIRUNA	90.66	341.7	13	8	8							
BOULDER CITY	91.31	52.9	13	4	1							
DUGWAY	91.61	48.4	13	5	0							
NURMIJARVI	93.22	334.5	13	10	-2							
HELSINKI	93.27	334.2	13	12	0							
GLEN CANYON	93.51	51.2	13	19	6							
UINTA BASIN	93.92	47.5	13	15	0	24	28	8			17	11 PP
TONTO FOREST	94.59	53.6	13	20	2				13	32	17	6 PP
TUCSON	95.58	55.4	13	27	4							
RAPID CITY	96.91	42.2	13	34	5							
ALBUQUERQUE	98.11	51.7	13	36	2						17	37 PP
KSARA	98.17	307.1									18	21
UZHGOROD	100.76	325.1	13	57	11							
BYRD STATION	103.10	169.7	14	10	13							
COLLMBERG	103.97	331.0									18	47
JENA	104.88	331.3	18	9	244						18	52
KASPERSKE H.	105.10	329.1	18	8	777							
TULSA	105.63	47.1									33	30 SS
TRIESTE	107.23	326.2									28	8 SP
AQUILA	109.50	323.7									28	30 PS
ROME	110.31	323.7									18	16 PP
N-LAZARVSKYA	114.81	195.6	18	45	8							
LWIRO	115.57	273.4									19	23 PP
TOLEDO	120.40	332.3	18	56	8						30	17 SKSP
MALAGA	123.09	330.3									18	6
BANGUI	123.70	283.8	18	54	0						20	49
BOGOTA	138.13	68.6									22	6 PP
HUANCAYO	141.10	94.0	19	28	1							
CARACAS	141.42	55.3	19	35	7						27	20
AREQUIPA	144.94	101.1	19	37	3							
ANTOFAGASTA	145.02	113.8	19	35	1						19	47 PKP2
TRINIDAD	145.61	49.5	19	38	3							
LA PAZ	148.16	101.4	19	44	5				19	59		

OCTOBER 26 3.H 55.M 34.S EPICENTRE 44.83 150.07 DEPTH= 0.KM

A=-0.61663 B= 0.35506 C= 0.70264 D= 0.4990 E= 0.8666

G=-0.6089 H= 0.3506 K=-0.7115 HT= -3.5

SE= 2.02

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KURILSK	1.61	285.1	0	33A	3							
Y.-SAKHLINSK	5.57	295.7	1	29A	3							
MIZUSAWA	8.76	232.5	2	12	1	3	40	-12				
MATUSIRO	12.22	231.4	2	55	-3	5	11	-6				
ABUYAMA	14.91	233.1	3	34K	0							
YAKUTSK	20.90	332.6	4	45K	-2	8	32	-4				
TIKSI	28.75	346.2	5	58A	-3	10	49	-1				
ULAN-BATOR	29.66	291.6	6	10	0							
HONG KONG	36.97	244.5				12	56	-3				
ESEN BULAK	37.07	292.1	7	14	0							
BAGUIO CITY	37.64	230.7	7	17	-2	13	4	-5				

MANILA	38.81	228.4	7	31	3	12	50	-37			
COLLEGE	38.97	36.9	7	31	1						
SEMIPALATNSK	45.81	303.1	8	25	-1						
MOULD BAY	47.13	19.1	8	36	0						
KIPAPA	48.39	101.2	8	49	3						
HONOLULU	48.41	101.4				16	8	21			
SHILLONG	50.19	267.8	8	59A	-1						
ALMATA-2	50.62	295.5	9	3	0						
ALERT	51.87	5.2	9	11	-1						
CHATRA	52.76	272.4	9	19K	0						
RESOLUTE	53.32	17.5	9	22	-1						
YELLOWKNIFE	53.73	35.0	9	28	2						
PORT MORESBY	54.04	183.6	9	28	-1						
HONIARA	54.74	168.0	9	31	-3						
TASHKENT	56.77	297.3	9	47A	-1						
DEHRA DUN	57.12	281.7	9	51	0						16 42
KHOROG	57.44	292.3	9	54	1	17	49	0			
APATITY	58.25	336.2	9	57A	-2						
DUZHANBE	58.62	294.8	10	0	-1						
NEW DELHI	58.75	280.6	10	0A	-2	18	2	-5			
LAHORE	58.97	285.1	10	2	-2	18	7	-3			
WARSAK DAM	59.42	289.0	10	5	-2						
SODANKYLA	60.25	338.2	10	11	-2						
TROMSOE	60.38	342.3	10	12	-2						
SHASTA	61.34	60.0	10	19A	-1						
KIRUNA	61.46	340.6	10	18	-3						
HUNGRY HORSE	61.66	48.9	10	20	-2						
BLUE MTS.	61.92	53.6	10	23	-1	18	55	8			10 38 PCP
MINERAL	62.03	59.9	10	25A	0				10	40	
KAJAANI	62.37	335.2	10	25	-2						
CALISTOGA	62.44	61.9	10	28K	1						
BERKELEY	63.10	62.5	10	48K	16						
LICK	63.82	62.6	10	38K	1						
BUTTE	63.87	50.3	10	45	8						
PARAISO	63.97	63.9	10	42	4						
UMEA	64.69	337.9	10	40	-2						23 40 SS
CHARTERS TS.	64.70	184.0	10	39	-3	19	22	0			
MOSCOW	64.80	324.7	10	45	2						
QUETTA	64.83	288.2	10	42A	-1	19	24	0			
SCORESBY SD.	64.86	357.0	10	43K	0						
KAP TOBIN	64.92	357.0	10	43	-1						
BOZEMAN	64.92	49.9	10	41	-3						
PRIEST	65.17	63.1	10	46K	1						
ASHKABAD	65.58	299.8	10	47	-1	19	29	-4			
VANNOVSKAYA	65.73	299.9	10	48	-1						
EUREKA	65.99	57.7	10	50	-1				11	5	
NURMIJARVI	66.01	333.8	10	48	-3	19	33	-5			20 32 SCS
KIZYL-ARVAT	66.07	302.0	10	53	2	19	41	2			
HELSINKI	66.17	333.4	10	49	-3						11 45
SKALSTUGAN	66.88	340.9	10	56	0						
CHINA LAKE	67.30	61.7	10	58	-1				11	14	
DUGWAY	67.41	55.4	10	59K	-1						
POONA	67.49	274.1	10	59K	-1						
SALT LAKE C.	67.60	54.4	10	55	-6						
AFIAMALU	67.95	139.7				20	30	29			
UPPSALA	68.64	336.4	11	3A	-4						13 31 PP
BOULDER CITY	68.92	60.0	11	9	0				11	25	13 51 PP
UINTA BASIN	69.21	53.6	11	10A	-1						11 43
RAPID CITY	70.16	47.2	11	16	-1						
GLEN CANYON	70.24	57.4	11	21	4						
KIROVOBAD	70.89	308.5	11	21	0	20	34	-2			
KONGSBERG	70.93	340.0	11	21	0						
TIFLIS	71.00	310.2	11	23	1	20	39	1			
TEHERAN	71.26	301.9	11	25	2	20	43	2			
GORIS	71.67	307.7	11	27A	1	20	52	7			
BAKURIANI	71.68	310.9	11	27A	1						
BRISBANE	71.91	177.5	11	26	-1						
GOTEBORG	72.03	337.8	11	27	-1						
TONTO FOREST	72.22	59.3	11	29	0				11	45	14 6 PP
KARLSKRONA	72.33	335.2	11	27A	-3						12 9
COPENHAGEN	73.66	336.6	11	37K	0						
TUCSON	73.88	60.6	11	38	-1				11	54	
SIMFEROPOL	74.12	318.4	11	40	0	21	18	5			
ALBUQUERQUE	74.66	55.9	11	43	0				11	59	
SHIRAZ	74.66	296.5	11	42A	-1						
LWOW	74.68	327.1	11	50	7						
KISHINEV	74.93	322.7	11	45	0	21	22	0			
IASI	75.33	323.5	11	49	2						
KRAKOW	76.03	329.5	11	51	0						12 7 PCP

UZHGOROD	76.31	327.3	11	53	0							12	4	PCP
RACIBORZ	76.62	330.5	11	54	0							13	13	
SKALNATE PL.	76.63	328.8	11	53	-1				12	11				
COLLMBERG	77.30	334.0	11	57A	-1				12	16				
HALLE	77.45	334.7	12	0	1									
DURHAM	77.89	343.7	12	0	-1									
PRAGUE	77.91	332.6	12	2	0									
PRUHONICE	77.95	332.4	12	1	-1									
LAWRENCE	77.97	46.4	12	0	-2									
JENA	78.06	334.6	12	1	-1							12	32	
RIVERVIEW	78.30	179.1	12	8	4							22	0	
BRATISLAVA	78.62	330.0	12	3	-2									
VIENNA-H.	78.81	330.5	12	8	2							15	20	PCP
KASPERSKE H.	79.00	332.6	12	8A	0							14	34	
BENSBERG	79.32	337.2	12	10	1									
WICHITA MTS.	79.34	51.3	12	8	-1	22	16	6				14	50	PP
ISTANBUL UN.	79.53	318.8	12	11	1	22	13	1						
CANBERRA	79.78	180.9	12	14	2									
TULSA	79.98	48.8	12	12K	-1	22	11	-6				27	36	SS
ADELAIDE	80.09	189.4	12	12	-1									
BELGRADE	80.17	326.2	12	15	1	22	38	19				12	28	PCP
UCCLE	80.22	338.7	12	16	2	22	36	17						
STUTTGART	80.67	334.9	12	17	1	22	30	6						
KARLSRUHE	80.71	335.5	12	19	2									
KEW	80.72	341.7	12	17	0	22	21	-3						
SOFIA	80.73	323.2	12	18	1									
DOURBES	80.79	338.3	12	17	0									
TUBINGEN	80.95	334.9	12	20	2									
STRASBOURG	81.29	335.7	12	22	2	22	38	8				33	20	
OTTAWA	81.43	30.7	12	20	0									
RAVENSBURG	81.45	334.3	12	22	1									
KSARA	81.57	309.8	12	26K	5	23	0	27						
FELDBERG	81.85	335.3	12	24	1									
TRIESTE	81.96	330.7				22	34	-3				28	35	SS
BREBEUF	82.09	29.4	12	23	-1				12	37				
TOOLANGI	82.13	183.7	12	25	1									
PARIS	82.52	339.1	12	28K	2									
FOLINIERE	83.28	340.9	12	30	0									
GARCHY	83.78	338.1	12	34K	1									
ATHENS	84.42	320.2										22	56	
MORGANTOWN	84.65	36.5	12	38	1									
AQUILA	84.96	329.3	12	39	0	23	12	5	12	49		16	19	PP
CLERMONT-FD.	85.16	337.5	12	45	5									
CUMBERLAND	85.43	42.5	12	40	-1	22	50	-22				28	58	SS
ISOLA	85.47	334.3	12	43	2									
KARAPIRO	85.53	160.1	12	41	0									
ROME	85.68	329.7	12	41	-1	23	19	5				23	0	SKS
PALISADES	85.88	31.8	12	43	0	23	12	-4	12	58				
HALIFAX	86.05	23.4	12	45	1									
MESSINA	87.73	325.8				23	11	-23				25	25	
BAGNERES	88.46	338.4	12	57	1									
TOLEDO	92.52	340.4	13	16A	1	23	54	-23				25	40	PS
MALAGA	95.60	339.6	13	50	21	24	3	-2						
BANGUI	114.60	304.7										18	35	
MIRNY	119.28	202.6										20	8	
HUANCAYO	129.38	64.3	19	14	3									
SOUTH POLE	134.64	180.0	19	20	-1									
LA PAZ	137.29	61.0	19	27	1									

OCTOBER 26 11.H 21.M 48.S EPICENTRE 44.86 150.02 DEPTH= 43.KM

A=-0.61606 B= 0.35540 C= 0.70297 D= 0.4997 E= 0.8662
G=-0.6089 H= 0.3513 K=-0.7112 HT= -3.5

DEPTH OF FOCUS= 0.002R

SE= 2.09

	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
KURILSK	1.57	284.4	0	25A	-1	0	42	-3				
Y.-SAKHLINSK	5.53	295.6	1	22K	0							
UGLEGORSK	6.88	310.7	1	43	2							
MIZUSAWA	8.75	232.2	2	14	7	3	29	-16				
MATUSIRO	12.21	231.2	2	54A	0							
MAGADAN	14.72	1.6	3	29	2							
ABUYAMA	14.90	232.9	3	24K	-5							

YAKUTSK	20.86	332.6	4	38	-2	8	28	2				
TIKSI	28.72	346.2	5	52K	-3							
ULAN-BATOR	29.61	291.5	6	5	2							
HONG KONG	36.96	244.4				12	56	8				
ESEN BULAK	37.03	292.0	7	8	1							
BAGUIO CITY	37.63	230.6	7	11	-1	13	0	1				
COLLEGE	38.97	36.9	7	25	2							
SEMIPALATNSK	45.77	303.1	8	20	1							
MOULD BAY	47.11	19.1	8	30A	1							
KIPAPA	48.43	101.2	8	40	0							
HONOLULU	48.45	101.4									16	2
RABAUL	48.88	177.2	8	42	-1						16	8
SHILLONG	50.15	267.8	8	52A	-1							
ALERT	51.85	5.2	9	4	-2							
FRUNSE	52.55	296.3	9	11	0							
CHATRA	52.73	272.4	9	11	-1							
RESOLUTE	53.31	17.5	9	16	-1							
YELLOWKNIFE	53.72	35.0	9	21	1							
SVERDLOVSK	53.74	317.0	9	18	-2							
PORT MORESBY	54.07	183.5	9	20	-2							
ANDIJAN	55.06	295.1	9	40	10							
VICTORIA	56.40	52.8	9	39	0							
TASHKENT	56.73	297.2	9	41	-1	17	35	6				
KHOROG	57.40	292.3	9	47	1	17	43	5				
APATITY	58.21	336.2	9	50	-2							
KEVO	58.39	340.0	9	51	-2							
DUZHANBE	58.58	294.8	9	53	-2							
NEW DELHI	58.71	280.5	9	53A	-2	17	55	0				
LAHORE	58.93	285.0	9	57	0							
BANFF	59.24	46.9	9	59	0							
WARSAK DAM	59.38	288.9	10	1	1							
SODANKYLA	60.22	338.1	10	3	-3							
TROMSOE	60.34	342.3	10	5	-2							
SHASTA	61.36	59.9	10	13A	-1							
KIRUNA	61.42	340.5	10	12	-2							
HUNGRY HORSE	61.67	48.9	10	17	1							
BLUE MTS.	61.93	53.6	10	16	-1	18	48	11			10	58 PCP
MINERAL	62.05	59.9	10	18A	0				10	22		
KAJAANI	62.33	335.2	10	18K	-2							
CALISTOGA	62.46	61.9	10	10A	-11							
BERKELEY	63.12	62.4	10	25K	0							
LICK	63.83	62.6	10	17K	-13							
BUTTE	63.88	50.3	10	29	-1							
PARAISO	63.99	63.9	10	24	-7						10	50
VIBORG	64.47	332.2	10	31	-3							
UMEA	64.65	337.8	10	33	-2							
PULKOVO	64.66	330.9	10	34	-1							
CHARTERS TS.	64.72	183.9	10	33	-3							
MOSCOW	64.76	324.7	10	49	13							
QUETTA	64.79	288.2	10	35	-1	19	16	4				
SCORESBY SD.	64.83	357.0	10	37	1							
KAP TOBIN	64.89	357.0	10	36	-1							
BOZEMAN	64.93	49.9	10	35	-2				10	50		
PRIEST	65.19	63.1	10	26K	-13							
ASHKABAD	65.54	299.8	10	41	0							
VANNOVSKAYA	65.69	299.9	10	41	-1							
NURMIJARVI	65.97	333.8	10	42	-2	19	19	-8			20	25 SCS
EUREKA	66.00	57.7	10	44	0				10	59		
KIZYL-ARVAT	66.02	301.9	10	45	1	19	35	8				
HELSINKI	66.13	333.4	10	43	-2							
SKALSTUGAN	66.84	340.9	10	48	-1							
DUGWAY	67.42	55.4	10	53K	0							
POONA	67.46	274.0	10	53A	0							
SALT LAKE C.	67.61	54.4	10	55	1							
PASADENA	68.03	63.4	10	56	-1				11	12		
UPPSALA	68.61	336.4	10	58	-2							
BOULDER CITY	68.94	60.0	11	2	0				11	18		
UINTA BASIN	69.22	53.5	11	4	0	20	12	6			13	25 PP
RAPID CITY	70.16	47.2	11	11	1							
GLEN CANYON	70.26	57.3	11	11	1							
LARAMIE	70.79	50.6	11	14	0							
KIROVOBAD	70.85	308.5	11	14	0	20	28	3				
KONGSBERG	70.89	340.0	11	15	1							
TIFLIS	70.96	310.2	11	16	1							
TEHERAN	71.22	301.8	11	19	3							
GORIS	71.63	307.6	11	22K	3	20	41	7				
BAKURIANI	71.64	310.9	11	20	1							
BRISBANE	71.94	177.4	11	19	-2							

GOTEBORG	72.00	337.8	11	21	0						
GOLDEN	72.01	51.7	11	22	1						
TONTO FOREST	72.24	59.2	11	23	1				11	38	14 4 PP
KARLSKRONA	72.30	335.2	11	21	-2						
COPENHAGEN	73.62	336.5	11	30	0						
TUCSON	73.89	60.5	11	32	0				11	47	
SHIRAZ	74.62	296.5	11	36	0	21	5	-2	11	50	14 15 PP
ALBUQUERQUE	74.68	55.9	11	38	1				11	53	
KISHINEV	74.89	322.7	11	40K	2						
IASI	75.29	323.5	11	45	5						
SCHEFFERVLLE	75.90	20.9	11	44	0						
KRAKOW	75.99	329.4	11	44	0						11 58 PCP
RACIBORZ	76.58	330.4	11	47	0						11 59 PCP
SKALNATE PL.	76.59	328.8	11	49	1						12 40
COLLMBERG	77.26	334.0	11	51A	0						14 50 PP
HALLE	77.41	334.7	11	53	1				12	8	
WITTEVEEN	77.74	338.2	11	55	1						
PRUHONICE	77.91	332.4	11	55	0						
LAWRENCE	77.97	46.4	11	55	0						
JENA	78.02	334.6	11	55	0						12 31
RIVERVIEW	78.32	179.0				21	57	9			
LUBBOCK	78.33	54.1	11	57	0						
BRATISLAVA	78.58	330.0	11	58	-1						
VIENNA-H.	78.77	330.5	12	1	1						12 14 PCP
KASPERSKE H.	78.96	332.5	12	1A	0						12 48
BENSBERG	79.28	337.1	12	3	1						
WICHITA MTS.	79.35	51.3	12	2	-1	22	22	23			27 34 SS
CANBERRA	79.81	180.8	12	5	0						
TULSA	79.99	48.8	12	6K	0						
ADELAIDE	80.11	189.4	12	7K	0						
BELGRADE	80.13	326.2	12	8	1						12 22 PCP
UCCLE	80.18	338.7				22	26	19			
STUTTGART	80.63	334.9	12	10	0						
KEW	80.68	341.7	12	11	1						
SOFIA	80.69	323.2	12	12	2						
DOURBES	80.75	338.3	12	8	-2						
STRASBOURG	81.25	335.7	12	14	1						22 32
BREBEUF	82.08	29.3	12	17	0						
TOOLANGI	82.15	183.6	12	18	0				12	30	
PARIS	82.49	339.0	12	21	2						
CARIBOU	82.61	25.3	12	26	6						
FOLINIERE	83.25	340.8	12	24	1						
JERUSALEM	83.43	308.9	12	26A	2						
GARCHY	83.75	338.1	12	27K	1						
MILO	83.84	26.6	12	32	5						
ATHENS	84.38	320.2									32 54
EAST MACHIAS	84.78	25.8	12	37	6						
AQUILA	84.92	329.3	12	33	2	23	2	7	12	43	43 2
CLERMONT-FD.	85.12	337.4	12	50	17						13 13
CUMBERLAND	85.43	42.4	12	34	0	23	6	6			29 10 SS
ISOLA	85.43	334.2	12	36	2						
KARAPIRO	85.57	160.0	12	35	0						
ROME	85.64	329.6	12	30	-5						22 10
PALISADES	85.88	31.8	12	37	1	23	4	-1	12	49	
HALIFAX	86.04	23.4	12	39	2						
BAGNERES	88.42	338.4	12	50	1						
BANGUI	114.56	304.7	18	34	-1						29 40
SCOTT BASE	122.87	175.8	18	52	1						
SOUTH POLE	134.67	180.0	19	4	-10						
LA PAZ	137.31	60.9	19	22	3						

OCTOBER 26 22.H 41.M 29.S EPICENTRE -5.18 152.16 DEPTH= 63.KM

A=-0.88067 B= 0.46515 C=-0.08975 D= 0.4670 E= 0.8842
G= 0.0794 H=-0.0419 K=-0.9960 HT= 7.0

DEPTH OF FOCUS= 0.005R

SE= 2.16

	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	0.98	0.7	0	19K	1							
PORT MORESBY	6.50	229.6	1	35K	0							
HONIARA	8.80	119.1	2	4	-3							
CHARTERS TS.	15.89	200.7	3	41	0	6	42	7				
LUGANVILLE	17.94	126.0	4	6K	0							

KOUMAC	19.30	143.5	4	21A	-1	8	14	23				
GUAM	19.93	338.4	4	31	2							
PORT VILA	20.13	129.6	4	29K	-2							
NOUMEA	21.92	142.2	4	49A	0	8	49	7				
BRISBANE	22.09	178.5	4	50	-1	8	51	6				
RIVERVIEW	28.52	181.8	5	56	5	10	36	3				
CANBERRA	30.13	185.1	6	5K	-1						16	55
ADELAIDE	32.14	201.0	6	23K	0							
TOOLANGI	32.80	189.8	6	28	-1						12	55
AFIAMALU	36.56	106.3	6	59	-2	12	43	5				
MANILA	36.59	303.0	7	3	2						15	27
TARRALEAH	37.31	187.0	7	8	1							
MOORLANDS	37.36	186.1	7	9	1							
BAGUIO CITY	37.90	305.1	7	12	0							
CHATEAU	39.93	151.3	7	30	1							
GISBORNE	40.75	148.4	7	43	7							
WELLINGTON	41.24	153.9									17	7
MUNDARING	42.90	227.1	7	53	-1							
MATUSIRO	43.51	343.6	7	58	-1						9	46
TANGERANG	45.31	266.5	8	12	-1							
HONG KONG	46.12	307.7	8	11	-8							
KIPAPA	55.52	59.7	9	32	1							
SHILLONG	65.96	300.8	10	42A	1							
WILKES	67.51	196.9	10	50	-1							
CHATRA	70.37	300.7	11	9A	0							
MIRNY	73.35	201.0	11	25	-1						11	47
NEW DELHI	79.36	300.2	11	59A	-1	21	55	0				
LAHORE	82.38	302.6	12	16A	0							
COLLEGE	82.45	21.9	12	16	-1							
BYRD STATION	84.64	169.9	12	27	-1							
SOUTH POLE	84.85	180.0	12	28	-1							
QUETTA	88.44	300.3	12	47	1	23	14	-11				
SHASTA	89.90	49.3	12	53K	0							
MINERAL	90.46	49.7	12	57A	1							
PASADENA	92.60	56.1	13	8	3				13	27		
BARRETT	93.75	57.7	13	8	-3				13	27		
BLUE MTS.	93.99	45.5	13	12K	0	23	49	-25	13	30	25	40 PS
MOULD BAY	94.64	13.9	13	15K	0							
EUREKA	94.70	50.9	13	16	1				13	35	17	1 PP
TONTO FOREST	98.32	56.2	13	34	3				13	51		
BOZEMAN	98.43	44.7	13	31	-1							
UINTA BASIN	99.64	50.1	13	39	2	24	25	16			26	34 PS
FLAMING GRGE	99.76	49.5	13	39	1							
SHIRAZ	100.91	299.1	13	43K	0	24	18	3			16	55
ALBUQUERQUE	102.28	55.5	13	52	3						17	55 PP
WICHITA MTS.	108.75	55.2									18	51 PP
TULSA	110.85	53.6				25	6	7			28	36 PS
CUMBERLAND	119.04	52.0	18	43	2						30	1 PS
OTTAWA	122.30	38.2	18	49	1							
COLLMBERG	122.88	330.7	18	51	2				19	11		
PRUHONICE	122.92	328.8	18	51	2							
BREBEUF	123.53	37.2	18	51	1							
JENA	123.81	331.1	18	52	1							
KASPERSKE H.	123.93	328.4	18	53	2							
CARIBOU	125.88	33.1	18	52	-2.							
STUTTGART	126.35	330.3	18	57	2				19	18		
MILO	126.37	35.3	18	58	2							
EAST MACHIAS	127.55	35.0	19	3	5							
DOURBES	127.59	334.2	18	58	0							
GARCHY	130.36	332.7	19	6	3							
ISOLA	130.55	327.2	19	6	3						22	26 SKP
FOLINIERE	130.73	336.3	19	6	2							
BANGUI	133.70	271.1	18	53	-16						21	24 PP
LA PAZ	134.71	119.2	19	17	6						39	55 SS
CARACAS	140.94	79.8	19	17	-6						30	18

OCTOBER 27 8.H 45.M 44.S EPICENTRE -17.99-178.41 DEPTH= 583.KM

A=-0.95136 B=-0.02633 C=-0.30696 D=-0.0277 E= 0.9996
G= 0.3068 H= 0.0085 K=-0.9517 HT= 5.1

DEPTH OF FOCUS= 0.087R

SE= 1.13

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

AFIAMALU	7.56	58.5	1	54K	-1	3	24	-3				
PORT VILA	12.63	269.1	2	45K	0							
LUGANVILLE	14.06	277.9	2	58	-1							
NOUMEA	14.84	250.7	3	8A	1	5	41	4				
KOUMAC	16.54	258.3	3	25	2							
KARAPIRO	20.56	193.7	4	2A	2						5	25
GISBORNE	20.82	187.9	4	2	-1	7	31	13			4	34
HONIARA	22.66	289.2	4	19	0							
WELLINGTON	23.94	192.7	4	29	-2							
BRISBANE	28.12	245.4	5	7K	0							
HONOWAI	30.05	199.7	5	24A	0				7	0		
RIVERVIEW	31.44	233.9	5	36A	0							
CHARTERS TS.	33.42	260.6	5	52A	0						13	34
CANBERRA	33.65	232.6	5	55K	1						6	25
PORT MORESBY	34.48	279.7	6	2K	1	10	49	-2				
TOOLANGI	37.11	230.9	6	23K	0	11	27	-3			8	16
MOORLANDS	38.03	222.7	6	31	1							
TARRALEAH	38.43	223.4	6	33	-1						7	46
ADELAIDE	41.58	237.3	6	58K	-1							
KIPAPA	43.97	27.9	7	18	0							
DARWIN	49.18	269.0	7	57	0							
MUNDARING	60.08	243.1	9	12	-1							
BYRD STATION	67.17	170.7	9	58	0						11	58
MATUSIRO	67.97	323.4	10	1A	-2						11	50
SOUTH POLE	72.12	180.0	10	27	0							
PARAISO	75.63	43.7	10	51	4							
BERKELEY	76.59	42.5	10	52A	0							
PRIEST	76.66	44.7	10	53A	0							
LICK	76.69	43.2	10	53A	0							
CALISTOGA	76.84	41.7	10	53A	-1							
PASADENA	77.28	47.6	10	56	0							
BARRETT	77.58	49.5	10	56	-1							
SHASTA	78.17	40.1	11	0A	-1							
MINERAL	78.45	40.8	11	2K	0							
BOULDER CITY	80.57	47.4	11	14	1							
TUCSON	81.69	52.3	11	20	1							
TONTO FOREST	82.30	50.3	11	23	1				13	30	11	30 PCP
GLEN CANYON	83.33	47.8	11	28	1							
BLUE MTS.	83.61	38.8	11	28A	0				13	37	14	47 PP
MAWSON	83.78	199.8	11	29	0				13	38		
COLLEGE	85.86	12.6	11	37	-2				13	46		
ALBUQUERQUE	86.15	51.5	11	41	0				13	50		
UINTA BASIN	86.29	45.6	11	42A	1				13	50	15	5 PP
FLAMING GRGE	86.69	45.1	11	43	0							
BOZEMAN	87.82	40.4	11	46	-3				13	56		
LARAMIE	89.44	46.0	11	57	1							
WICHITA MTS.	92.04	54.2	12	8	0						13	47
RAPID CITY	92.16	44.2	12	9	0							
SHIRAZ	132.31	293.9									20	41
WITTEVEEN	145.01	354.6	18	33A	1							
RACIBORZ	145.32	341.1	18	33	1							
COLLMBERG	145.55	347.3	18	32A	0						21	17
JENA	146.18	348.6	18	36	3							
PRUHONICE	146.43	344.8	18	37	3							
LWIRO	146.49	235.9	18	39K	5							
KEW	146.56	2.2	18	35	1							
KASPERSKE H.	147.45	345.3	18	35	0							
DOURBES	147.88	356.3	18	38	2							
STUTTGART	148.67	350.2	18	38	1							
STRASBOURG	149.08	352.0	18	43	5							
FOLINIERE	149.25	2.7	18	43	5							
CLERMONT-FD.	152.27	357.7									19	3
ISOLA	153.49	351.2	18	53	9							
TOLEDO	157.65	11.5	19	26K	36							
BANGUI	158.53	233.0	18	49	-2				20	31		

OCTOBER 27 18.H 24.M 52.S EPICENTRE -24.35-176.12 DEPTH= 109.KM

A=-0.90997 B=-0.06173 C=-0.41006 D=-0.0677 E= 0.9977
G= 0.4091 H= 0.0278 K=-0.9121 HT= 3.5

DEPTH OF FOCUS= 0.012R

SE= 2.24

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

AFIAMALU	11.17	22.3	2	23	-14	4	16	-24						
GISBORNE	15.10	197.9	3	28	0	5	56	-17						
KARAPIRO	15.29	205.8	3	32	1									
PORT VILA	15.94	291.4	3	41K	2									
NOUMEA	16.14	273.8	3	46	5	7	3	27						
LUGANVILLE	18.02	296.1	4	3	-1									
KOUMAC	18.50	277.9	4	13K	3									
MONOWAI	25.09	207.5	5	13	-2									
HONIARA	27.22	298.9	5	33	-2									
BRISBANE	28.11	257.1	5	43	0	10	44	25						
RIVERVIEW	30.01	244.1	6	14	14									
CANBERRA	32.02	241.9	6	16	-2								6	39
CHARTERS TS.	35.01	269.4	6	43	0	12	28	21						
TOOLANGI	35.22	238.8	6	44	-1				6	51		7	14	PP
RABAUL	36.52	298.2	6	55	-1							12	39	
PORT MORESBY	38.02	286.6	7	8A	-1	13	16	24						
ADELAIDE	40.35	244.1	7	27	-1									
CAPE HALLETT	48.59	185.5	8	34	0									
KIPAPA	48.78	22.6	8	33	-2									
DARWIN	51.46	273.4	8	53	-3									
GUAM	53.60	310.3	9	10	-2									
SCOTT BASE	54.17	184.4	9	16	0									
BYRD STATION	60.57	170.4	9	59	-2									
SOUTH POLE	65.79	180.0	10	34	-1									
MATUSIRO	74.32	323.2	11	27A	0							12	27	
MAWSON	78.54	199.6	11	51A	1									
PARAISO	78.83	41.6	11	56	4									
PRIEST	79.76	42.7	11	58K	1									
BERKELEY	79.92	40.5	11	59K	1									
LICK	79.94	41.2	11	59A	1									
CALISTOGA	80.24	39.7	12	0A	0									
SHASTA	81.73	38.3	12	7A	0									
MINERAL	81.94	38.9	12	9K	0									
HONG KONG	82.06	298.7				22	0	-13						
BOULDER CITY	83.37	45.7	12	17	1									
TONTO FOREST	84.78	48.8	12	24	1				12	34		13	2	
GLEN CANYON	86.07	46.4	12	31	2									
SEATTLE	86.45	33.1	12	29	-2									
BLUE MTS.	87.26	37.5	12	35	0	23	23	19				15	57	PP
ALBUQUERQUE	88.48	50.4	12	42	1							13	14	
UINTA BASIN	89.24	44.5	12	45	1	23	39	17				16	28	PP
BUTTE	90.63	38.6	13	1	10									
HUNGRY HORSE	91.19	36.1	12	53	-1									
BOZEMAN	91.31	39.5	12	52	-2									
COLLEGE	91.60	11.7	12	55	0									
LARAMIE	92.33	45.3	13	0	1									
WICHITA MTS.	94.03	53.7	13	6	0	24	22	18				25	34	PS
RAPID CITY	95.23	43.8	13	13	1									
AREQUIPA	96.06	111.0	13	17	1									
LA PAZ	98.89	112.6	13	34	5									
CARACAS	111.66	88.0										19	12	PP
WARSAK DAM	121.07	296.2	18	42	2									
QUETTA	124.25	290.9	18	49K	3									
SHIRAZ	136.59	288.1	19	16	7							22	37	
NURMIJARVI	141.10	343.8	19	15	-2									
UPPSALA	143.24	348.4	19	18	-3									
LWIRO	144.15	226.0	19	25A	2									
KONGSBERG	144.50	355.0	19	23	0									
GOTEBORG	146.18	352.2	19	28A	2									
KARLSKRONA	147.09	347.9	19	30A	2									
COPENHAGEN	148.08	350.8	19	36	7									
LWOW	150.11	333.4	19	39	7									
JERUSALEM	151.44	292.1	19	44	10									
KRAKOW	151.47	338.1	19	40	6							20	16	
WITTEVEEN	151.50	356.5	19	43	9									
CHORZOW	151.57	339.4	19	43	9									
NIEDZIKA	151.86	336.9	19	44	9									
RACIBORZ	152.00	340.2	19	45	10							20	16	
COLLMBERG	152.19	347.7	19	43A	8							23	49	PP
HALLE	152.20	349.2	19	45	10							20	18	
KEW	152.73	5.7	19	44	8									
JENA	152.81	349.3	19	46	10							23	29	PP
PRUHONICE	153.10	344.7	19	46	9							23	35	
ISTANBUL UN.	153.24	314.5	19	58	21									
BENSBERG	153.32	355.4	19	45	8									
UCCLE	153.60	359.3	20	10	33									
KASPERSKE H.	154.12	345.3	19	40	2									
VIENNA-H.	154.18	340.6	19	41	3							20	4	PKP2
DOURBES	154.29	358.9	19	47	9									

STUTTGART	155.26	351.4	19	42	3									
FOLINIERE	155.39	6.9	20	2	22									
BANGUI	155.59	217.9	19	40	0							23	50	PP
STRASBOURG	155.63	353.7	20	8	28									
WELSCHBRUCH	155.91	356.0	20	10	30									
ISOLA	160.05	353.3	20	29	43									
AQUILA	160.39	338.6										31	8	
BAGNERES	161.08	8.5	19	56	9									
TOLEDO	163.14	21.5	19	53	4							24	38	PP
ALICANTE	165.56	13.9	19	54A	3									
ALMERIA	166.40	22.2	19	54A	2									

OCTOBER 27 20.H 5.M 39.5 EPICENTRE 44.82 150.00 DEPTH= 61.KM

A=-0.61636 B= 0.35581 C= 0.70250 D= 0.5000 E= 0.8661
G=-0.6084 H= 0.3512 K=-0.7117 HT= -3.5

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	
KURILSK	1.57	285.9	0	26	-1	0	46	-1					
Y.-SAKHLINSK	5.54	296.0	1	22	0								
MIZUSAWA	8.72	232.4	2	23	17	3	31	-13					
PETROPAVLOVK	9.98	31.6	2	21	-2	4	10	-5					
MATUSIRO	12.18	231.3	2	47K	-6								
MAGADAN	14.76	1.6	3	32	5								
ABUYAMA	14.87	233.0	3	22K	-6								
YAKUTSK	20.88	332.7	4	35	-4								
TIKSI	28.75	346.3	5	52	-2								
ULAN-BATOR	29.62	291.6	6	1	-1								
ESEN BULAK	37.03	292.1	7	9	3								
BAGUIO CITY	37.60	230.6	7	10	-1								
MANILA	38.77	228.4	7	21	1								
COLLEGE	39.01	36.9	7	25	3								
KIPAPA	48.43	101.2	8	38	0								
RABAUL	48.84	177.1	8	41	0								
SHILLONG	50.14	267.8	8	52K	1								
ALERT	51.89	5.1	9	4	-1								
FRUNSE	52.56	296.3	9	11K	1								
CHATRA	52.72	272.4	9	11K	0								
RESOLUTE	53.35	17.5	9	15	-1								
SVERDLOVSK	53.76	317.0	9	18	-1								
PORT MORESBY	54.03	183.5	10	26	65								
TASHKENT	56.74	297.2	9	40K	0								
DEHRA DUN	57.08	281.6	9	42K	-1								
APATITY	58.24	336.2	9	50K	-1								
KEVO	58.42	340.0	9	51	-1								
NEW DELHI	58.71	280.5	9	53K	-1								
LAHORE	58.93	285.0	9	56	1								
WARSAK DAM	59.38	288.9	10	0	1								
SODANKYLA	60.25	338.1	10	3	-2								
TROMSOE	60.38	342.3	10	5	0								
SHASTA	61.39	59.9	10	13K	1								
KIRUNA	61.45	340.5	10	12A	-1								
HUNGRY HORSE	61.71	48.9	10	15	1				10	29			
BLUE MTS.	61.96	53.6	10	17	1						30	32	PKKP
MINERAL	62.08	59.8	10	17K	0				10	33			
CALISTOGA	62.49	61.9	10	19A	-1								
BERKELEY	63.15	62.4	10	25A	1								
LICK	63.86	62.6	10	30	1								
BUTTE	63.91	50.3	10	30	1						10	45	
PARAISO	64.01	63.8	10	34	4								
VIBORG	64.50	332.2	10	31	-2								
UMEA	64.68	337.8	10	33	-1								
CHARTERS TS.	64.68	183.9	10	33	-1								
MOSCOW	64.78	324.7	10	36	1								
QUETTA	64.79	288.2	10	35K	0								
PRIEST	65.22	63.1	10	37A	0								
ASHKABAD	65.55	299.8	10	41	1								
VANNOVSKAYA	65.70	299.9	10	42	2								
NURMIJARVI	66.00	333.8	10	41	-1								
KIZYL-ARVAT	66.03	301.9	10	45A	2								
EUREKA	66.03	57.7	10	44	1				11	0			
HELSINKI	6.16	333.4	10	43	0								

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.

SKALSTUGAN	66.88	340.9	10	48	0											
POONA	67.45	274.1	10	50A	-2											
FROBISHER	67.59	17.4	10	53A	1											
PASADENA	68.05	63.3	10	56	1						11	10				
UPPSALA	68.64	336.4	10	59A	0								11	24	PCP	
BOULDER CITY	68.97	59.9	11	2	1						11	16				
UINTA BASIN	69.25	53.5	11	4K	1								11	33		
RAPID CITY	70.20	47.2	11	10	2						11	26				
LARAMIE	70.82	50.6	10	44	-28								12	30		
KIROVOBAD	70.86	308.5	11	14K	2	20	29	7								
TIFLIS	70.97	310.2	11	16	3	20	33	10								
TEHERAN	71.23	301.8	11	18	3											
BRISBANE	71.91	177.4	11	19	0											
GOLDEN	72.04	51.7	11	23	3											
TONTO FOREST	72.27	59.2	11	22	1						11	37	13	57	PP	
KARLSKRONA	72.32	335.2	11	21A	0											
TUCSON	73.92	60.5	11	32	1						11	48				
SIMFEROPOL	74.10	318.4	11	34	2											
LWOW	74.67	327.1	11	37	2											
ALBUQUERQUE	74.71	55.9	11	37	2						11	53				
IASI	75.31	323.5	11	42	3											
SCHEFFERVLLE	75.94	20.9	11	43	1											
KRAKOW	76.01	329.4	11	44K	1						11	50	11	57	PCP	
UZHGOROD	76.30	327.3	11	46	2											
RACIBORZ	76.61	330.4	11	49	3								11	59	PCP	
COLLMBERG	77.29	334.0	11	49K	-1						12	3				
HALLE	77.44	334.7	11	52	1											
WITTEVEEN	77.77	338.2	11	54	2											
PRAGUE	77.90	332.5	11	56	3											
PRUHONICE	77.93	332.4	11	55	2											
JENA	78.05	334.6	11	55	1								12	39		
VIENNA-H.	78.80	330.5	12	1	3											
KASPERSKE H.	78.99	332.5	12	1K	2											
BENSBERG	79.31	337.1	12	2	1						12	16				
WICHITA MTS.	79.38	51.3	12	2	1											
CANBERRA	79.77	180.8	12	6	3											
TULSA	80.02	48.7	12	6K	1						12	21				
ADELAIDE	80.07	189.4	12	6A	1											
UCCLE	80.21	338.7	12	6	0											
STUTTGART	80.66	334.9	12	10	2											
KEW	80.71	341.7	12	10	2											
DOURBES	80.78	338.3	12	9	0											
STRASBOURG	81.28	335.7	12	14	3											
OTTAWA	81.46	30.7	12	12K	0											
SHAWINIGAN	81.50	28.3	12	13	1											
WELSCHBRUCH	81.84	336.5	12	14	0											
TOOLANGI	82.11	183.6	12	17	1											
BREBEUF	82.12	29.3	12	16K	0						12	32				
PARIS .	82.52	339.0	12	22	4											
CARIBOU	82.65	25.2	12	20	2											
FOLINIERE	83.28	340.8	12	24	2											
JERUSALEM	83.45	308.9	12	26K	4											
MILO	83.88	26.6	12	26	1											
EAST MACHIAS	84.82	25.8	12	31	2											
ISOLA	85.46	334.2	12	35	3											
CUMBERLAND	85.46	42.4	12	34	2											
PALISADES	85.92	31.8	12	36	1						12	48				
BAGNERES	88.45	338.4	12	51	4								13	12		
TOLEDO	92.51	340.3	13	7	1											
BANGUI	114.57	304.6	18	32	-1								19	39	PP	
SOUTH POLE	134.63	180.0	18	58	-14											
LA PAZ	137.33	60.9	19	21	4											

OCTOBER 28 7.H 55.M 19.S EPICENTRE -24.38-176.09 DEPTH= 91.KM

A=-0.90972 B=-0.06218 C=-0.41055 D=-0.0682 E= 0.9977
G= 0.4096 H= 0.0280 K=-0.9118 HT= 3.5

DEPTH OF FOCUS= 0.009R

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
AFIAMALU	11.18	22.1	2	25A	-13	4	21	-21				
GISBORNE	15.08	198.0	3	30	1	6	2	-12				

KARAPIRO	15.27	205.9	3 33	1						
NOUMEA	16.17	273.8	3 46K	3	7	19	40			
LUGANVILLE	18.06	296.1	4 8K	2						
KOUMAC	18.53	278.0	4 15A	3						
HONIARA	27.25	299.0	5 36	-2	10	21	13			
BRISBANE	28.13	257.2	5 45	-1	10	3	-19			
RIVERVIEW	30.02	244.2	6 0	-2	10	59	7		11	21
CANBERRA	32.03	241.9	6 21	1						
CHARTERS TS.	35.04	269.4	6 45	-1	12	17	6			
TOOLANGI	35.22	238.9	6 46	-1	12	47	34	6 57	17	14 SCS
RABAUL	36.56	298.2	6 56	-3	12	55	21		8	25
PORT MORESBY	38.05	286.6	7 10A	-1	13	22	26			
ADELAIDE	40.36	244.1	7 29	-1					14	1
KIPAPA	48.80	22.6	8 37	-1					18	44
DARWIN	51.49	273.4	8 58	0						
GUAM	53.64	310.3	9 13	-1						
SCOTT BASE	54.14	184.4	9 18	0						
BYRD STATION	60.54	170.4	10 2	-1						
SOUTH POLE	65.76	180.0	10 36	-1						
MIRNY	68.26	205.5	10 51	-2						
BAGUIO CITY	73.89	296.8	11 27	0						
MATUSIRO	74.36	323.2	11 29A	-1	21	38	43			
MAWSON	78.52	199.6	11 52	-1	21	46	6			
PARAISO	78.84	41.6	11 58	3						
PRIEST	79.76	42.6	12 0A	0						
BERKELEY	79.93	40.5	12 1K	1	21	57	2		12	23 PCP
LICK	79.95	41.2	12 3K	2						
PASADENA	80.08	45.5	12 2	1	22	16	19			
PETROPAVLOVK	80.15	344.8	12 1	-1						
Y.-SAKHLINSK	80.21	332.8	12 3	1						
UKIAH	80.21	39.0	12 3	1						
CALISTOGA	80.25	39.7	12 3K	1						
SHASTA	81.74	38.3	12 10K	0						
MINERAL	81.95	38.9	12 11K	0						
HONG KONG	82.09	298.7	12 15	3	22	17	0			
BOULDER CITY	83.37	45.7	12 19	1						
TUCSON	83.95	50.7	12 23K	2						
TONTO FOREST	84.78	48.8	12 26	1				12 35	12	30 PCP
N-LAZARVSKYA	84.95	182.6	12 26K	0	22	52	6			
GLEN CANYON	86.07	46.4	12 34	2						
DUGWAY	87.13	43.2	12 37K	0						
BLUE MTS.	87.27	37.5	12 37	-1	23	10	2		29	47 PKKP
SALT LAKE C.	88.06	43.2	12 42	1						
ALBUQUERQUE	88.48	50.4	12 45	2					13	6
SANTA LUCIA	88.74	126.3			23	14	-8		29	23
UINTA BASIN	89.25	44.5	12 47	0	23	43	17		23	15 SKS
BUTTE	90.64	38.6	12 54	1						
HUNGRY HORSE	91.19	36.1	12 56	0						
BOZEMAN	91.31	39.5	12 55	-2						
COLLEGE	91.62	11.7	12 47	-11						
GOLDEN	91.66	46.8	12 49	-9	24	5	17			
LARAMIE	92.34	45.3	13 3	2						
WICHITA MTS.	94.03	53.7	13 9	0	24	25	16		23	51 SKS
RAPID CITY	95.24	43.8	13 16	1						
AREQUIPA	96.02	111.0	13 20	2						
YAKUTSK	96.34	337.4	13 18	-2						
TULSA	96.60	53.7	13 21	0	23	58	10			
BOGOTA	102.83	90.7			24	29	10		27	13 PS
TIKSI	102.93	344.5	13 48	-1						
CUMBERLAND	104.16	57.2			24	33	8		25	51 S
CARACAS	111.63	88.0	14 29	-235	25	5	8			
PALISADES	114.45	54.4							20	21 PP
WARSAK DAM	121.11	296.2	18 44	2						
QUETTA	124.29	290.9	18 51	3						
SVERDLOVSK	128.17	324.2	18 57	1						
ASHKABAD	132.12	299.9	19 5	2						
VANNOVSKAYA	132.31	299.9	19 6	2						
KEVO	132.59	349.3							22	29 PP
SHIRAZ	136.63	288.0	19 12	0					22	1 SKP
VIBORG	139.83	341.3	19 21	3						
MOSCOW	140.14	330.7	19 20	2						
KIROVOBAD	141.13	305.1	19 18	-2						
NURMIJARVI	141.14	343.8	19 20	0					22	59 PP
GORIS	141.34	303.3	19 17	-3						
BAKURIANI	142.95	307.6	19 22	-1						
UPPSALA	143.28	348.4	19 22	-2						
ADDIS ABABA	143.42	251.3	19 28	4						
LWIRO	144.15	225.9	19 27	2						

KONGSBERG	144.53	355.0	19	26	0						
GOTEBORG	146.21	352.2	19	30A	1						
KARLSKRONA	147.13	348.0	19	33A	3						
SIMFEROPOL	148.06	317.5	19	33	1					19	39 PKP2
DURHAM	149.38	6.2	19	35	1						
KISHINEV	149.91	324.9	19	41	6						
LWOW	150.15	333.4	18	43	-52						
IASI	150.44	326.3	19	47	12						
KSARA	150.62	296.0	19	44	8						
JERUSALEM	151.48	292.0	19	47	10						
KRAKOW	151.50	338.1	19	45	8						
WITTEVEEN	151.53	356.5	19	46	9						
CHORZOW	151.61	339.5	19	40	3					20	5
NIEDZIKA	151.90	336.9	19	40	2						
RACIBORZ	152.04	340.2	19	47	9					20	45
COLLMBERG	152.23	347.7	19	39	1					23	26 PP
HALLE	152.23	349.2	19	48	10						
KEW	152.76	5.8	19	47	8						
JENA	152.84	349.3	19	42	3					23	29 PP
PRAGUE	153.08	344.9	19	43	4					23	31 PP
PRUHONICE	153.14	344.7	19	40	1					23	31
ISTANBUL UN.	153.28	314.5	19	47	7						
BENSBERG	153.35	355.4	19	49	9					23	39
BRATISLAVA	154.06	339.6	19	41	0						
KASPERSKE H.	154.16	345.3	19	43	2					23	36
VIENNA-H.	154.22	340.6	19	43	2					20	16 PKP2
DOURBES	154.32	359.0	19	48	7						
STUTTGART	155.30	351.5	19	45	3					20	9 PKP2
FOLINIERE	155.42	7.0	19	48	6						
STRASBOURG	155.66	353.8	19	56	13						
WELSCHBRUCH	155.94	356.0	19	54	11						
LJUBLJANA	156.75	341.0	19	53	9					20	16
TRIESTE	157.34	341.9	19	58	13						
CLERMONT-FD.	158.65	1.5	19	57	10						
ISOLA	160.09	353.4	20	31	43					24	21 PKS
AQUILA	160.43	338.6	19	53	4					24	17 PP
BAGNERES	161.11	8.5	20	53	64						
TOLEDO	163.16	21.6	19	55K	4					24	38 PP
GRANADA	165.71	25.0								21	34
ALMERIA	166.42	22.3	19	56	2						
AVERROES	166.69	45.6	20	4	9						

OCTOBER 28 12.H 3.M 22.5 EPICENTRE 52.77 159.90 DEPTH= 60.KM

A=-0.57064 B= 0.20883 C= 0.79420 D= 0.3437 E= 0.9391
G=-0.7458 H= 0.2729 K=-0.6077 HT= -6.4

DEPTH OF FOCUS= 0.004R

SE= 1.44

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
PETROPAVLOVK	0.80	289.0	0	18K	1							
MAGADAN	8.48	326.9	2	4	1							
KURILSK	10.91	231.1	2	37	1							
Y.-SAKHLINSK	12.47	249.4	2	59	2							
YAKUTSK	18.55	311.8	4	13A	-1	7	39	3				
MIZUSAWA	18.80	231.0	4	18	1							
MATUSIRO	22.25	231.8	4	54	1							
TIKSI	23.32	335.6	5	3K	-1	9	17	9				
ABUYAMA	24.87	233.7	5	20A	1							
COLLEGE	28.73	44.6	5	53	-1							
IRKUTSK	33.11	291.9	6	32	-1							
ULAN-BATOR	33.52	283.4	6	36	0							
MOULD BAY	37.40	22.9	7	9A	0							
ESEN BULAK	40.54	287.4	7	37	2	13	34	-6				
ALERT	43.28	7.4	7	58A	0							
YELLOWKNIFE	43.48	42.3	8	0	1							
RESOLUTE	43.68	21.8	8	0	-1							
KIPAPA	44.88	117.8	8	10	-1							
HONOLULU	44.94	117.9	8	24	13					15	3	
SEMIPALATNSK	47.15	300.8	8	26	-3					15	8	
BAGUIO CITY	47.60	235.4	8	32	0	15	24	2				
SEATTLE	47.78	63.2	8	38	4	15	38	13				
MANILA	48.85	233.7	8	43	1	15	50	10				
HUNGRY HORSE	51.72	58.0	9	3	-1					11	5	PP

SHASTA	52.10	70.3	9	6A	-1							
BLUE MTS.	52.23	63.2	9	6	-2						10	18 PCP
SVERDLOVSK	52.44	316.8	9	10A	1							
UKIAH	52.67	72.3	9	12	1							
MINERAL	52.79	70.1	9	11A	-1							
KEVO	53.08	341.4	9	14	0	16	44	6			21	0 SS
CALISTOGA	53.37	72.3	9	16A	0							
APATITY	53.52	337.4	9	17A	0	16	46	2			18	54 SCS
BUTTE	53.99	59.4	9	20	-1						10	24 PCP
BERKELEY	54.07	72.8	9	21A	0	16	58	7			9	25 PCP
TROMSOE	54.64	344.3	9	24	-1							
LICK	54.79	72.9	9	26A	0							
BOZEMAN	55.02	58.8	9	25	-3						10	27 PCP
SODANKYLA	55.17	339.9	9	28A	-1							
KIRUNA	55.98	342.7	9	34A	-1	17	15	-2				
PRIEST	56.19	73.3	9	37A	0							
EUREKA	56.56	67.3	9	39	0	17	30	5			10	32 PCP
SHILLONG	56.89	269.5	9	41A	-1							
SCORESBY SD.	57.05	0.7	9	43	0	17	43	12				
KAP TOBIN	57.11	0.8	9	43	0							
RABAUL	57.13	189.2	9	43	0	17	38	6				
DUGWAY	57.82	64.7	9	48A	0							
FROBISHER	57.89	23.1	9	46	-3							
SALT LAKE C.	57.95	63.6	9	49	0							
CHATRA	58.82	274.2	9	55A	0							
TASHKENT	58.84	298.3	9	54	-1							
PASADENA	59.04	73.3	9	56	-1	18	1	4	10	14		
CHITTAGONG	59.31	267.0	9	59	1							
UINTA BASIN	59.50	62.5	9	59	-1	18	7	4			12	1 PP
UMEA	59.58	340.5	9	59A	-1	18	2	-2				
BOULDER CITY	59.66	69.5	10	1	0						10	48 PCP
RAPID CITY	60.14	55.6	10	5A	1						39	32 PKPPKP
VIBORG	60.31	334.8	10	4	-1							
KHOROG	60.33	293.8	10	5	0	18	13	-1				
PULKOVO	60.72	333.4	10	8	0							
GLEN CANYON	60.78	66.5	10	8	0						39	22 PKPPKP
LARAMIE	60.91	59.3	10	9	0							
DUZHANBE	61.07	296.4	10	9	-1	18	21	-2				
SKALSTUGAN	61.27	344.1	10	11	-1							
NURMIJARVI	61.53	336.7	10	13A	-1	18	29	0			14	16 PPP
DEHRA DUN	61.74	283.6	10	14K	-1							
HELSINKI	61.75	336.3	10	14	-1							
MOSCOW	61.88	327.2	10	15	-1	18	32	-1				
HON+ARA	61.95	179.9	10	15	-1							
GOLDEN	62.18	60.4	10	18	0				10	31		
WARSAK DAM	62.83	291.0	10	20	-2							
PORT MORESBY	62.87	194.2	10	22A	-1							
TONTO FOREST	62.89	68.4	10	23A	0	18	51	5	10	32	12	40 PP
LAHORE	63.02	287.2	10	22	-2							
NEW DELHI	63.52	282.9	10	24K	-3							
UPPSALA	63.71	339.8	10	27	-1	18	55	-1				
TUCSON	64.64	69.7	10	34	0						11	8 PCP
ALBUQUERQUE	65.09	64.7	10	41	4						39	18 PKPPKP
BERGEN	65.36	346.5	10	39	0							
KONGSBERG	65.40	343.9	10	39	0	19	26	9				
SCHEFFERVLLE	66.02	27.4	10	42K	-1							
GOTEBORG	66.82	341.9	10	48	0							
PORT BLAIR	67.02	258.7	10	49A	0							
ASHKABAD	67.03	302.7	10	50	1							
KIZYL-ARVAT	67.13	305.0	10	52K	2							
VANNOVSKAYA	67.16	302.9	10	50	0							
KARLSKRONA	67.53	339.3	10	51A	-1	19	45	2				
LAWRENCE	67.91	54.4	10	54	-1							
QUETTA	68.27	291.4	10	56	-1	19	51	-1				
LUGANVILLE	68.29	172.5	10	57K	0							
COPENHAGEN	68.63	340.9	11	1K	2	19	54	-2				
WICHITA MTS.	69.49	59.5	11	4A	-1	20	9	3			11	44 PCP
DARWIN	69.53	210.4	11	7	2							
WARSAW	69.84	334.5	11	8	1	21	12	62			11	59
TULSA	70.01	56.8	11	7A	-1	20	22	10			25	3 SS
FLORISSANT	70.41	51.3	11	9	-1							
TIFLIS	70.51	314.0	11	11	0							
ST. LOUIS 1	70.60	51.3	11	11	0							
KIROVOBAD	70.70	312.4	11	11	-1	20	21	1				
AFIAMALU	70.75	150.8				20	56	35				
LONDON ONT.	71.06	42.7	11	13K	-1							
BAKURIANI	71.06	314.8	11	15	1							
LWOW	71.18	331.5	11	15	0	20	27	1				

OTTAWA	71.22	37.9	11	12	-3					
GORIS	71.63	311.6	11	18A	1					
BREBEUF	71.91	36.5	11	18A	-1					
KRAKOW	72.11	334.2	11	21	1					
SIMFEROPOL	72.13	322.7	11	20	0	20	40	3		
CHORZOW	72.14	334.9	11	21	1				11	38 PCP
KISHINEV	72.18	327.2	11	21K	0	20	38	1		
TEHERAN	72.25	305.9	11	23	2	20	43	5		
WITTEVEEN	72.43	343.3	11	23	1					
IASI	72.43	328.1	11	22	0	20	38	-2		
RACIBORZ	72.53	335.3	11	24	1				11	40 PCP
CARIBOU	72.55	32.3	11	25	2					
COLLMBERG	72.63	338.9	11	22	-1	21	14	32		
HALLE	72.66	339.7	11	24	0				14	29 PP
UZHGOROD	72.75	332.1	11	25	1	20	46	2		
POONA	73.11	278.4	11	4A	-22					
KOUMAC	73.11	175.7	11	27A	1					
JENA	73.28	339.7	11	28	1				14	12 PP
BOMBAY	73.44	279.4	11	28	0					
PRAGUE	73.46	337.6	11	30	2	20	55	3	13	25
CHARTERS TS.	73.51	193.4	11	28	-1				21	6
PRUHONICE	73.51	337.5	11	29	0				14	14 PP
MILO	73.73	33.7	11	32	2					
BENSBERG	74.12	342.5	11	32A	0			11	45	
MORGANTOWN	74.41	43.9	11	34K	0					
KASPERSKE H.	74.53	337.8	11	35A	1					
BRATISLAVA	74.57	335.2	11	35	0	21	8	4		
VIENNA-H.	74.68	335.7	11	37	2				11	55 PCP
EAST MACHIAS	74.70	32.9	11	38	3					
UCCLE	74.77	344.2	11	37	1	21	10	4		
KEW	74.81	347.3	11	36	0					
NOUMEA	74.96	173.7	11	38A	1					
CUMBERLAND	75.25	50.1	11	38A	-1	20	55	-17	26	20 SS
VALENTIA	75.35	353.7	11	53	14					
DOURBES	75.40	343.9	11	31K	-8	21	14	1		
PALISADES	75.66	39.1	11	40	-1	21	14	-2		
STUTTGART	75.80	340.4	11	43	1					
HALIFAX	76.05	30.4	11	44K	1					
TUBINGEN	76.08	340.5	11	45	2					
BLACKSBURG	76.23	45.6	11	44	0					
STRASBOURG	76.29	341.4	11	46	2				21	29
SHIRAZ	76.53	301.3	11	46A	0	21	23	-3	14	35 PP
RAVENSBURG	76.68	339.9	11	47	0					
WELSCHBRUCH	76.72	342.2	11	46	-1					
BELGRADE	76.74	331.6	11	48A	1	21	30	2	11	59 PCP
FELDBERG	76.91	341.0	11	49	1					
PARIS	77.00	344.9	11	50A	2					
LJUBLJANA	77.19	336.1	11	50	0					
ISTANBUL UN.	77.38	324.1	11	51	0	21	43	8		
FOLINIERE	77.47	346.8	11	53	2					
TRIESTE	77.76	336.4				21	15	-24	26	32 SS
SOFIA	77.80	328.8	11	55	2					
CHAPEL HILL	77.91	45.3	11	54	0					
GARCHY	78.39	344.1	11	57A	1					
COLUMBIA	78.65	47.8	11	58	0					
CLERMONT-FD.	79.84	343.7	12	6	2					
BRISBANE	80.06	186.4	12	5A	0					
ISOLA	80.65	340.6	12	10A	2	22	15	6		
AQUILA	80.94	335.5	12	12	2	22	14	2	12 14	15 24 PP
KSARA	80.97	315.7	12	10	0					
ROME	81.60	336.0	12	15	2	22	21	2		15 29 PP
ATHENS	81.95	326.4	12	9	-6					
BAGNERES	82.96	345.2	12	22	2					
JERUSALEM	83.00	315.1	12	22	1					
RIVERVIEW	86.57	187.3	12	40A	2	23	18	10		28 56 SS
TOLEDO	86.68	347.7	12	40K	1	23	5	-5		24 10 PS
CANBERRA	88.23	188.9	12	47A	1				13 0	
ADELAIDE	89.30	197.3	12	52K	1				13 2	
TOOLANGI	90.83	191.4	13	0	1					13 13 *SP
KARAPIRO	91.34	167.7	13	1	0				13 14	
BANGUI	114.36	316.8	18	32	-1					19 20 PP
BROKEN HILL	125.91	296.3	18	59A	3					
LA PAZ	127.88	64.6	19	3	3				19 15	
MIRNY	129.23	208.4	19	1	-1					
SCOTT BASE	130.42	178.1	19	4	0					
KIMBERLEY	139.30	288.2	19	14	-7					
MAWSON	139.64	216.0	19	13	-9					22 16
BYRD STATION	139.88	164.5	19	12	-10					

SOUTH POLE	142.58	180.0	19	21	-6													
N-LAZARVSKYA	156.96	206.6	19	48	-1													

OCTOBER 28 19.H 59.M 15.S EPICENTRE -24.60 179.89 DEPTH= 523.KM

A=-0.91026 B= 0.00177 C=-0.41404 D= 0.0019 E= 1.0000
G= 0.4140 H=-0.0008 K=-0.9103 HT= 3.5

DEPTH OF FOCUS= 0.077R

SE= 1.33

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
NOUMEA	12.55	277.8	2	47A	3	5	6	9					
AFIAMALU	13.22	38.0	2	48A	-3	4	58	-12					
KARAPIRO	13.79	194.6	2	57	0						3	29	
GISBORNE	14.09	186.0	3	2	2						5	28	
KOUMAC	14.97	282.5	3	11A	2								
WELLINGTON	17.17	193.2	3	29	-2	6	22	1					
MONOWAI	23.33	202.1	4	26	-2								
HONIARA	24.26	305.0	4	35	-1								
BRISBANE	24.51	257.6	4	39K	0						10	51	
RIVERVIEW	26.64	243.2	4	58	0						8	2	
CANBERRA	28.71	240.9	5	16K	0				6	50	6	36	PP
CHARTERS TS.	31.38	271.5	5	39K	1	10	13	3					
TOOLANGI	31.99	237.9	5	44K	0								
PORT MORESBY	34.64	290.2	6	5K	-1	11	0	0			8	26	PCP
ADELAIDE	36.97	244.0	6	25K	0						8	33	PP
DARWIN	47.86	275.5	7	51	0								
GUAM	51.07	313.9	8	13	-2								
SCOTT BASE	53.67	183.4	8	34	0								
MUNDARING	55.86	247.0	8	48	-1								
SOUTH POLE	65.54	180.0	9	53	0								
MIRNY	66.47	205.8	9	56	-2								
BAGUIO CITY	70.76	299.1	10	23	-1								
MATUSIRO	72.42	325.8	10	33A	-1						13	59	
MAWSON	77.06	200.5	10	59	-1								
PARAISO	81.48	43.7	11	26	3								
PRIEST	82.45	44.7	11	28A	0								
BERKELEY	82.52	42.5	11	29K	1						21	51	
LICK	82.57	43.2	11	27A	-1								
CALISTOGA	82.81	41.8	11	29A	0								
PASADENA	82.89	47.5	11	30	0								
SHASTA	84.22	40.2	11	36	0								
CHINA LAKE	84.25	46.4	11	36	-1				13	29			
MINERAL	84.47	40.9	11	38K	0								
BOULDER CITY	86.18	47.6	11	47	1								
TUCSON	86.96	52.5	11	51	1								
EUREKA	87.42	44.2	11	52	0								
TONTO FOREST	87.72	50.6	11	54	1				13	47			
GLEN CANYON	88.91	48.2	12	1	2								
BLUE MTS.	89.72	39.2	12	2	0								
ALBUQUERQUE	91.47	52.0	12	11	0				14	5			
UINTA BASIN	92.01	46.2	12	13A	0				14	11			
FLAMING GRGE	92.44	45.7	12	14	-1								
WICHITA MTS.	97.13	55.2	12	35	-1	22	17	-6	14	33	23	31	
CUMBERLAND	107.38	58.4									29	0	PKKP
QUETTA	120.95	291.6	17	54	2								
SHIRAZ	133.21	288.3	18	13	-3						20	58	
SODANKYLA	134.14	346.0									20	59	SKP
KAJAANI	136.53	342.7	18	15	-7						21	9	SKP
UMEA	138.56	346.5									21	11	SKP
NURMIJARVI	140.24	341.1	18	25	-4						21	17	SKP
HELSINKI	140.42	340.6									21	17	SKP
UPPSALA	142.66	345.3	18	29A	-5								
KONGSBERG	144.32	351.5	18	35	-1								
GOTEBORG	145.81	348.5	18	39A	1								
KARLSKRONA	146.45	344.1	18	41	2								
JERUSALEM	148.15	291.0	18	48	6								
WITTEVEEN	151.36	351.4	18	55	8								
COLLMBERG	151.50	342.6	18	53	6						19	20	PKP2
JENA	152.21	344.0	18	55	7								
PRUHONICE	152.22	339.5	18	57	9								
KASPERSKE H.	153.27	339.8	18	50	1						19	13	

OCTOBER 29 15.H 49.M 14.S EPICENTRE -25.00 -68.90 DEPTH= 98.KM

A= 0.32662 B=-0.84661 C=-0.42020 D=-0.9330 E=-0.3599
G=-0.1512 H= 0.3920 K=-0.9074 HT= 3.4

DEPTH OF FOCUS= 0.010R

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
COPIAPO	2.68	208.7	0	44	2	1	16	2				
LA PAZ	8.48	5.0	2	1	0	3	57	21				
SANTA LUCIA	8.55	189.8	2	1	-1	3	38	0				
AREQUIPA	8.83	343.6	2	2	-4							
HUANCAYO	14.24	333.6	3	22	4							
NANA	14.96	328.4	3	27	0							
BOGOTA	29.86	349.6	5	57	-3	10	54	6				
CHINCHINA	30.49	346.7	6	6A	1							
FUQUENE	30.64	350.5	6	6	-1							
CARACAS	35.33	3.4	6	46	-1	12	9	-4				
TRINIDAD	36.18	12.6	6	59	5							
SAN JUAN	43.20	3.9	7	49	-3						9	36 PCP
BYRD STATION	59.06	189.0	9	51	-1							
CUMBERLAND	62.29	344.7	10	11	-3	10	39				10	52 PCP
N-LAZARVSKYA	63.58	158.6	10	18K	-4						19	35
SOUTH POLE	65.15	180.0	10	33	1						10	57
TULSA	65.69	336.2	10	35A	-1						11	1
WICHITA MTS.	65.72	333.4	10	34	-2						27	2 SSS
ALBUQUERQUE	69.43	327.7	11	0	1						11	40
TUCSON	69.58	322.8	11	0	0						11	28
BREBEUF	70.29	356.5	11	4	0						11	32
TONTO FOREST	71.37	323.9	11	11	0						12	40 PP
SCOTT BASE	72.41	190.6	11	18	1							
GOLDEN	72.80	331.3	11	20	1							
LARAMIE	74.22	332.1	11	29	1							
BOULDER CITY	74.56	322.8	11	30	0						12	11
PASADENA	75.15	319.4	11	33	0							
UINTA BASIN	75.20	329.0	11	34	1						12	17
FLAMING GRGE	75.60	329.5	11	37	2							
DUGWAY	76.67	326.9	11	42	1							
EUREKA	77.74	324.6	11	49	2						12	15
PRIEST	78.00	319.5	11	50K	1							
PARAISO	79.14	318.6	11	53	-2							
LICK	79.39	319.8	11	57K	1							
SCHEFFERVLLE	79.51	1.2	11	56K	-1							
BOZEMAN	80.09	331.5	12	1	1							
CALISTOGA	80.81	320.3	12	4K	0							
MAWSON	81.00	163.2	12	6K	1						12	36
BUTTE	81.02	330.8	12	6	1						12	34
KIMBERLEY	81.38	117.6	12	9K	2							
SHASTA	82.09	321.9	13	10K	59							
BLUE MTS.	82.35	327.5	12	11	-1				12	38	14	6
HUNGRY HORSE	83.45	331.6	12	17	-1						12	47
MIRNY	87.71	172.9	12	32	-7				13	21		
BULAWAYO	88.15	111.2	12	42K	1							
TOLEDO	88.37	44.2	12	44A	2	23	6	-11				
BANGUI	89.59	85.0	12	46	-1						16	23 PP
BROKEN HILL	90.49	106.1	12	56A	4							
ATHENS	106.87	55.6									21	58
CHARTERS TS.	123.63	220.5	18	48	2						19	20
SHIRAZ	128.22	71.0	18	57K	2						22	15
SVERDLOVSK	131.95	34.8	19	4	2							
TIKSI	132.26	352.5	18	59	-3							
VANNOVSKAYA	133.56	60.6	19	7	2							
ASHKABAD	133.76	60.6	19	7	2							
QUETTA	140.72	72.3	19	12	-6							
YAKUTSK	140.90	346.2	19	12	-6							
WARSAK DAM	144.61	66.0	19	26	1							
POONA	144.89	93.1	19	25	0							
FRUNSE	145.23	50.1	19	28K	2							
SEMIPALATNSK	145.23	35.1	19	28	2							
GUAM	146.32	256.4	19	31	3						20	15
LAHORE	147.08	70.1	19	31	2							
NEW DELHI	149.59	75.7	19	36K	3						20	16
DEHRA DUN	150.32	72.2	19	38	4							
IRKUTSK	152.28	9.0	20	9A	32							
CHATRA	158.41	80.0	19	48	3							
SHILLONG	162.60	84.0	19	53K	4							

OCTOBER 29 22.H 23.M 49.S EPICENTRE 47.35 92.86 DEPTH= 0.KM

A=-0.03391 B= 0.67919 C= 0.73318 D= 0.9988 E= 0.0499
G=-0.0366 H= 0.7323 K=-0.6800 HT= -4.4

SE= 3.02

	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	
ESEN BULAK	2.51	110.9									0	45	PG
SEMIPALATNSK	8.85	294.8	2	8A	-5								
IRKUTSK	8.90	52.1	2	12	-1								
ULAN-BATOR	9.50	81.4	2	25	3								
FRUNSE	13.65	257.4	3	16K	-2	5	42	-9					
TASHKENT	17.88	258.9	4	8	-4	7	33	3					
KHOROG	18.53	245.6	4	18K	-2						7	53	SS
DEHRA DUN	20.48	219.2	4	40	-3	8	31	4					
WARSAK DAM	20.86	238.0	4	44	-2								
CHATRA	20.96	194.3	4	46	-1	8	38	1					
LAHORE	21.21	228.6	4	46	-4	8	44	2					
SHILLONG	21.75	182.4	4	57A	2	8	54	2					
SVERDLOVSK	21.77	307.8	4	51	-5	8	48	-4					
NEW DELHI	22.36	218.6	4	58K	-4	9	2	-1					
CHITTAGONG	24.94	182.3	5	34	7								
QUETTA	26.31	238.6	5	46	6	10	15	4					
TIKSI	29.57	22.2	6	5	-4						15	8	
HONG KONG	30.31	138.2									15	25	
POONA	32.69	214.9	6	36	-1								
TEHERAN	32.76	264.5	6	41	4								
Y.-SAKHLINSK	33.42	71.7	6	44	1								
GORIS	34.26	274.1	6	47	-3						7	55	PP
TIFLIS	34.27	278.6	6	49	-1						14	23	SS
MOSCOW	34.51	304.9	6	49A	-3						8	6	PP
KHEYS	35.43	350.7	6	57	-3	12	28	-7			8	35	PP
SHIRAZ	35.70	254.9	7	0K	-3	12	36	-4			9	40	
MADRAS	35.85	201.4									10	28	
APATITY	35.92	325.7	7	8	4								
PULKOVO	37.71	312.8	7	16	-3								
KAJAANI	38.35	320.0	7	23	-2						8	54	PP
KEVO	38.36	329.2	7	25	0								
BAGUIO CITY	38.40	134.0	7	25	0								
SODANKYLA	38.54	325.4	7	28	2						8	56	PP
SIMFEROPOL	39.93	289.0	7	39K	1						9	11	PP
HELSINKI	40.28	314.2	7	39	-2						9	12	PP
NURMIJARVI	40.35	314.8	7	42A	1	13	45	-5			9	11	PP
KIRUNA	40.87	326.4	7	47	1								
PETROPAVLOVK	41.17	56.8	7	53A	5								
UMEA	41.65	320.4	7	48	-4						16	59	SS
IASI	43.10	295.0	8	13	9								
UPPSALA	43.91	315.3	8	7	-4								
LWOW	44.14	299.8	8	14	2						9	58	PP
KSARA	44.38	273.6	8	16	2						9	58	PP
SKALSTUGAN	45.13	321.5	8	21	1								
JERUSALEM	46.03	271.8	8	30K	2						18	42	
NORD	46.23	348.9	8	29K	0								
KARLSKRONA	46.25	310.9	8	33	4								
KRAKOW	46.43	301.7	8	33K	2						15	47	
SKALNATE PL.	46.64	300.5	8	33	1								
RACIBORZ	47.42	302.5	8	40	2						19	18	
GOTEBORG	47.44	314.0	8	39	0								
TIMISOARA	47.67	296.0									19	33	
KONGSBERG	47.75	317.1	8	41	0						10	34	
SOFIA	47.88	291.4									18	47	
COPENHAGEN	48.06	311.3	8	46K	3								
VIENNA-H.	49.34	301.1	8	51	-2								
PRUHONICE	49.54	303.8	8	56	1						10	29	
COLLMBERG	49.77	306.0	8	56K	-1						10	53	PP
ALERT	49.80	355.9	8	57	0								
ATHENS	50.16	285.9	10	1	61								
HALLE	50.25	306.6	8	58	-2						10	55	PP
KASPERSKE H.	50.51	303.3	9	4K	2						10	2	
JENA	50.73	306.1	9	4	0						11	45	
BENSBERG	53.11	308.0	9	23A	1								
SCORESBY SD.	53.52	337.7	9	26	1								
UCCLE	54.70	309.0	9	48	14								
DOURBES	54.96	308.2	9	38	2								
MOULD BAY	54.97	9.0	9	17	-19								
PARIS	56.82	307.8	10	49K	60								
ISOLA	56.98	301.1	9	51	1								

RESOLUTE	58.15	2.4	9	57	-1						
CLERMONT-FD.	58.28	304.6	10	2	3						
FOLINIERE	58.43	309.2	9	57	-3						
ADDIS ABABA	59.45	248.3	10	7	0						
TOLEDO	66.09	303.3	10	53A	2						
GRANADA	67.66	300.9	11	23K	22					13	16
PORT MORESBY	74.18	123.6	11	44	3						
BROKEN HILL	84.09	241.4	12	37	3						
BULAWAYO	88.47	237.8	13	2	6						
ADELAIDE	91.68	143.9	13	6	-5						
BOULDER CITY	93.42	22.2	13	23	4						
PASADENA	94.22	25.4	13	28	5						
TONTO FOREST	95.89	19.9	13	29	-1					18	36
RIVERVIEW	96.24	134.6								10	17
BYRD STATION	145.30	170.6	19	36	-4						

OCTOBER 30 1.H 17.M 34.5 EPICENTRE -4.92 -78.07 DEPTH= 40.KM
A= 0.20603 B=-0.97482 C=-0.08526 D=-0.9784 E=-0.2068
G=-0.0176 H= 0.0834 K=-0.9964 HT= 7.0

DEPTH OF FOCUS= 0.001R

SE= 2.03

	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	
NANA	7.12	170.3	1	44	0	3	0	-5					
HUANCAYO	7.58	159.3	1	50	0	3	14	-2					
CHINCHINA	10.13	14.0	2	29	3						2	40	PP
BOGOTA	10.29	22.9	2	28	0	4	23	0			3	11	PP
FUQUENE	11.20	22.8	2	41	1	4	53	8			2	52	PP
AREQUIPA	13.15	151.1	3	6	0								
LA PAZ	15.08	140.5	3	31	-1	6	34	16					
GALERAZAMBA	15.85	10.1				6	57	21					
CARACAS	18.91	35.9	4	18	-2	7	39	-7					
ANTOFAGASTA	20.07	159.2	4	32	0						8	14	
TRINIDAD	22.69	47.0	4	57	-2								
FORT FRANCE	25.74	40.4	4	27	-61						4	47	
SAN JUAN	25.98	26.7	5	30	-1								
ST. CLAUDE	26.38	37.6	5	34	0								
CUMBERLAND	40.91	350.6	7	39A	-1						9	39	PCP
TULSA	43.89	339.1	8	5A	1								
WICHITA MTS.	43.92	335.4	8	4A	0	14	34	1			9	50	PCP
LAWRENCE	46.48	341.5	8	22	-3								
ALBUQUERQUE	47.83	328.2	8	37	2								
TUCSON	48.34	322.1	8	41	2								
TONTO FOREST	50.03	323.7	8	54A	2				9	8	10	12	PCP
OTTAWA	50.14	2.2	8	51	-2								
BREBEUF	50.35	4.1	8	55A	0								
GOLDEN	51.04	332.9	9	1	1								
GLEN CANYON	52.11	325.9	9	9	1								
LARAMIE	52.44	334.0	8	41	-30								
BOULDER CITY	53.31	322.7	9	17	0						10	31	PCP
UINTA BASIN	53.52	330.2	9	19A	0						10	25	PCP
FLAMING GRGE	53.90	330.8	9	22	1								
PASADENA	54.24	318.8	9	25	1				9	40	9	57	*SP
DUGWAY	55.09	327.8	9	31A	1								
EUREKA	56.33	325.2	9	40	1								
PRIEST	57.07	319.3	9	54A	10								
PARAISO	58.30	318.5	9	49	-4								
BOZEMAN	58.31	333.3	9	54	1								
LICK	58.41	319.8	9	55A	1								
BERKELEY	59.12	320.0	9	59A	0								
CALISTOGA	59.78	320.5	10	3A	0								
MINERAL	60.19	322.7	10	6A	0								
SCHEFFERVLLE	60.27	7.5	10	5	-2								
BLUE MTS.	60.73	328.9	10	9	-1						12	20	PP
SHASTA	60.89	322.6	10	9A	-2								
HUNGRY HORSE	61.68	333.6	10	16	0								
BANFF	64.43	334.9	10	34	0								
SEATTLE	65.17	328.7	10	33	-6								
VICTORIA	66.31	328.9	10	46A	0								
YELLOWKNIFE	72.77	343.2	11	23	-3								
BYRD STATION	77.63	186.8	11	54	0								
RESOLUTE	80.13	355.5	12	5	-2								
VALENTIA	80.44	35.6	11	48	-21								

TOLEDO	80.99	48.5	12	12A	0		
MOULD BAY	84.45	350.9	12	30	0		
BAGNERES	84.77	46.1	12	31	0		
SOUTH POLE	85.11	180.0	12	35	2		
FOLINIERE	85.54	40.4	12	36	1		
COLLEGE	85.98	336.3	12	36	-1		
KEW	86.23	37.8	12	38	0		
DURHAM	86.25	34.4	13	35	57	22 45 -24	
GARCHY	87.59	42.3	12	44A	-1		
ALERT	87.60	2.0	12	45A	0		
UCCLE	88.99	39.0	12	54	2		
DOURBES	89.04	39.7	12	52	0		
ISOLA	89.90	45.8	12	56	0		
WELSCHBRUCH	89.94	41.5	13	2	6		
SCOTT BASE	90.37	191.1	12	59	1		
WITTEVEEN	90.70	37.2	13	1	1		
STUTTGART	91.91	41.4	13	5	0		
JENA	93.56	39.3	13	13	0		
COLLMBERG	94.47	39.0	13	16	-1		
KASPERSKE H.	94.77	41.2	13	19	1		
PRUHONICE	95.42	40.4	13	22	1		
SHIRAZ	127.32	56.2	19	1A	1		23 16 SS
QUETTA	138.55	48.6	19	24	3		
DEHRA DUN	146.16	39.0	19	38	3		
NEW DELHI	146.77	42.2	19	38K	2		

OCTOBER 31 3.H 17.M 41.S EPICENTRE -21.78-174.78 DEPTH= 24.KM

A=-0.92558 B=-0.08463 C=-0.36897 D=-0.0911 E= 0.9958
G= 0.3674 H= 0.0336 K=-0.9294 HT= 4.2

SE= 2.28

	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
AFIAMALU	8.33	20.5	1	57	-6	3	23	-14				
PORT VILA	16.41	281.3	3	56A	5							
NOUMEA	17.41	264.8	4	5K	2	7	42	27				
GISBORNE	17.91	198.6	4	9	-1	7	13	-13				
KARAPIRO	18.13	205.3	4	13	1	7	37	6				
LUGANVILLE	18.23	286.9	4	15	1							
KOUMAC	19.57	269.7	4	32K	3							
WELLINGTON	21.35	202.1	4	45	-3	8	22	-17				
ROXBURGH	26.99	205.1	5	45	3	10	19	2				
HONIARA	27.21	292.9	5	41A	-3	10	22	2				
MONOWAI	27.93	206.9	5	48	-3							
BRISBANE	29.97	252.7	6	7	-2	11	9	5				
RIVERVIEW	32.29	240.8	6	29A	-1	11	40	-1	6	39	7	38 PP
CANBERRA	34.36	238.9	6	45A	-3	12	8	-5	6	55	6	59 *SP
CHARTERS TS.	36.37	265.4	7	2	-3	12	40	-4				
RABAUL	36.51	293.9	7	4A	-2	13	5	19				
TOOLANGI	37.63	236.3	7	13	-2						8	2 PP
MOORLANDS	37.82	228.1	7	22	5							
MACQUARIE I.	38.20	204.7	7	17	-3							
TARRALEAH	38.27	228.6	7	23	2							
PORT MORESBY	38.57	282.6	7	21	-2						13	27
ADELAIDE	42.62	241.6	7	55K	-1						17	39
HONOLULU	45.81	21.9	8	22	0	15	11	7				
KIPAPA	45.95	21.9	8	23	0							
DARWIN	52.61	270.9	9	12	-3							
GUAM	52.96	307.7	9	18	1							
SCOTT BASE	56.82	184.6	9	45	0							
MUNDARING	61.49	244.6	10	15	-3				10	26		
BYRD STATION	62.89	170.7	10	23	-4							
SOUTH POLE	68.35	180.0	11	0	-2							
MIRNY	71.11	205.0	11	17	-2	20	34	1			13	59 PP
TUKUBASAN	71.75	322.9	11	18K	-5	20	45	5			25	29 SS
MANILA	72.58	294.1	11	28	1	20	59	9				
MATUSIRO	73.04	322.0	11	31A	1	21	5	10				
ABUYAMA	73.45	319.2	11	33A	0							
BAGUIO CITY	73.84	295.5	11	30	-5	21	7	3				
PARAISO	76.10	41.2	11	52	4							
PRIEST	77.04	42.3	11	54A	1							
BERKELEY	77.17	40.1	11	53A	-1	21	47	6			14	59 PP
LICK	77.20	40.8	11	53A	-1							
PASADENA	77.40	45.2	11	56	1	21	47	4				
UKIAH	77.43	38.6	11	56	1							

CALISTOGA	77.48	39.3	11	55A	-1					
PETROPAVLOVK	77.99	344.0	11	59A	1	21	55	6		
Y.-SAKHLINSK	78.48	331.8	11	59	-2	22	4	9	12	33
MINERAL	79.18	38.5	12	5A	0					
BOULDER CITY	80.69	45.4	12	14	1					
MAWSON	81.36	199.1	12	15	-2	22	25	0		
TUCSON	81.37	50.3	12	17	0	22	31	6	39	4 PKPPKP
HONG KONG	81.94	297.8	12	21	1	22	42	11		
EUREKA	82.01	42.0	12	20	0	22	22	-9	15	23 PP
TONTO FOREST	82.16	48.4	12	21	0	22	39	6	12 29	15 33 PP
GLEN CANYON	83.40	46.0	12	28	1					
SEATTLE	83.63	32.7	12	26	-2				34	48
VICTORIA	83.67	31.5	12	28	0					
DUGWAY	84.41	42.8	12	31	-1	23	2	6		
BLUE MTS.	84.48	37.0	12	31	-2	22	58	2	23	59 SP
SALT LAKE C.	85.34	42.7	12	36	-1					
ALBUQUERQUE	85.89	49.9	12	40	0				13	7
UINTA BASIN	86.55	44.1	12	42	-1	23	18	2	16	5 PP
FLAMING GRGE	86.99	43.6	12	44	-1					
N-LAZARVSKYA	87.58	182.2	12	46	-2				12	49 PCP
PHU-LIEN	87.61	293.4	12	52	4	23	18	-8		
BUTTE	87.86	38.1	12	50	1					
BOZEMAN	88.54	39.0	12	49	-3	23	31	-4		
COLLEGE	88.85	11.2	12	53	-1					
SANTA LUCIA	89.28	125.8	12	59	3	23	27	-15	24	28 SKS
WICHITA MTS.	91.51	53.1	13	5	-1	24	11	9	30	19 PKKP
ANTOFAGASTA	93.66	117.1	13	19	3	24	27	6	16	55 PP
TULSA	94.09	53.0	13	20	2	23	51	-33		
HUANCAYO	94.17	104.6	13	21	3					
YAKUTSK	94.42	337.1	13	18K	-2	23	52	-35		
AREQUIPA	95.80	110.2	13	28	2					
YELLOWKNIFE	96.43	23.9	13	29	0					
PORT BLAIR	96.54	279.9	13	29	0	24	7	4		
ULAN-BATOR	98.42	318.2	13	40	2					
LA PAZ	98.70	111.6	13	39	0					
CHINCHINA	100.32	88.7	13	53	7	24	28	6		
IRKUTSK	101.58	321.7	13	53	1	24	33	4		
BOGOTA	101.63	89.6	14	1	9	24	31	2	32	48 SS
CUMBERLAND	101.73	56.3	13	56	3	24	31	2	18	16 PP
SHILLONG	101.98	292.8	13	55	1					
FUQUENE	102.25	89.0	14	10	15					
GALERAZAMBA	102.67	83.4				24	46	12	32	52 SS
ESEN BULAK	104.76	314.3	14	8	2					
CARACAS	110.30	86.5	19	2K	32	25	9	2		
PALISADES	111.95	53.3				25	17	3		
BREBEUF	112.88	48.5							35	27 SS
KHEYS	117.14	351.6							19	55 PP
FRUNSE	119.38	307.8	18	49	1				20	12 PP
GODHAVN	121.10	20.8				28	19	152	20	19
HERMANUS	122.54	193.7							37	19 SS
TASHKENT	123.30	305.9	18	55	-1				20	39 PP
QUETTA	124.46	292.4	19	0	2					
KIMBERLEY	126.34	201.4	19	7	6					
SVERDLOVSK	126.75	325.6	19	2	0					
APATITY	130.94	346.1							21	23 PP
ASHKABAD	131.83	301.9	19	15	3				22	42 SKP
KIRUNA	132.98	352.2							21	39 PP
UMEA	136.79	350.3	19	29	8				22	4 PP
SHIRAZ	136.91	290.5	19	20	-1				22	8 PP
BROKEN HILL	137.38	214.4	19	14A	-8					
TEHERAN	137.58	299.5	19	27	4				23	3 PP
SKALSTUGAN	137.96	355.3	19	37	14					
PULKOVO	138.09	341.3	19	26	2				25	12 PPP
MOSCOW	138.43	332.8	19	26	2				22	15 PP
GORIS	140.86	306.3	19	24	-5				23	4 PKS
UPPSALA	140.96	350.1	19	20	-9				23	5 PKS
TIFLIS	141.35	310.2	19	28	-1				29	22 SKKS
BANDEIRA	142.69	193.0	19	30K	-2				22	40 PP
GOTEBORG	143.79	353.9	19	31	-3					
ABERDEEN	144.25	6.8							41	43 SS
KARLSKRONA	144.82	349.9	19	34A	-1					
COPENHAGEN	145.72	352.7	19	39	2					
DURHAM	146.67	7.2	19	48	9				23	2 PP
LWIRO	146.81	226.9	19	42A	3					
SIMFEROPOL	146.89	321.1	19	45	6				26	23 PPP
WARSAW	147.25	342.0	19	42	2				21	2
VALENTIA	147.60	18.0	19	46	6					
LWOW	148.32	336.6	19	45	4					

LUANDA	148.56	195.3	19 38K	-4			19 50			
IASI	148.88	329.9	19 51	9				23 23	PKS	
WITTEVEEN	149.00	358.3	19 49	7						
KRAKOW	149.50	341.2	19 49	6						
CHORZOW	149.56	342.5	19 49	6				20 38		
DE BILT	149.74	0.1	19 50	7				42 43	SS	
HALLE	149.88	351.6	19 50	6				20 12	PKP2	
COLLMBERG	149.92	350.2	19 44	0				23 42	PKS	
RACIBORZ	149.96	343.2	19 51	7				21 26		
KEW	150.06	7.0	19 50	6				42 30	SS	
KSARA	150.46	300.6	19 47K	2				23 30	PP	
JENA	150.49	351.8	19 45	0				23 34	PP	
BENSBERG	150.84	357.5	19 53	8				20 18		
PRUHONICE	150.91	347.6	19 46	1				23 28	PP	
UCCLE	151.03	1.1	19 50	5				23 33	PP	
JERUSALEM	151.51	296.8	19 55	9						
DOURBES	151.74	0.8	19 46	0				23 18	PKS	
KASPERSKE H.	151.91	348.3	19 48	1						
VIENNA-H.	152.12	344.0	19 49	2				20 21	PKP2	
ISTANBUL UN.	152.22	319.1	19 50A	3				23 36	PP	
FOLINIERE	152.69	8.2	19 55	7						
KARLSRUHE	152.71	355.4	20 11	23						
STUTTGART	152.88	354.1	19 49	1				23 47	PP	
PARIS	152.95	4.0	19 49	1						
STRASBOURG	153.19	356.3	19 53K	4				23 49	PP	
WELSCHBRUCH	153.42	358.3	19 57	8				20 24		
BELGRADE	153.83	334.9	19 52	3				24 26	PKS	
SOFIA	154.23	328.2	19 54	4				20 17		
ZAGREB	154.46	342.4						20 27		
GARCHY	154.50	3.4	20 14	24						
LJUBLJANA	154.63	344.8	19 52A	1				23 52	PP	
TRIESTE	155.19	345.6	19 53	2				23 53	PP	
PADOVA	155.81	348.5						20 39		
CLERMONT-FD.	156.01	3.6	19 59	7						
PAVIA	156.44	353.0	19 56	3				23 46	PKS	
ATHENS	157.32	319.4	19 55A	1						
ISOLA	157.61	356.5	20 36	42						
M.BOUR	157.67	105.5	20 26	31				24 5	PP	
BANGUI	158.36	218.8	19 54	-1				24 1	PP	
AQUILA	158.38	343.4	19 57	2	26 19	-38		24 19	PP	
ROME	159.04	344.7	20 0	4	27 15	18		24 15	PP	
TOLEDO	160.31	21.6	19 58A	0				24 22	PP	
MESSINA	161.38	333.8	20 1	2	26 58	-2		24 32	PP	
MALAGA	162.93	27.2	20 3	3				24 37	PP	

NOVEMBER 1 20.H 59.M 46.S EPICENTRE -22.79-177.03 DEPTH= 231.KM

A=-0.92160 B=-0.04787 C=-0.38517 D=-0.0519 E= 0.9987
G= 0.3846 H= 0.0200 K=-0.9228 HT= 4.0

DEPTH OF FOCUS= 0.031R

SE= 1.38

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
AFIAMALU	10.14	30.3	2	2	-19	3	38	-34				
NOUMEA	15.28	268.7	3	27	2	6	28	20				
GISBORNE	16.37	193.9				6	25	-7				
KARAPIRO	16.38	201.3	3	35	-3							
LUGANVILLE	16.62	293.0	3	40A	-1							
KOUMAC	17.52	273.8	3	53	2							
WELLINGTON	19.68	198.6				7	35	-2				
HONIARA	25.75	297.3	5	10	-1							
MONOWAI	26.11	204.9	5	13	-1							
BRISBANE	27.69	254.2	5	29	1							
RIVERVIEW	29.98	241.4									6	31.
CANBERRA	32.06	239.4	6	7A	0				6	18	8	53 PCP
CHARTERS TS.	34.22	267.5	6	26	1	11	41	7				
RABAUL	35.06	297.2	5	55	-37							
TOOLANGI	35.34	236.7	6	35	0						9	2 PCP
MELBOURNE	35.80	236.5	6	35	-4							
PORT MORESBY	36.79	285.3	6	48K	1	12	21	8	7	31	12	42 SCP
KIPAPA	47.69	24.2	8	12	-3							
GUAM	51.96	310.1	8	46	-1							
SCOTT BASE	55.66	184.1	9	16	2							
MUNDARING	59.18	245.4	9	38	0							

BYRD STATION	62.24	170.4	9	59	0						
SOUTH POLE	67.35	180.0	10	33	1						
MIRNY	69.32	205.3	10	45	1						
BAGUIO CITY	72.41	296.9	11	2	0						
MATUSIRO	72.58	323.5	11	2	-1						
PARAISO	78.23	42.3	11	38	3						
PRIEST	79.19	43.3	11	40K	0						
BERKELEY	79.29	41.1	11	40K	-1						
LICK	79.33	41.9	11	41K	0						
UKIAH	79.53	39.7	11	44	2						
CALISTOGA	79.59	40.4	11	42K	0						
MAWSON	79.72	199.7	11	43	0						
BOULDER CITY	82.89	46.3	12	0	0					12 0	*SP
TUCSON	83.62	51.3	12	4	1					12 40	*SP
EUREKA	84.16	42.9	12	6K	0					12 43	*SP
TONTO FOREST	84.39	49.3	12	7	0			12 29		30 17	PKKP
GLEN CANYON	85.61	46.9	12	13	0						
BLUE MTS.	86.54	38.0	12	17	-1					15 36	PP
ALBUQUERQUE	88.13	50.8	12	25	0					13 2	*SP
UINTA BASIN	88.72	44.9	12	28	0	23	9	16			
FLAMING GRGE	89.16	44.5	12	30	0						
BUTTE	89.94	39.0	12	32	-2						
COLLEGE	90.25	12.0	12	34	-1					16 12	
HUNGRY HORSE	90.43	36.5	12	35	-1						
BOZEMAN	90.64	39.8	12	35	-2						
GOLDEN	91.20	47.1	12	40	0						
WICHITA MTS.	93.78	54.0	12	50	-1	23	53	16		24 56	PS
YAKUTSK	94.54	337.7	12	53	-2						
TIKSI	101.17	344.8	13	24	-1						
CARACAS	112.43	87.7								29 52	
NEW DELHI	113.82	292.3	18	13K	2						
FRUNSE	118.34	307.5	18	22	3						
WARSAK DAM	119.63	297.2	18	24	2						
TASHKENT	122.19	305.4	18	30	3						
QUETTA	122.91	292.1	18	32	4						
SVERDLOVSK	126.38	324.8	18	36	1						
ASHKABAD	130.57	301.1	18	45	2						
VANNOVSKAYA	130.77	301.1	18	48	5						
APATITY	131.39	345.0	18	46K	1						
SODANKYLA	133.02	347.7	18	47	-1					22 8	SKP
KIRUNA	133.67	350.9	18	50	1						
SHIRAZ	135.30	289.7	18	40	-12					22 14	SKP
BROKEN HILL	135.35	216.4	18	56	4						
KAJAANI	135.59	344.8	18	52	0					22 13	SKP
UMEA	137.40	348.8	18	45	-11					22 18	SKP
MOSCOW	138.33	331.1	18	59	2						
SKALSTUGAN	138.75	353.7	18	49	-9						
NURMIJARVI	139.38	343.7	18	54	-5					22 24	SKP
HELSINKI	139.59	343.2	18	52	-8						
BAKURIANI	141.29	308.9	19	1	-2						
UPPSALA	141.55	348.1	18	56	-8						
KONGSBERG	142.87	354.4	19	3	-3						
GOTEBORG	144.52	351.7	19	7K	-2						
LWIRO	144.59	228.7	19	13	4						
KARLSKRONA	145.39	347.6	19	10K	0						
WARSAW	147.50	339.2	19	18	5						
KISHINEV	148.11	325.6	19	20	6						
LWOW	148.35	333.7	19	20	5						
KSARA	149.14	298.2	19	23	7						
KRAKOW	149.71	338.1	19	19A	2					20 4	
CHORZOW	149.82	339.4	19	24	7					19 31	PKP2
WITTEVEEN	149.89	355.5	19	24	7						
UZHGOROD	149.99	334.0	19	25	8						
JERUSALEM	150.06	294.4	19	26	9						
RACIBORZ	150.26	340.1	19	25	7					19 30	PKP2
HALLE	150.51	348.6	19	21	3						
MUNSTER	150.65	354.1	19	28	10						
JENA	151.12	348.7	19	20	1					22 49	PP
KEW	151.26	4.3	19	27	8						
PRUHONICE	151.38	344.3	19	21	2						
BENSBERG	151.69	354.4	19	28K	8						
BRATISLAVA	152.28	339.4	19	22	1						
KASPERSKE H.	152.41	344.9	19	23	2						
VIENNA-H.	152.44	340.4	19	24	3						
DOURBES	152.71	357.7	19	28	7						
KARLSRUHE	153.48	352.0	19	33	11						
STUTTGART	153.60	350.6	19	25	3					19 45	
FOLINIERE	153.93	5.2	19	33	10						
STRASBOURG	153.98	352.7	19	35A	12					20 10	

LJUBLJANA	154.97	340.8	19	27	3							
GARCHY	155.57	359.8	19	28	3					19	54	PKP2
ROSELEND	156.96	353.4	19	33	6					20	4	
CLERMONT-FD.	157.08	359.7	20	1	34							
ISOLA	158.40	352.0	20	6	37							
S.PAUL-FORET	159.06	352.4	20	9	39							
TOLEDO	161.95	17.7	19	36A	4					20	22	

NOVEMBER 1 22.H 41.M 28.S EPICENTRE 45.52 149.06 DEPTH= 73.KM

A=-0.60295 B= 0.36149 C= 0.71118 D= 0.5142 E= 0.8577
G=-0.6100 H= 0.3657 K=-0.7030 HT= -3.7

DEPTH OF FOCUS= 0.006R

SE= 4.36

	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
KURILSK	0.89	251.0	0	13	-5							
NEMURO	3.32	229.8	0	39	-12				1	12	-18	
ABASHIRI	3.72	247.8	0	50A	-6				1	37	-2	
KUSIRO	4.20	234.4	0	53K	-10				1	36	-16	
Y.-SAKHLINSK	4.64	291.1	1	9	0							
OBIHIRO	4.95	240.3	1	6	-8				2	7	-3	
WAKKANAI	5.19	271.5	1	18A	1							
HIROO	5.26	234.0	1	9	-9				2	4	-14	
RUMOE	5.53	256.1	1	18A	-3							
URAKAWA	5.65	235.6	1	16K	-7				2	16	-12	
SAPPORO	6.05	248.8	1	23A	-6				2	35	-2	
TOMAKOMAI	6.11	244.4	1	24	-6							
SUTTSU	6.91	249.9	1	36	-5							
MORI	7.03	243.8	1	37	-5				2	58	-3	
HAKODATE	7.07	241.2	1	34A	-9				2	46	-16	
HATINOHE	7.44	230.5	1	36	-12				2	50	-22	
AOMORI	7.66	235.0	1	45	-6				2	58	-19	
MIYAKO	7.86	224.2	1	35	-19				2	54	-28	
MORIOKA	8.22	227.7	1	46	-13				3	5	-26	
MIZUSAWA	8.67	225.3	1	56	-9				3	18	-24	
AKITA	8.79	231.8	1	56	-10							
ISINOMAKI	9.13	221.8	1	56	-15				3	27	-26	
SAKATA	9.52	229.2	2	6	-10							
YAMAGATA	9.74	224.8	2	6	-13				3	41	-27	
ONAHAMA	10.53	218.4							3	57	-30	
NIIGATA	10.65	228.0							4	10	-20	
AIKAWA	11.01	230.9	2	24	-13							
MITO	11.20	218.3	2	27	-12				4	17	-26	
UTUNOMIYA	11.33	220.9										3 5
KAKIOKA	11.45	218.9	2	28	-14				4	22	-27	
TYOSI	11.60	215.3							4	25	-28	
TAKADA	11.69	227.7	3	5	19				5	15	20	
MAEBASI	11.83	223.1	2	44	-3							
KUMAGAYA	11.88	221.4	2	40	-8				4	36	-24	
NAGANO	12.04	226.5	2	45	-5							
TOKYO C.M.O.	12.10	218.9							4	37	-28	
MATUSIRO	12.14	226.1	2	37	-15				5	1	-5	
TITIBU	12.16	221.8	2	27	-25							
YOKOHAMA	12.36	218.6							4	45	-26	6 25
MATUMOTO	12.49	226.0	3	8	12							
TOYAMA	12.54	229.5	3	1	4							
KOHU	12.66	222.6	2	49	-10							
HUNATU	12.70	221.5							4	57	-22	4 29
AJIRO	12.92	219.4	2	54	-8				4	58	-26	
MISIMA	12.93	220.0										4 11
IIDA	13.13	224.4	2	59	-6				5	11	-18	
GIHU	13.76	227.0	3	10	-3							
NAGOYA	13.84	225.8	3	48	34				6	11	25	
HIKONE	14.13	228.0	3	6	-12							
ABUYAMA	14.79	228.7	3	15A	-11							
OSAKA	14.98	228.2										7 11
OOITA	18.19	233.6	4	6	-3							
HUKUOKA	18.65	236.7	4	5	-9							
KUMAMOTO	19.01	234.5										5 14
YAKUTSK	19.95	332.8	4	27	-1							
KAGOSIMA	20.02	232.3	4	24	-5							
TIKSI	27.91	346.5	5	44	-1							
ULAN-BATOR	28.74	290.1	5	51	-2							

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.

HONG KONG	36.64	242.6								16	48
BAGUIO CITY	37.55	228.7	7	1	-8						
COLLEGE	38.85	37.4	7	21	2						
MOULD BAY	46.71	19.2	8	24	1						
SHILLONG	49.51	266.5	8	42A	-3						
ALERT	51.25	5.1	8	58	0						
FRUNSE	51.65	295.4	9	1	0						
CHATRA	52.03	271.2	9	0A	-4						
SVERDLOVSK	52.79	316.4	9	9	-1						
RESOLUTE	52.88	17.4	9	10A	0						
NORD	52.90	357.4	9	9K	-2						
YELLOWKNIFE	53.57	35.0	9	15	-1						
PORT MORESBY	54.70	182.3	9	16	-8						
TASHKENT	55.82	296.4	9	30	-2						
DEHRA DUN	56.28	280.6	9	34	-1						
APATITY	57.33	335.7	9	43	0						
KEVO	57.53	339.5	9	45	1						
DUZHANBE	57.69	293.9	9	43	-2						
NEW DELHI	57.93	279.5	9	44A	-3						
BANFF	59.28	46.8	9	54	-2						
SODANKYLA	59.34	337.7	9	57	0						
DARWIN	59.94	200.7	9	54	-7						
KIRUNA	60.57	340.1	10	6	1						
KAJAANI	61.44	334.7	10	11	0					10	51 PCP
HUNGRY HORSE	61.75	48.7	10	13	0					10	53
UKIAH	62.05	61.6	10	17	2						
BLUE MTS.	62.08	53.5	10	15A	0			10	32	11	29 PP
MINERAL	62.30	59.7	10	16K	-1						
CALISTOGA	62.74	61.7	10	18A	-2						
BERKELEY	63.42	62.2	10	23A	-1						
PULKOVO	63.74	330.3	10	27	1						
UMEA	63.77	337.3	10	26K	0						
MOSCOW	63.82	324.1	10	27	0						
QUETTA	63.94	287.3	10	26	-1	18	58 2				
BUTTE	63.98	50.1	10	28	0						
LICK	64.13	62.3	10	28A	-1						
PARAISO	64.30	63.6	10	32	2						
ASHKABAD	64.62	299.0	10	31	-1						
VANNOVSKAYA	64.77	299.1	9	33	-60						
BOZEMAN	65.02	49.6	10	32	-2						
NURMIJARVI	65.07	333.2	10	35A	0	19	34 24			11	5 PCP
KIZYL-ARVAT	65.09	301.2	10	35	0						
HELSINKI	65.23	332.9	10	36	0					11	5 PCP
CHARTERS TS.	65.35	182.9	10	29	-8						
PRIEST	65.50	62.8	10	37A	-1						
SKALSTUGAN	65.99	340.4	10	41	0					11	10 PCP
EUREKA	66.22	57.4	10	42A	0						
POONA	66.74	273.1	10	42A	-3						
FROBISHER	67.12	17.1	10	48A	0						
UPPSALA	67.72	335.9	10	50	-2					11	16 PCP
PASADENA	68.34	63.0	10	54	-1						
FLAMING GRGE	69.06	52.6	11	0	0						
BOULDER CITY	69.19	59.6	11	1A	0						
UINTA BASIN	69.37	53.2	11	2A	0						
KONGSBERG	70.03	339.4	11	6K	0						
TEHERAN	70.29	301.1	11	8	1						
BERGEN	70.37	341.8	11	9	1						
GLEN CANYON	70.47	57.0	11	8	0						
GORIS	70.69	306.9	11	10	0						
BAKURIANI	70.69	310.2	11	11	1						
GOTEBORG	71.12	337.3	11	12K	0						
KARLSKRONA	71.40	334.6	11	13	-1						
GOLDEN	72.13	51.3	11	19	1						
TONTO FOREST	72.48	58.9	11	21	1			11	33	12	8
BRISBANE	72.64	176.5	11	16	-5						
LWOW	73.71	326.5	11	28	0						
SHIRAZ	73.72	295.7	11	27A	-1	20	50 -1				
KISHINEV	73.95	322.0	11	29	0						
TUCSON	74.15	60.1	11	29	-1						
KRAKOW	75.07	328.8	11	36	1					12	4 PCP
UZHGOROD	75.34	326.7	11	37	0						
SCHEFFERVLLE	75.51	20.5	11	39	1						
RACIBORZ	75.66	329.8	11	40	1						
HALLE	76.52	334.1	11	45	1						
WITTEVEEN	76.86	337.6	11	48K	2						
JENA	77.13	334.0	11	47	0					12	25
MUNSTER	77.37	336.7	11	51	3						
BRATISLAVA	77.66	329.4	11	50	0						

VIENNA-H.	77.85	329.8	11	53	2					
KASPERSKE H.	78.05	331.9	11	53A	1					
BENSBERG	78.40	336.5	11	55	1					
WICHITA MTS.	79.46	50.8	12	0	0					
STUTTGART	79.74	334.3	12	2	1					
DOURBES	79.88	337.6	12	2	0					
TULSA	80.06	48.2	12	3A	0					
STRASBOURG	80.36	335.1	12	6	1				12	34
LJUBLJANA	80.39	329.8	12	3A	-2					
CANBERRA	80.47	180.0	12	1K	-4					
TRIESTE	81.01	330.0							28	20 SS
OTTAWA	81.19	30.1	12	8	-1					
PARIS	81.62	338.4	12	18	7					
BREBEUF	81.83	28.8	12	13K	1					
JERSEY	82.38	341.4	12	17	2					
FOLINIERE	82.39	340.2	12	17	2					
JERUSALEM	82.49	308.2	12	17A	1					
MUNDARING	82.69	207.7	12	11	-6					
TOOLANGI	82.78	182.9	12	13	-4					
GARCHY	82.87	337.4	12	18A	0					
MELBOURNE	83.06	183.3	12	13	-6					
ROSELEND	83.30	334.5	12	25	5					
ATHENS	83.43	319.5	12	20K	-1					
AQUILA	83.99	328.6	12	24	1				42	22
MORGANTOWN	84.51	35.8	12	27	1					
ISOLA	84.53	333.6	12	27	1					
ROME	84.72	329.0							28	52
S.PAUL-FORET	85.20	333.5	12	30	1					
CUMBERLAND	85.39	41.8	12	30A	0	22	58	4	15	47 PP
PALISADES	85.67	31.1				22	55	-1		
BLACKSBURG	86.36	37.5	12	46	11					
BAGNERES	87.55	337.7	12	41	0					
NANA	128.72	64.2	18	59	0					
HUANCAYO	129.72	62.8	19	2	1					
BYRD STATION	134.69	165.8	19	6	-4					
SOUTH POLE	135.33	180.0	19	8	-3					
AREQUIPA	135.47	62.8	19	13	1					
LA PAZ	137.56	59.2	19	7	-9					

NOVEMBER 3 3.H 10.M 8.S EPICENTRE -3.49 -77.91 DEPTH= 0.KM

A= 0.20910 B=-0.97602 C=-0.06055 D=-0.9778 E=-0.2095
G=-0.0127 H= 0.0592 K=-0.9982 HT= 7.1

SE= 2.46

	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
NANA	8.51	172.9	2	5	-3	3	37	-8				
CHINCHINA	8.71	15.2	2	12A	2	4	10	19	2	18		
HUANCAYO	8.88	163.4	2	11	-2	3	50	-5				
BOGOTA	8.93	25.5	2	16K	3				2	21		
FUQUENE	9.83	25.1	2	28A	2							
BALBOA HTS.	12.48	352.4	3	4	2	5	28	5				
AREQUIPA	14.35	154.3									4	42
GALERAZAMBA	14.42	10.5	3	18	-10	6	20	11				
LA PAZ	16.10	144.0	3	45	-5	6	57	8				
CARACAS	17.68	38.1	4	8	-2	7	26	1				
ANTOFAGASTA	21.35	160.8	4	51	0	8	47	3				
HOPE	21.39	3.0	4	57	5							
TRINIDAD	21.62	49.3	4	53	-1							
FORT FRANCE	24.57	42.1	5	20	-3	9	35	-7				
SAN JUAN	24.64	27.7	5	22	-2	9	40	-3				
COPIAPO	24.80	163.8	5	26	1	9	52	6				
ST. CLAUDE	25.17	39.1	5	26	-3	9	52	0				
SANTA LUCIA	30.56	168.0	6	18A	0	11	18	-1			10	22
COLUMBIA	37.41	355.7	7	17	0	13	5	-1				
CUMBERLAND	39.54	350.2	7	33	-2	13	31	-7			9	8 PP
DALLAS	40.33	335.1	7	42	1							
BLACKSBURG	40.56	356.9	7	43	0							
WASHINGTON	42.19	1.0	7	56	0							
FAYETTEVILLE	42.22	340.2	7	54	-3						10	29
TULSA	42.62	338.4	7	59K	-1	14	24	0			17	59 SCS
WICHITA MTS.	42.70	334.6	8	0A	-1	14	25	0			10	2 PP
MORGANTOWN	42.95	357.7	8	3	0	14	29	1				
FLORISSANT	43.63	345.9	8	6	-2							
PENNSYLVANIA	44.08	0.0	8	11	-1							

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.

FORDHAM	44.28	4.4	8	14	1					
PALISADES	44.44	4.3	8	14	-1	14	51	1	8 24	9 51 PCP
CLEVELAND	44.88	356.1	8	19K	1	14	54	-2		
LAWRENCE	45.18	340.9	8	19	-2					
SCARBOROUGH	47.01	358.7	8	33A	-2					
TUCSON	47.33	321.2	8	38	0	15	35	4		
OTTAWA	48.72	2.1	8	46	-2					
BREBEUF	48.93	4.0	8	48A	-2	15	54	0		10 45 PP
TONTO FOREST	48.98	322.9	8	51	1	15	59	4	8 59	10 42 PP
HALIFAX	49.58	13.4	8	56A	1					
GOLDEN	49.85	332.3	8	57	0					
GLEN CANYON	51.03	325.2	9	8	2					
LARAMIE	51.23	333.3	9	8	0					
BOULDER CITY	52.28	322.0	9	16K	0					11 10 PP
UINTA BASIN	52.37	329.6	9	16	0	16	43	1		11 20 PP
PRICE	52.49	328.1	9	18A	1					
RAPID CITY	52.52	337.2	9	17	0	16	48	4		
FLAMING GRGE	52.74	330.2	9	19	0					
PASADENA	53.28	318.0	9	25	2	16	59	5		19 14 SCS
SALT LAKE C.	53.87	328.3	9	28	1					
DUGWAY	53.98	327.2	9	28A	0					
EUREKA	55.26	324.5	9	37A	-1	17	18	-3		39 31 PKPPKP
PRIEST	56.10	318.5	9	45A	1					
BOZEMAN	57.12	332.8	9	51	0	17	44	-1		
PARAISO	57.35	317.8	9	47	-6					
LICK	57.43	319.2	9	53K	0					
BERKELEY	58.14	319.4	9	58A	0	18	0	1		12 12 PP
CALISTOGA	58.79	319.9	10	2K	-1					
SCHEFFERVLLE	58.84	7.5	10	0	-3					
MINERAL	59.17	322.1	10	4A	-1					12 24 PP
UKIAH	59.47	320.1	10	10	3					
BLUE MTS.	59.60	328.4	10	6	-2	18	22	4		12 16 PP
HUNGRY HORSE	60.48	333.1	10	13	-1	18	29	0		39 29 PKPPKP
G. G. VIDELA	62.15	172.8	10	25	-1	18	53	3		
PONTA DELGDA	63.39	44.5				19	3	-3		23 17 SS
SEATTLE	64.05	328.3	10	33	-5	19	5	-9		
VICTORIA	65.18	328.5	10	45	0					
FROBISHER	67.42	4.5	10	57K	-3					
PORT HARDY	68.62	328.7	11	6	-1					
GODHAVN	74.49	8.8	11	41A	-1	21	14	-3		
AVERROES	75.75	54.5	11	48	-2	21	28	-3	11 58	
LISBON	75.81	48.8	11	50A	0	21	36	4		
SITKA	75.93	331.7	11	55	4					
RESOLUTE	78.73	355.5	12	5	-1					
BYRD STATION	79.06	186.8	12	7	-1					
HAWAII V.OB.	79.28	290.4	12	12	3					
GRANADA	79.68	51.4	12	17A	6	22	11	-2		15 14 PP
TOLEDO	79.93	48.7	12	12A	-1	22	13	-3		15 6 PP
ALMERIA	80.49	51.9	12	15A	-1	22	21	-1		15 27 PP
KIPAPA	82.08	292.1	12	27	3					22 54
HONOLULU	82.14	291.9	12	27	3					22 54
ALICANTE	82.33	50.7	12	25K	0	22	45	4		
KAP TOBIN	82.44	16.4	12	18	-8	22	26	-16		
SCORESBY SD.	82.48	16.3	12	26A	0	22	43	1		
MOULD BAY	83.08	350.8	12	28A	-1					
JERSEY	83.40	39.8	12	31	0	22	52	0		
BAGNERES	83.68	46.2	12	33	1					13 2
FOLINIERE	84.36	40.5	12	35	-1					
COLLEGE	84.74	336.3	12	36	-1	23	6	1		
BARCELONA	84.84	48.1								23 0
KEW	85.01	37.8	12	39A	0	23	10	2		24 0 PS
ABERDEEN	85.27	32.0	12	40A	0	23	3	-7		15 59 PP
ALERT	86.18	2.0	12	44K	-1					
CLERMONT-FD.	86.23	43.9	12	46	1	23	16	-4		
GARCHY	86.43	42.4	13	46A	60	24	20	59		
SOUTH POLE	86.53	180.0	12	46	0					13 11
N-LAZARVSKYA	86.64	160.6	12	46K	-1	23	25	2		23 10 SKS
MOKA	86.78	86.5	12	36	-12	23	7	-18		
DOURBES	87.85	39.7	12	52	-1	23	34	-1		
S.PAUL-FORET	88.47	46.4	12	56	0					
DE BILT	88.48	37.8	12	57	1	23	42	1		
ROSELEND	88.66	44.3	12	58	1					13 34
WELSCHBRUCH	88.77	41.5	13	0	3					
ISOLA	88.79	45.8	12	57	0	23	29	-15		
MONACO	89.02	46.3	12	59	1					
NORD	89.38	7.4	12	59K	-1	23	28	-21		
WITTEVEEN	89.48	37.2	13	2A	1					
BENSBERG	89.58	39.1	13	1A	0	23	47	-4		16 35 PP

BERGEN	89.65	29.5	13	5	4					
STRASBOURG	89.73	41.5	13	2A	0	23	32	-20	16	20 PP
FELDBERG	89.82	42.2	13	12	10					
MUNSTER	89.97	38.1	13	3	0					
KARLSRUHE	90.19	41.1	13	5	1				23	26 PP
BANDEIRA	90.29	104.9	13	6A	2				16	41 PP
PAVIA	90.39	44.9	13	6A	1	23	37	-21	30	5 SS
HEIDELBERG	90.43	40.7	13	4	-1					
TUBINGEN	90.59	41.6	13	6	0					
LUANDA	90.59	98.8	13	7K	1				16	49 PP
STUTTGART	90.74	41.4	13	5	-1	23	38	-23	16	40 PP
RAVENSBURG	90.90	42.4	13	6	-1					
KONGSBERG	91.74	30.5	13	12	1	22	56	-74	16	47 PP
PADOVA	92.31	44.8	13	15	1	23	49	-26	26	2 PS
JENA	92.36	39.3	13	13	-1	23	49	-27	16	57 PP
ROME	92.60	48.4	13	16A	1	23	50	-28	16	55 PP
HALLE	92.62	38.7	13	15	0	24	16	-2		
CHEB	92.84	40.2	13	11	-5	23	49	-31	16	55 PP
GOTEBORG	92.87	32.5	13	17	1					
AFIAMALU	92.92	256.0	13	19	3	24	40	19		
COPENHAGEN	93.06	34.6	13	19	2					
SKALSTUGAN	93.19	26.6	13	18	0				17	14 PP
AQUILA	93.30	47.9	13	18	0	23	50	-34	17	1 PP
KASPERSKE H.	93.59	41.1	13	20A	0				17	3 PP
TRIESTE	93.64	44.6	13	20A	0	23	56	-31	25	31 SP
HERMANUS	93.93	124.7				23	57	-32	25	40 PP
PRAGUE	94.16	40.2	13	23	1				17	4
LJUBLJANA	94.18	44.2	13	23A	1				16	39 PP
KARLSKRONA	94.83	34.1	13	25	0				17	47
MESSINA	94.86	52.1	13	24	-1	24	34	-3	17	7 PP
ZAGREB	95.20	44.5				24	4	2	14	8
VIENNA-H.	95.44	42.0	13	49A	21					
TROMSOE	95.64	20.4	13	29	0					
UPPSALA	95.79	30.3	13	30	0	24	2	-4	17	26 PP
BRATISLAVA	95.93	42.1	13	29	-1	24	6	0	17	21 PP
KIRUNA	96.37	22.2	13	33	1	24	7	-2	17	27 PP
RACIBORZ	96.59	40.2	13	35	2				13	40 PCP
UMEA	96.72	26.2	13	34	0	24	6	-5	17	26 PP
BANGUI	96.76	86.0	13	28	-6	24	3	-8		
CHORZOW	97.09	39.9	13	37	2				17	31 PP
TITOGRAD	97.64	47.8				24	18	3	25	5 SCS
KRAKOW	97.70	40.1	13	39	1				17	45 PP
WARSAW	98.22	37.9	13	42	1	24	19	1	32	35
BELGRADE	98.38	45.4	13	42K	1	24	22	3	25	47
KEVO	98.41	19.9	13	42	1	24	18	-1	17	37 PP
SODANKYLA	98.79	22.3	13	43	0				17	39 PP
TIMISOARA	98.86	44.4				24	26	4		
NURMIJARVI	99.21	29.3	13	45	0	24	20	-3	17	44 PP
HELSINKI	99.42	29.6	13	47	1				17	49 PP
KIMBERLEY	99.42	119.7	13	46	0					
KAJAANI	99.93	25.4	13	49	1	24	28	1	17	52 PP
KHEYS	100.22	6.7				24	14	-14	17	56 PP
LWOW	100.36	40.1	13	52	2	24	29	0	25	28 S
WELLINGTON	100.61	227.1	13	52	1	24	40	10	18	1 PP
SOFIA	100.62	47.4	13	55	4				17	58 PP
APATITY	101.27	21.4	13	54	0	24	34	1	18	8 PP
ATHENS	101.31	52.1	13	55A	0				18	0
PULKOVO	102.13	29.4	13	58	0	24	34	-4	18	5 PP
BUCHAREST	102.44	45.4				24	38	-1	26	48
ROXBURGH	103.23	221.8							27	34 PS
BROKEN HILL	104.93	105.9							18	58 PP
ISTANBUL UN.	105.01	48.5	14	11	777	24	52	1		
CHANGALANE	106.33	118.5							27	52 SP
LWIRO	106.52	93.4	14	20	777				18	36
MOSCOW	107.06	32.3	18	36	777	25	0	0	18	52 PP
SIMFEROPOL	107.97	43.8							18	52 PP
MIRNY	109.81	176.1				25	10	-2	19	21 PP
TIKSI	109.88	351.3	14	32A	777	25	8	-4	19	3 PP
CHILEKA	110.96	108.1	18	36	1					
JERUSALEM	111.45	57.3	18	40	4					
KSARA	111.64	55.0	18	35	-2				19	16 PP
PETROPAVLOVK	112.37	327.0							19	29 PP
TIFLIS	116.35	44.7				25	39	2		
SVERDLOVSK	117.50	24.2	18	49	1					
YAKUTSK	118.07	345.6	18	47	-2					
GORIS	118.22	46.5	18	56	6				20	0 PP
RIVERVIEW	120.73	227.0	18	57	3				20	24 PP
HONIARA	120.94	256.9							20	28 PP

CANBERRA	121.52	224.5	18	58	2				19	9	20	28 PP
TANANARIVE	121.91	114.7	19	2	5							
BRISBANE	122.32	234.5	19	0	3							
TOOLANGI	122.65	220.4	19	0	2						20	36 PP
MELBOURNE	122.83	219.9	19	0	2						20	36 PP
TEHERAN	123.33	48.9	19	1	2	26	4	3			20	44 PP
Y.-SAKHLINSK	124.23	327.4	19	3	2						20	49 PP
SHIRAZ	126.39	55.4	19	6	1	27	52	102	20	58	21	29 *SP
ASHKABAD	127.39	43.5	19	9	2						31	20 PS
ADELAIDE	128.56	218.8	19	11K	1						21	14 PP
RABAUL	129.38	261.7	19	13	2						21	21
SEMIPALATNSK	129.75	18.0	19	13	1						28	17 SKKS
CHARTERS TS.	130.71	239.8	19	16	2						21	32 PP
IRKUTSK	131.35	358.2	19	15	0						21	30 PP
TUKUBASAN	132.19	317.8	19	17A	1						21	39 PP
TASHKENT	132.20	33.4	19	18	2						21	49 PP
MATUSIRO	133.26	319.3	19	24	6							
PORT MORESBY	133.31	253.7	19	17	-2						21	50 PP
DUZHANBE	133.74	36.6	19	21	2						29	44
FRUNSE	133.83	28.1	19	23	4						21	48 PP
ULAN-BATOR	135.55	355.4	19	14	-9							
KHOROG	136.09	35.7	19	27	3						21	58 PP
GUAM	136.74	285.9	19	24	-1							
ESEN BULAK	136.96	5.9									22	10 PP
QUETTA	137.48	47.5	19	30	4							
KARACHI	140.15	54.5	19	36	5							
LAHORE	141.78	40.0	19	27	-7							
MUNDARING	142.26	199.8	19	32	-3							
DARWIN	147.38	240.6	19	47	4							
BOMBAY	147.55	59.6	19	48	4						23	26 PP
POONA	148.59	59.5	19	49A	4							
CHATRA	152.75	30.2	19	55	3						30	25
HYDERABAD	152.99	57.5	19	53	1						23	44 PP
SHILLONG	155.95	23.2	19	58	2							
MADRAS	156.37	65.2	20	10	13	27	15	14			24	7 PP
CALCUTTA	156.87	33.9	20	6	9							
BAGUIO CITY	157.75	306.5	20	1	3							
HONG KONG	157.94	328.9	20	2	3						20	39 PKP2
MANILA	158.24	301.9	19	57	-2						24	15
CHITTAGONG	158.76	27.1	20	2	2							
PHU-LIEN	162.24	346.0	20	3	0							

NOVEMBER 4 1.H 14.M 30.S EPICENTRE -15.14 167.38 DEPTH= 123.KM

A=-0.94242 B= 0.21094 C=-0.25951 D= 0.2184 E= 0.9759
G= 0.2532 H=-0.0567 K=-0.9657 HT= 5.7

DEPTH OF FOCUS= 0.014R

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
LUGANVILLE	0.45	212.8	0	18	-2							
PORT VILA	2.73	160.9	0	44K	0							
KOUMAC	6.15	208.3	1	31	1	2	40	1				
NOUMEA	7.18	186.9	1	45	1	3	5	1				
HONIARA	9.22	307.1	2	11	0							
BRISBANE	18.25	225.7	4	8	2	7	30	8				
RABAUL	18.50	304.4	4	7K	-2							
PORT MORESBY	20.57	283.8	4	31	0							
RIVERVIEW	23.70	215.4	5	4A	2	9	12	8			5	35 PP
KARAPIRO	23.82	163.9	5	4A	1	9	15	9				
GISBORNE	25.23	160.2	5	15A	-1	9	28	-2				
CANBERRA	26.00	216.0	5	24A	1	9	54	11	5	55	6	12 PP
WELLINGTON	26.82	167.6	5	31A	0	9	56	0				
TOOLANGI	29.59	216.9	5	56	0				6	27		
MELBOURNE	30.07	217.1	5	55	-5							
ROXBURGH	30.29	177.3	6	0	-2	10	30	-21			7	36
MOORLANDS	32.28	208.6	6	20	1							
ADELAIDE	32.44	227.3	6	21A	0						7	6
TARRALEAH	32.52	209.5	6	23	2							
GUAM	36.19	320.6	6	51	-2							
MACQUARIE I.	39.82	187.7	7	26A	3							
HONOLULU	49.59	43.9	8	42	1							
KIPAPA	49.72	43.9	8	42	0							
TUKUBASAN	57.22	333.8	9	34A	-3							

ABUYAMA	58.19	329.3	9	42A	-2				
MATUSIRO	58.31	332.5	9	42	-2				
MIZUSAWA	59.30	336.4	9	51	0			11 7	
WILKES	63.22	202.2	10	16	-2			12 42	
MIRNY	70.01	204.2	11	0	0			11 21	
BYRD STATION	72.27	169.9	11	13	-1			15 20	
SOUTH POLE	74.96	180.0	11	29	-1				
MAWSON	81.55	202.0	12	5	-1				
ULAN-BATOR	82.64	323.8	12	9	-2				
PARAISO	83.66	49.9	12	20	4				
UKIAH	84.19	47.0	12	10	-9				
BERKELEY	84.36	48.5	12	19A	-1			12 50	
CALISTOGA	84.44	47.7	13	19A	59				
LICK	84.60	49.2	12	21A	0				
PRIEST	84.85	50.6	12	22A	0				
MINERAL	85.83	46.4	12	26A	-1				
PASADENA	86.00	53.2	12	28	0				
COLLEGE	86.68	17.5	12	31	0				
BOULDER CITY	89.20	52.4	12	44A	1		13 14		
EUREKA	89.53	48.9	12	44A	-1			16 17 PP	
BLUE MTS.	90.47	43.5	12	48	-1		13 20	16 20 PP	
TUCSON	91.20	57.0	12	53A	0		13 23		
TONTO FOREST	91.45	55.0	12	54	0	22 51 -49	13 22	16 20 PP	
G. G. VIDELA	91.70	160.8	12	44	-11			16 54 PP	
GLEN CANYON	91.99	52.3	12	56	0		13 29	16 36 PP	
DUGWAY	92.06	49.0	12	56A	0				
SALT LAKE C.	92.93	48.6	13	0	0				
PRICE	93.35	50.0	13	2	0				
BANFF	93.76	37.9	13	7	3				
HUNGRY HORSE	93.78	40.9	13	3	-1				
BUTTE	94.00	43.5	13	10	5				
UINTA BASIN	94.47	49.6	13	7	0		13 42	16 30 PP	
FLAMING GRGE	94.76	49.0	13	8	-1				
ALBUQUERQUE	95.44	55.4	13	11	-1				
GOLDEN	97.43	51.0	13	21	0				
YELLOWKNIFE	97.85	27.3	13	22	-1				
WICHITA MTS.	101.71	57.1	13	39	-1		14 12	17 52 PP	
TULSA	104.17	56.2	13	52	1		18 12		
CUMBERLAND	112.40	57.4	14	30	-231				
BLACKSBURG	116.59	55.8	14	46	-224				
LA PAZ	116.83	117.6	18	33	3				
CHINCHINA	117.33	92.2	18	30	-1			22 25 PKS	
BOGOTA	118.74	93.0	18	33	-1			19 54 PP	
GALERAZAMBA	118.96	85.9						22 37 PKS	
FUQUENE	119.28	92.2						19 58 PP	
OTTAWA	119.47	46.2	18	34	-1				
PALISADES	121.38	51.0	18	38	-1		19 18	22 18 PKS	
SCHEFFERVLLE	122.61	33.8	18	41	0				
KIRUNA	123.18	345.7						19 54	
UMEA	126.33	342.6						20 6	
CARACAS	126.94	88.1	18	49	-1				
SKALSTUGAN	128.61	346.1						20 26	
SAN JUAN	128.81	78.4	18	54	1				
UPPSALA	130.18	340.6						20 20	
TRINIDAD	132.31	89.3	18	58	-2				
KSARA	132.57	302.1	18	57	-3			21 29 PP	
JERUSALEM	133.48	299.5						20 10	
GOTEBORG	133.66	342.0						20 44	
KARLSKRONA	133.73	338.5						20 30	
HURBANOVO	138.62	328.6	19	4	-8				
HALLE	138.73	336.8	19	9	-3			22 9 PP	
BRATISLAVA	138.96	329.6	19	15	3			28 46	
JENA	139.32	336.6	19	6	-7		20 6	28 46 SKKS	
BANDEIRA	140.66	221.8	19	13A	-2			22 18 PP	
STUTTGART	141.95	336.4	19	14	-4			21 14	
DOURBES	142.43	341.8	19	16	-3			22 45 PP	
KEW	142.44	347.4	19	16	-3				
STRASBOURG	142.67	337.6	19	17	-2			20 56	
PADOVA	143.45	330.6	19	20	0			22 0 PP	
TARANTO	143.77	320.0						21 45 PP	
PARIS	144.20	342.9	19	18	-4				
BOLOGNA	144.38	330.1	19	22	0			41 52 SS	
AQUILA	144.84	325.6	19	28	5			34 30 PPS	
PAVIA	144.86	332.9	19	24	1			22 47 PP	
FOLINIERE	145.01	346.0	19	23	0				
LUANDA	145.01	228.7	19	25A	2				
GARCHY	145.40	341.1	19	24	0				
ROSELEND	145.51	335.9	19	25	1				

ROME	145.65	325.9	19	27	3	26	10	-9	20	40	28 12 SKKS
REGGIO CALA.	146.15	317.9	19	25	0				19	33	31 41 PS
MESSINA	146.16	318.1	19	22	-3				20	2	22 50 PP
ISOLA	146.57	333.9	19	27	1						
CLERMONT-FD.	146.72	339.8	19	29	3						
MONACO	146.77	333.0	19	27	1						
S.PAUL-FORET	147.22	333.6	19	26	-1						
TOLEDO	154.24	344.7	19	38K	1				20	2	19 52 PKP2
ALICANTE	154.52	337.4	19	40K	3						19 57 PKP2
MOKA	155.98	242.9	19	34	-5						
ALMERIA	156.56	339.2	19	41A	1						20 10 PKP2

NOVEMBER 4 1.H 17.M 13.S EPICENTRE -6.94 129.53 DEPTH= 108.KM

A=-0.63190 B= 0.76569 C=-0.12008 D= 0.7713 E= 0.6365
G= 0.0764 H=-0.0926 K=-0.9928 HT= 6.9

DEPTH OF FOCUS= 0.012R

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
DARWIN	5.55	166.8	1	21	0							
PORT MORESBY	17.61	99.2	3	58	-1	7	3	-7				
DJAKARTA	22.57	270.6	4	51	0							
RABAUL	22.69	84.3	4	51K	-2							
MANILA	23.05	338.7	4	57	1	9	22	27				
GUAM	25.28	36.7	5	18	0	9	37	4				
MUNDARING	27.83	204.8	5	41	0							
ADELAIDE	29.15	164.4	5	52A	-1	10	32	-4				
BRISBANE	30.00	135.4	5	59	-1	10	50	1				
HENGCHUN	30.02	343.6	6	2	1						10	7
HONIARA	30.20	96.8	6	1	-1							
TAWU	30.31	344.0	6	2	-1	10	33	-21				
TAITUNG	30.63	344.7	6	6	0							
KAOHSIUNG	30.75	343.1	6	11	4							
HSINKONG	30.91	345.3	6	9	1							
TAINAN	31.12	343.2	6	17	7						10	19
YUSHAN	31.38	344.7	6	17	5	11	11	0				
ALISHAN	31.46	344.5	6	19	6	11	15	3				
HWALIEN	31.68	346.1	6	15	0						9	17
TAICHUNG	32.09	344.7	6	20	1							
HSINCHU	32.63	345.5	6	38	15							
TAIPEI	32.72	346.5	6	22A	-2	11	42	10				
HONG KONG	32.73	333.0	6	23	-1							
ANPU	32.87	346.5	6	22	-3							
RIVERVIEW	33.40	146.1	6	31A	1							
CANBERRA	33.43	150.3	6	31A	1	11	40	-3	6	50	7	39 PP
TOOLANGI	33.76	156.9	6	33	0							
PHU-LIEN	35.59	321.3	6	44	-5							
TARRALEAH	38.27	159.6	7	13	2							
MOORLANDS	38.65	158.9	7	16	2							
PORT BLAIR	41.02	296.6	7	33	-1							
ABUYAMA	41.97	7.4	7	42A	0	13	49	-3				
HONGO	43.51	12.1	8	55A	61						11	32
TUKUBASAN	44.07	12.3	7	56	-3							
CHITTAGONG	47.03	309.3	8	22	0							
MIZUSAWA	47.08	12.3				15	0	-5			10	26
TOCKLAI	47.50	316.3	8	39A	13							
SHILLONG	48.83	312.9	8	35A	-1							
CALCUTTA	49.81	307.2	8	46	2	15	51	8				
ROXBURGH	51.53	144.9	8	57	0						13	51 SCP
KARAPIRO	51.77	133.6	8	59	1							
VISHAKHAPTNM	51.81	298.9	8	58A	-1	16	19	8			11	8 PP
BOKARO	52.51	307.1	9	3A	-1	16	29	9			11	0 PP
WELLINGTON	52.71	137.7	9	4	-1	16	24	1				
MACQUARIE IC	52.99	159.0	9	8A	0	16	25	-2				
CHATRA	53.02	311.1	9	7A	-1	16	35	8			10	8 PP
GISBORNE	53.85	133.4	9	13	-1							
KODAIKANAL	54.58	287.7	9	20	1	17	1	13			11	20 PP
Y.-SAKHLINSK	54.99	11.0	9	20	-2	16	50	-4				
HYDERABAD	55.97	296.3	9	27A	-2	17	3	-4			13	14 PPP
UGLEGORSK	56.86	9.8	9	35	0						10	20 PP
SEHORE	59.35	302.0	9	54	1	18	3	12			12	16 PP
TERRE ADELIE	60.34	174.6	9	41	-19							
POONA	60.45	295.7	9	59	-1	18	12	7			12	15 PP

ESEN BULAK	60.81	334.2	10	4	1						
BOMBAY	61.50	295.8	10	6	-1	18	21	3		12	25 PP
NEW DELHI	61.55	307.6	10	7A	-1	18	20	1			
DEHRA DUN	61.69	309.8	10	8A	-1	18	36	15		12	30 PP
IRKUTSK	62.79	342.9	10	15A	-1	18	39	4		14	55 PCS
MIRNY	64.58	195.3	10	28A	0					12	37 PP
PETROPAVLOVK	64.64	19.0	10	31	3						
LAHORE	65.09	309.4	10	29	-2	19	5	2			
WARSAK DAM	68.26	310.7	11	1K	10						
MAGADAN	68.42	11.5	10	47	-5						
KARACHI	68.50	300.0	10	49	-3						
YAKUTSK	68.76	0.1	10	52A	-2	19	47	0			
FRUNSE	70.22	320.2	10	59	-4						
QUETTA	70.38	305.3	11	4	0	20	12	6			
SEMIPALATNSK	71.20	329.2	11	7A	-2						
TASHKENT	73.02	316.9	11	20A	0	20	38	2			
MAWSON	74.83	201.4	11	30	0	21	7	10			
HONOLULU	76.29	66.2	11	41	3	21	21	8			
KIPAPA	76.39	66.1	11	39	0						
TIKSI	78.41	359.8	11	47	-3						
ASHKABAD	79.65	310.5	11	59	2						
TANANARIVE	80.22	252.0	12	3	3	21	54	-1			
SHIRAZ	82.23	301.1	12	10A	0	22	14	-1		23	32 SPP
SVERDLOVSK	84.48	329.0	12	20K	-2						
TEHERAN	84.48	306.9	12	23A	1	22	39	1			
GORIS	89.15	309.8	12	45A	1					23	39
TIFLIS	90.65	311.8	12	52	1	23	12	-23		12	53 PCP
N-LAZARVSKYA	92.27	197.1	12	59A	0						
CHILEKA	92.50	254.0	13	2A	2						
COLLEGE	93.11	25.1	13	0	-3	23	21	-36			
CHANGALANE	93.50	243.1	13	4	0					25	27 SP
KHEYS	93.83	351.0	13	6A	0	23	29	-34		30	29 SS
PIETERMZBURG	94.48	239.6	13	9	0						
MOSCOW	96.76	325.3	13	15A	-4	23	46	1		17	12 PP
KSARA	96.84	303.2	13	20A	0	24	3	18		17	17 PP
JERUSALEM	97.27	301.1	13	22	0						
BULAWAYO	97.80	248.6	13	25K	1						
SITKA	98.58	33.4	13	27	-1	23	43	-11		25	3 *PS
SIMFEROPOL	98.69	314.3	13	28A	0	23	59	4		17	38 PP
APATITY	98.71	337.3	13	26A	-2	24	2	7		17	32 PP
BROKEN HILL	98.90	254.2	13	30K	1						
LWIRO	100.37	266.4	13	38	2					17	48 PP
PULKOVO	100.60	329.5	13	35A	-2	24	19	15		17	37 PP
KEVO	100.81	339.8	13	37A	-1	24	4	-1		17	49 PP
SODANKYLA	101.33	337.4	13	37	-3	24	7	-1		24	57 S
KAJAANI	101.38	334.0	13	37A	-3	24	7	-1			
MOULD BAY	101.67	13.2	13	39	-2						
ISTANBUL UN.	102.47	310.4	13	45	0	24	16	3			
HERMANUS	102.54	232.6	13	52	7	24	17	4		18	16 PP
IASI	103.19	316.8	13	51	3	24	19	3		18	13 PP
HELSINKI	103.23	330.2	13	47	-1					29	46 PKKP
NURMIJARVI	103.32	330.6	13	48	-1	24	16	-1		18	7 PP
FOCSANI	103.55	315.2	13	59	9	24	25	7		18	27 PP
KIRUNA	103.56	338.4	13	47	-3	24	19	1	14 4	18	7 PP
TROMSOE	103.58	340.3	13	51	1	24	26	8		17	50 PP
BACAU	103.69	316.1	13	56	6	24	24	5		18	14 PP
NORD	103.89	355.2	13	50A	-1						
ALERT	104.30	1.6	13	52	-1						
BUCHAREST	104.42	314.0	14	12	19	24	27	5		18	33 PP
UMEA	104.66	334.4	13	52A	-3	24	41	18		18	5 PP
CAMPULUNG	105.10	314.9	14	12	777	24	45	20	18 31	25	49 S
LWOW	105.27	319.7	13	57	777	24	19	-7		18	19 PP
VICTORIA	106.45	41.5	14	7	777						
SOFIA	106.58	312.4	14	3	777	24	38	6	14 27	18	32 PP
ATHENS	106.70	307.4	14	3K	777					14	36
WARSAW	106.77	322.5	14	6	777	24	42	10		18	30 PP
UPPSALA	106.89	330.7	14	2A	777	24	47	14		18	33 PP
TIMISOARA	107.71	315.7	14	12	777	24	56	19	14 37	17	55 PP
RESOLUTE	107.71	11.3	14	7	777						
UKIAH	107.72	51.2	14	16	777	24	47	10		18	40 PP
G. G. VIDELA	107.84	174.5								18	55 PP
KRAKOW	107.85	320.4	14	9	777					18	55 PP
YELLOWKNIFE	107.90	26.0	14	7	777						
SKOPJE	108.05	311.8	14	10	777	24	57	19			
SKALSTUGAN	108.10	335.3	14	9A	777	24	48	10		29	29 PKKP
PATRAS	108.23	307.9	14	16	777					17	49
CALISTOGA	108.27	51.7	14	15A	777						
BELGRADE	108.38	314.9	14	15K	777	24	58	19		18	39 PP

CHORZOW	108.40	320.7	14	12	777					18	51 PP
BERKELEY	108.60	52.5	14	16K	777					14	36
PARAISO	108.65	54.1	14	18	777					18	22 PP
MINERAL	108.83	49.8	14	20A	777						
RACIBORZ	108.94	320.6	14	15	777	24	40	-2		18	52 PP
KARLSKRONA	108.96	327.3	14	12	777	24	54	12		18	32 PP
LICK	109.14	53.0	14	16K	777						
HURBANOVO	109.39	318.3	14	3	777					19	31 PP
TITOGRAD	109.60	312.5	17	22	777					20	40 PPP
BRATISLAVA	110.05	318.8	14	16	-242	24	33	-13			
PRIEST	110.05	54.2	14	23K	-235						
GOTEBORG	110.36	329.5	14	19	-240					18	53 PP
VIENNA-H.	110.51	319.0	14	21	-238	26	28	100		19	7 PP
KONGSBERG	110.78	331.9	14	20	-240	25	18	29	14 37	28	30 PS
COPENHAGEN	110.79	327.4	14	23A	-237	25	55	66			
BANFF	110.89	37.7	18	20	-1						
BLUE MTS.	111.23	44.6	18	25	4					19	1 PP
PRUHONICE	111.25	321.1	14	24	-237						
PRAGUE	111.30	321.2	14	29	-232					21	21
ZAGREB	111.30	316.5	14	28A	-233					18	58
TARANTO	111.40	310.7	14	7	-254	25	7	15			
COLLMBERG	111.83	322.8	14	27	-235	26	49	115			
KASPERSKE H.	112.08	320.4	14	28	-234						
LJUBLJANA	112.24	317.0	14	31	-232	26	55	120		19	17 PP
PASADENA	112.30	56.0	15	1	-202	25	17	21		18	31 PP
HALLE	112.40	323.2	14	28	-235					19	21 PP
BERGEN	112.43	333.6	14	50	-213	24	57	1	15 11		
CHEB	112.56	321.6	14	27	-236	25	10	13		26	52 S
HUNGRY HORSE	112.60	40.3	14	40	-223					18	26 PKP
JENA	112.80	322.7	14	31	-233	25	13	16		18	47 PP
TRIESTE	112.86	316.7	14	34	-230	25	15	17		19	20 PP
REGGIO CALA.	113.01	308.4				25	16	18	19 25	34	58 SS
MESSINA	113.07	308.5	14	35	-229					19	17 PP
BANDEIRA	113.17	250.6	18	31	7				18 57	22	8 PP
EUREKA	113.24	50.0	18	27	2	25	2	3	18 50	19	37 PP
AQUILA	113.87	313.3	14	37	-229	25	2	0		17	47 PKP
SCORESBY SD.	113.97	349.9	14	40	-226						
KAP TOBIN	114.03	349.9	14	39K	-227						
BUTTE	114.19	42.5	14	41	-225					28	44 SP
PADOVA	114.20	316.8				25	17	14		19	33 PP
LUANDA	114.61	257.0	18	31K	4					19	33 PP
ROME	114.64	313.0	14	41A	-226	25	5	0		26	33 SKKS
BOULDER CITY	114.75	53.6	14	42	-226					28	49 SP
MUNSTER	114.77	324.7	14	41	-227						
BOLOGNA	114.81	316.0	14	39	-229	25	30	25		19	33 PP
STUTTGART	114.89	320.9	14	41	-227						
WITTEVEEN	114.98	325.8	14	47	-221						
PRATO	115.13	315.4	15	6	-202	26	47	101			
KARLSRUHE	115.36	321.4	14	45	-224					19	43 PP
STRASBOURG	115.90	321.1	18	30	0	25	23	14		19	33 PP
SALT LAKE C.	116.06	47.9	18	33	3						
PAVIA	116.09	317.2								19	44 PP
DE BILT	116.11	325.4	14	51	-219					19	46
GLEN CANYON	117.12	52.0	15	0	-212					18	38 PKP
DOURBES	117.25	323.6	14	53	-219					19	47 PP
ABERDEEN	117.38	332.7	18	42	9	25	9	-6		19	53 PP
ROSELEND	117.62	318.4	14	57	-216					18	38 PKP
GODHAVN	117.74	1.2	14	57A	-216						
ISOLA	117.84	316.7	14	58	-215						
UINTA BASIN	117.85	47.9	18	33	-1	25	23	7		20	5 PP
TONTO FOREST	117.93	54.9	18	36	2	25	41	24	18 58	19	31 PP
CUGLIERI	117.94	312.0	14	46	-228	25	33	16			
S.PAUL-FORET	118.28	316.1	15	2	-212						
TUCSON	118.67	57.1	14	59	-216					18	37 PKP
GARCHY	119.32	321.1	14	44	-232						
KEW	119.45	326.5	18	36	-1				18 57	19	57 PP
CLERMONT-FD.	119.88	319.5								19	16 PP
FOLINIERE	120.82	323.8								15	23
MOKA	121.03	269.7	18	34	-6					20	10 PP
SOCORRO	121.48	54.2	18	42	1						
ALBUQUERQUE	121.64	53.1	15	17	-204					18	45 PKP
BARCELONA	122.18	315.1								19	48
BAGNERES	122.91	317.6	15	15	-208					16	48 PKP
VALENTIA	124.31	331.0	15	25	-201						
ALICANTE	125.17	312.5	18	50K	2					20	42 PP
TOLEDO	127.11	315.7	18	54	3				19 10	20	55 PP
ALMERIA	127.20	311.6	18	50K	-2					20	54 PP
WICHITA MTS.	127.88	51.0	18	37	-16					21	0 PP

GRANADA	127.91	312.4	18	59A	6	25	23	-25			21	13 PP
LAWRENCE	128.65	44.7	15	17	-217							
TULSA	129.55	48.5	18	58A	2	26	12	19			21	27 PP
DALLAS	129.94	52.6	18	58	1							
FAYETTEVILLE	130.66	47.6	18	59	1						22	11
LISBON	131.15	316.7	19	8	9						21	11 PP
CONCEPCION	131.99	156.6	19	19	18						22	50
ST. LOUIS 1	132.25	42.6	16	0	-181							
AVERROES	132.32	309.4	19	3	2						22	12 SKP
LONDON ONT.	135.03	32.0	18	59	-7							
SANTA LUCIA	135.51	155.7	19	1A	-6						22	30
SCARBOROUGH	135.54	29.9	19	11	4							
OTTAWA	135.88	25.6	18	59	-9							
CLEVELAND	135.91	33.9	19	16A	8							
SHAWINIGAN	136.12	22.2	19	4	-4							
BREBEUF	136.66	23.8	19	2	-7	26	10	3	19	30	22	34 PKS
CUMBERLAND	137.02	43.4	18	54	-16						22	10 PKS
MORGANTOWN	138.05	34.6	19	6	-6							
PENNSYLVANIA	138.35	31.7	19	7	-6							
BLACKSBURG	139.38	37.8	18	56	-18							
WASHINGTON	140.15	33.0	19	7	-9							
PALISADES	140.16	28.0	19	10	-6							
FORDHAM	140.30	28.2									17	19
HALIFAX	140.76	14.9	19	13A	-4							
COPIAPO	140.85	151.4	19	18	1						23	16
COLUMBIA	140.99	42.2	19	13	-4							
SAN SALVADOR	141.35	76.8	19	15	-3						23	5 SKP
SANTIAGO MA.	142.08	77.0	19	22	3							
ANTOFAGASTA	143.84	148.0	19	22A	0						23	9
NANA	147.73	125.5	19	31	2							
AREQUIPA	14 .80	138.4	19	34	3							
HUANCAYO	148.90	127.2	19	36	5							
LA PAZ	150.88	143.3	19	38	4							
BALBOA HTS.	151.12	84.1	19	17	-17						24	23
BERMUDA	151.44	25.8									17	47
SAN JUAN	160.98	51.8	19	48	1						35	25
CARACAS	163.35	76.6	19	51	2							
ST. CLAUDE	165.77	49.6	19	53	2						31	33
FORT FRANCE	166.97	52.7	19	35	-17						31	25
TRINIDAD	168.59	70.4	19	38	-15							

NOVEMBER 6 2.H 13.M 12.S EPICENTRE -2.73 138.30 DEPTH= 0.KM

A=-0.74576 B= 0.66453 C=-0.04731 D= 0.6653 E= 0.7466
G= 0.0353 H=-0.0315 K=-0.9989 HT= 7.1

SE= 3.47

	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	11.01	127.4	2	41	-1	5	11	23					
DARWIN	12.11	217.3	2	47	-10								
RABAUL	13.92	96.4	3	21	0	6	1	3					
GUAM	17.31	21.5	4	5	0						8	14	
CHARTERS TS.	18.92	156.3	4	25	0	8	0	6					
HONIARA	22.52	108.1	5	2	-1	9	1	-5					
MANILA	24.29	315.9	5	20	0	9	48	11					
BAGUIO CITY	25.86	318.0	5	32	-3								
BRISBANE	28.17	151.9	5	55	-1	10	38	-3					
TAWU	30.17	326.6									6	45	
TAITUNG	30.35	327.4	6	23	7								
KOUMAC	30.91	127.0	6	23	2								
HWALIEN	31.11	329.5	6	27	4								
LUGANVILLE	31.12	115.9	6	24	1								
TAIPEI	32.04	330.4	6	23	-8	11	40	-3					
ADELAIDE	32.08	179.3	6	31	0	11	48	5			14	28	
ANPU	32.17	330.6	6	32	0								
PORT VILA	33.01	118.9	6	42	3								
TORISIMA	33.08	3.2									7	48	
RIVERVIEW	33.19	160.2	6	41	0	12	11	10			8	4	PP
YAKUSIMA	33.82	347.9	6	47	1								
CANBERRA	33.91	164.2	6	48	1	12	20	8	6	55	12	59	SCP
HONG KONG	34.27	317.8	6	50	0	12	11	-6			8	8	PP
KAGOSIMA	34.90	348.4	6	57	1						8	32	
MIYAZAKI	35.07	349.8	7	1	4	12	35	5					
ASHIZURI	35.61	352.3									12	26	
MUNDARING	35.75	213.2	7	3	0								

MUROTO	36.00	354.1									12	3
KUMAMOTO	36.08	349.1	7	8	2	12	42	-3				
NAGASAKI	36.16	347.9	7	5K	-1	12	48	1				
OOITA	36.32	350.5	7	9	1							
KOTI	36.36	353.3	7	14	6	12	49	-1				
MATUYAMA	36.74	352.3	7	12	1	12	56	0				
HUKUOKA	36.88	349.0	7	14	2	12	57	-1				
SUMOTO	37.01	355.3	7	10	-4	12	59	-1				
TAKAMATU	37.07	354.2	7	13	-1	12	58	-2				
OSAKA	37.27	356.2	7	17	1	13	7	3			9	14
HIROSIMA	37.31	352.0	7	17A	1	13	4	0				
KOBE	37.33	355.8	7	18	2							
ABUYAMA	37.49	356.3	7	15A	-3	13	2	-5				
SHIZUOKA	37.50	0.1	7	29	11							
KYOTO	37.63	356.5	7	10	-9	12	30	-39				
HIKONE	37.85	357.3	7	21	0	13	8	-4				
HAMADA	37.89	351.7	7	24	3	13	13	0				
GIHU	37.96	358.0	7	37	16							
YOKOHAMA	37.98	1.8	7	7	-15							
IIDA	38.05	359.4	7	26	4							
TOYOOKA	38.20	355.4	7	24	0	13	16	-2				
KOHU	38.20	0.3	7	31	7							
TOKYO C.M.O.	38.23	1.9	7	42	18						9	23
TITIBU	38.52	1.0	7	24	-2							
KUMAGAYA	38.69	1.4	7	26	-2							
TUKUBASAN	38.78	2.3	7	24	-4	13	23	-4	7	34		
PHU-LIEN	38.86	308.5	7	38	9						9	16 PP
MITO	38.96	2.8	7	25	-5	13	25	-4				
MATUSIRO	39.07	359.9	7	26	-5	13	20	-11				
UTUNOMIYA	39.10	2.0	7	25	-6	13	21	-10				
NAGANO	39.20	359.9	7	36	4							
TARRALEAH	40.07	170.6	7	42	3							
HUKUSIMA	40.33	2.7	7	41	0							
NIIGATA	40.45	0.9	7	43	1							
AIKAWA	40.54	359.9	7	41	-2							
YAMAGATA	40.82	2.5	7	44	-1							
ISINOMAKI	41.05	3.6	7	45	-2							
SAKATA	41.45	1.8	7	50	0							
MIZUSAWA	41.73	3.3	7	58	5	14	5	-6				
AKITA	42.27	2.1	8	0	3							
MORIOKA	42.30	3.3	7	58	1	14	16	-3				
MIYAKO	42.31	4.2	7	58	1	14	19	0				
AOMORI	43.40	2.7	8	7	1	14	31	-4				
HAKODATE	44.39	2.6	8	11	-3							
MORI	44.67	2.4	8	19	2							
URAKAWA	44.85	4.7	8	19	1							
OBIHIRO	45.65	5.0	8	24	-1							
SAPPORO	45.67	3.1	8	22	-3							
KUSIRO	45.83	6.2	8	26A	0	15	7	-3				
NEMURO	46.32	7.3	8	29	-1							
ABASHIRI	46.85	5.9	8	32K	-2							
PORT BLAIR	47.52	288.4	8	43K	4						10	29 PP
Y.-SAKHLINSK	49.69	4.0	8	53K	-3						10	45 PP
WELLINGTON	50.47	144.5	8	58	-4	16	36	20			20	24 SS
ROXBURGH	50.52	152.0	9	1	-1	16	23	7			11	6 PP
AFIAMALU	50.52	105.7	9	4	2	16	28	12				
TOCKLAI	51.21	307.8	9	10	2							
CALCUTTA	54.79	300.0	9	36	2						17	13 PS
CHATRA	57.39	304.3	9	53	0	17	50	1				
ULAN-BATOR	57.42	335.4	9	50	-3							
PETROPAVLOVK	58.12	14.3	9	57	-1	17	53	-6				
MADRAS	59.76	286.7	10	11A	2	18	24	4			12	33 PP
ESEN BULAK	61.37	328.1	10	23	3						12	33 PP
IRKUTSK	61.86	337.1	10	19A	-5	18	41	-6				
KODAIKANAL	61.91	283.0	10	26	2							
MAGADAN	62.87	7.1	10	29	-2	18	59	-1			12	54 PP
YAKUTSK	64.91	355.5	10	40	-4						19	24 PS
DEHRA DUN	66.12	304.8	10	52	0	19	40	0			20	3 PS
NEW DELHI	66.29	302.8	10	51	-2	19	40	-2				
WILKES	66.42	191.8	10	53	-1	19	48	5				
HONOLULU	66.61	65.5	10	56	1						24	4 SS
KIPAPA	66.71	65.4	10	56	1						24	4 SS
POONA	66.81	291.4	10	53	-3							
BOMBAY	67.83	291.6	11	14	11	20	11	11			14	57 PPP
HAWAII V.OB.	68.82	68.1	11	12	3							
LAHORE	69.53	305.0	11	12	-1	20	20	-1				
MIRNY	71.06	197.5	11	25A	3	20	44	6			14	8 PP
SEMIPALATNSK	72.42	325.3	11	29	-1	20	52	-2			14	10 PP

WARSAK DAM	72.47	306.8	11	29	-2					
FRUNSE	72.91	316.4	11	32A	-1	21	0	0		
KHOROG	73.45	310.3	11	35	-1	21	4	-2		
TIKSI	74.48	356.9	11	34	-8	21	22	5		
QUETTA	75.35	302.0	11	46	-1	21	31	4		
TASHKENT	76.21	313.6	11	50A	-2	21	36	0		
SCOTT BASE	76.57	174.0	11	54	0					
MAWSON	81.95	202.0	12	23	0					
ASHKABAD	83.75	308.5	12	33	0	23	0	5		
SVERDLOVSK	85.54	327.4	12	40	-2	23	12	-1		
COLLEGE	85.66	24.3	12	38	-4					
SOUTH POLE	87.29	180.0	12	49	-1					
SHIRAZ	87.66	299.7	12	51	-1	23	46	13	23	20 SKS
TEHERAN	89.06	305.7	12	59K	0	23	50	4	19	18
TANANARIVE	89.83	251.2	13	8	6					
SITKA	90.30	33.1	13	11	6					
KHEYS	91.08	350.7							16	47 PP
GORIS	93.24	309.2	13	19	1				17	0 PP
TIFLIS	94.41	311.5	13	22	-1				18	2
MOULD BAY	95.58	13.6	13	24	-5					
VICTORIA	97.53	41.6	13	36	-2					
APATITY	98.17	338.0	13	40A	-1	24	12	-6	17	37 PP
MOSCOW	98.26	325.8	13	41	0				17	42 PP
N-LAZARVSKYA	98.75	195.6	13	47	4	24	12	-9	17	50 PP
BERKELEY	99.13	52.3	13	46K	1	24	26	3	17	48 PP
ALERT	99.79	2.7	13	47	-1					
KEVO	99.82	340.8	13	48	0	24	20	-7	17	55 PP
YELLOWKNIFE	100.27	26.8	13	53	3					
NORD	100.36	356.4	13	53	3					
SODANKYLA	100.74	338.5	13	52	0					
PULKOVO	101.35	330.6	13	55	0	25	30	56	18	0 PP
KAJAANI	101.35	335.2	13	54	-1					
RESOLUTE	101.81	12.6	13	58	1					
KSARA	101.83	303.8	14	0	3				18	12 PP
SIMFEROPOL	101.95	315.3	14	0	2				18	14 PP
BLUE MTS.	102.12	44.8	13	57	-1	24	35	-3	17	52 PP
PASADENA	102.73	55.8	14	4	3	24	42	1	18	12 PP
KIRUNA	102.77	339.9	14	1	0	25	42	61	18	17 PP
HUNGRY HORSE	103.74	40.9	14	6	0				17	33
HELSINKI	103.81	331.8	14	6	0					
NURMIJARVI	103.84	332.2	14	7	1	24	42	-4	18	25 PP
EUREKA	103.86	50.1	14	5	-1				18	19 PP
PIETERMZBURG	104.12	238.7							18	33
UMEA	104.53	336.1	14	9A	0	24	47	-2	18	33 PP
BOULDER CITY	105.24	53.6	18	30	777					
ISTANBUL UN.	106.31	311.9	14	13	777				18	48 PP
BOZEMAN	106.31	43.1	14	15	777				18	25 PKP
UPPSALA	107.34	332.9	14	16	777	26	18	77	18	51 PP
BULAWAYO	107.46	248.0	18	47	777					
TONTO FOREST	108.38	54.8	18	36	777	25	9	3	18 46	19 2 PP
UINTA BASIN	108.56	48.3	14	29	777	25	7	0	18	52 PP
WARSAW	108.59	324.8	14	30	777	25	53	46	18	58 PP
TUCSON	109.07	56.9	18	36	777					
LWIRO	109.35	266.7							18	59 PP
KRAKOW	110.01	322.9							19	10 PP
SOFIA	110.05	314.7							19	14
ATHENS	110.94	309.7							19	18
RACIBORZ	111.03	323.3							19	19 PP
COPENHAGEN	111.74	330.4							19	23 PP
GOLDEN	111.84	48.2	18	39	2					
HERMANUS	112.00	231.2							29	4 PS
ALBUQUERQUE	112.14	53.3	18	33	-5				19	26 PP
BRATISLAVA	112.43	321.7	18	48	10	25	9	-13	19	31 PP
VIENNA-H.	112.85	322.0							19	36 PP
PRUHONICE	113.23	324.3	14	59	-221				19	36 PP
COLLMBERG	113.53	326.0	18	44	3				19	35 PP
HALLE	114.02	326.6							19	40 PP
KASPERSKE H.	114.16	323.7	18	44	2				19	34
JENA	114.49	326.1	18	55	13				19	37 PP
TRIESTE	115.53	320.2				27	34	120	29	26 SP
STUTTGART	116.84	324.8	19	54	67	27	48	129	22	24
BENSBERG	116.88	327.7							19	46 PP
MESSINA	117.05	311.9							20	1 PP
AQUILA	117.09	316.9							19	53 PP
DE BILT	117.28	329.6							20	3 PP
STRASBOURG	117.80	325.2	18	50	1				20	6 PP
ROME	117.90	316.8							20	0 PP
WICHITA MTS.	118.45	51.7	18	50	0	25	42	-3	20	3 PP
UCCLE	118.46	328.7							20	14 PP

PAVIA	118.64	321.3							20	16	PP
DOURBES	118.72	327.9	15	23	-208				30	8	PS
DURHAM	118.76	334.8							20	7	
LAWRENCE	119.49	46.1	18	54	2						
TULSA	120.22	49.5	18	54	0				20	17	PP
KEW	120.38	331.4							20	18	
PARIS	120.59	327.6	19	0	6				20	23	PP
FAYETTEVILLE	121.36	48.8	18	55	-1						
CLERMONT-FD.	121.99	324.4							20	41	
LUANDA	124.05	257.5							20	55	PP
SCARBOROUGH	127.37	33.8							21	4	
CUMBERLAND	127.91	45.7	19	7	-1				21	11	PP
OTTAWA	128.09	30.1	19	11	2						
BREBEUF	129.05	28.6	19	9	-2						
TOLEDO	129.70	322.3				26	10	-10	21	26	PP
BLACKSBURG	130.60	41.1	19	16	2						
GRANADA	131.02	319.2	19	36	22				32	0	PP
COLUMBIA	131.93	45.1	19	22	6				22	47	SKP
PALISADES	132.11	32.9	19	24	8				22	9	PKS
SANTA LUCIA	134.83	145.2	19	27	5				21	58	
SANTIAGO											
ANTOFAGASTA	141.64	134.8	19	37	3				30	9	SKKS
BALBOA HTS.	141.86	79.0	19	30	-4						
HUANCAYO	143.50	114.4	19	39	2						
AREQUIPA	144.94	123.9	19	41	1						
GALERAZAMBA	145.75	74.9	19	56	15						
CHINCHINA	146.09	85.2	19	46A	4				42	18	SSP
BOGOTA	147.65	85.7	19	44	0				19	52	PKP2
LA PAZ	147.65	127.1	19	48	4						
FUQUENE	147.94	84.1	19	47A	2						
SAN JUAN	151.47	55.3	19	53	3				21	29	
CARACAS	153.80	71.7	19	56K	3				23	44	PP
ST. CLAUDE	156.29	54.9	20	5	8				24	1	PP
FORT FRANCE	157.41	57.0	20	2	4				24	11	PP
TRINIDAD	158.93	67.1	20	4	4						

NOVEMBER 6 9.H 24.M 45.S EPICENTRE 46.51 154.92 DEPTH= 0.KM

A=-0.62558 B= 0.29278 C= 0.72314 D= 0.4239 E= 0.9057
G=-0.6550 H= 0.3065 K=-0.6907 HT= -4.1

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	
KURILSK	5.09	258.0	1	19	0								
PETROPAVLOVK	6.95	18.9	1	43	-2								
Y.-SAKHLINSK	8.39	277.9	2	8	2								
UGLEGORSK	9.03	291.2									3	9	
MATUSIRO	15.96	237.4	3	45	-2								
ABUYAMA	18.66	238.4	4	20A	-1								
YAKUTSK	21.19	326.2	4	47	-2								
TIKSI	28.04	342.8	5	49	-6								
COLLEGE	35.57	38.1	7	0	-1								
MOULD BAY	44.41	20.0	8	15K	1								
SEMIPALATNSK	47.74	303.5	8	39	-1								
COPPERMINE	48.01	30.7	8	43K	0								
ALERT	49.87	6.0	8	56	-1								
YELLOWKNIFE	50.37	37.1	9	2A	1								
RESOLUTE	50.67	18.8	9	3K	0								
SHILLONG	53.62	270.0	9	26A	1								
SVERDLOVSK	54.85	317.9	9	34	0								
FRUNSE	54.87	297.5	9	35	1								
BANFF	55.58	49.7	9	34	-5								
CHITTAGONG	55.75	267.1	9	42	1								
PORT MORESBY	56.09	189.3	9	40	-3								
HUNGRY HORSE	57.98	51.9	9	56	0								
KEVO	57.98	341.1	9	56	0								
APATITY	58.06	337.3	9	56K	-1						10	37	PCP
BLUE MTS.	58.17	56.8	9	59K	1						10	37	
TASHKENT	58.99	298.8	10	3	-1								
GARM	59.76	296.1	10	8	-1								
TROMSOE	59.77	343.6	10	8	-1								
KHOROG	59.91	294.0	10	12	2								
SODANKYLA	59.92	339.5	10	9A	-1								
BUTTE	60.16	53.4	10	7	-5								

DUZHANBE	60.96	296.5	10 17	0					
KIRUNA	60.97	342.0	10 17	0					
BOZEMAN	61.21	52.9	10 17	-2					
NEW DELHI	61.75	282.7	10 22K	0					
WARSAK DAM	62.05	290.9	10 25	1					
EUREKA	62.21	61.0	10 27K	1					
KAJAANI	62.23	336.7	10 24A	-2					
SCORESBY SD.	63.31	358.8	10 34	1					
DUGWAY	63.64	58.7	10 36K	1					
PASADENA	64.22	66.9	10 39	0					
UMEA	64.36	339.5	10 37	-3					
PULKOVO	64.83	332.6	10 42	-1					
FROBISHER	64.90	19.7	10 42K	-1					
BOULDER CITY	65.13	63.4	10 46K	1					
UINTA BASIN	65.46	56.8	10 48	1				11 35	
NURMIJARVI	65.95	335.6	10 48	-2	19 37	0		23 59	SS
HELSINKI	66.14	335.2	10 50	-1					
SKALSTUGAN	66.35	342.8	10 51	-1					
GLEN CANYON	66.46	60.7	10 53	0					
RAPID CITY	66.50	50.3	10 56	3				12 12	
CHARTERS TS.	66.74	188.9	10 54	-1					
AFIAMALU	67.18	144.7	10 57	-1					
QUETTA	67.49	290.5	11 0	0					
ASHKABAD	67.64	301.9	11 1	0					
VANNOVSKAYA	67.79	302.0	11 2	0					
GOLDEN	68.27	54.9	11 4	-1					
UPPSALA	68.41	338.4	11 4A	-1				11 26	PCP
TONTO FOREST	68.44	62.7	11 7K	1	19 46 -21		11 16	13 36	PP
TUCSON	70.08	64.0	11 16	0					
KONGSBERG	70.45	342.1	11 18	0				11 40	PCP
POONA	70.72	276.8	11 19K	-1					
ALBUQUERQUE	70.89	59.3	11 22	1					
GOTEBORG	71.69	340.1	11 29	3				11 47	PCP
KARLSKRONA	72.16	337.5	11 33A	5				11 46	PCP
KIROVOBAD	72.44	310.9	11 30	0					
SCHEFFERVLLE	73.07	23.7	11 34K	0					
TEHERAN	73.20	304.3	11 36K	2					
GORIS	73.28	310.0	11 35	0					
BRISBANE	73.57	182.0	11 37	0					
KISHINEV	75.58	325.2	11 58	10					
WICHITA MTS.	75.61	54.6	11 49K	1					
KRAKOW	76.23	332.0	11 51K	-1				12 6	PCP
TULSA	76.29	52.1	11 53K	1					
UZHGOROD	76.66	329.9	11 53	-1					
RACIBORZ	76.76	333.0	11 55	0					
SHIRAZ	76.89	299.2	11 56K	0					
FAYETTEVILLE	77.02	50.9	11 56	0					
COLLMBERG	77.20	336.6	11 57	0					
HALLE	77.30	337.3	11 58	0				15 3	PP
LONDON ONT.	77.92	38.5	12 2	1					
JENA	77.92	337.3	11 56	-5				12 22	
PRUHONICE	77.95	335.1	12 1	0					
MUNSTER	77.96	340.0	12 2	1					
BRATISLAVA	78.78	332.7	12 7	1					
BREBEUF	78.91	32.5	12 7A	0					
VIENNA-H.	78.94	333.2	12 8	1					
KASPERSKE H.	78.99	335.3	12 7K	0					
BENSBERG	79.00	339.9	12 12	5					
DOURBES	80.40	341.1	12 15	0					
STUTTGART	80.50	337.8	12 17	2					
STRASBOURG	81.06	338.6	12 20	2					
VALENTIA	81.12	350.8	12 20	2					
MORGANTOWN	81.23	39.7	12 21	2					
CUMBERLAND	81.86	45.8	12 22	0				12 42	
KSARA	83.02	312.8	12 28	0					
ROSELEND	84.04	338.3	12 35	1				13 3	
JERUSALEM	84.98	312.0	12 39	1					
ATHENS	85.21	323.4	12 39A	0					
LA PAZ	133.50	64.5	19 21	3					

NOVEMBER 7 12.H 55.M 28.S EPICENTRE 14.26 146.32 DEPTH= 59.KM

A=-0.80684 B= 0.53768 C= 0.24477 D= 0.5546 E= 0.8321
G=-0.2037 H= 0.1357 K=-0.9696 HT= 5.9

DEPTH OF FOCUS= 0.004R

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	
GUAM	1.73	242.8	0	22	-7						4	26	
RABAUL	19.24	162.0	4	14K	-8	7	44	-7					
ABUYAMA	22.70	336.6	4	58A	1								
MATUSIRO	23.34	343.3	5	2	-2								
PORT MORESBY	23.52	177.9	4	59	-6	9	9	-3					
MANILA	24.44	274.1	5	15	1	9	53	26					
BAGUIO CITY	24.91	278.3	5	18	-1	9	56	21					
HONIARA	27.14	149.4	5	32	-8								
HONG KONG	31.51	289.4	6	18	-1	11	37	16	6	43	7	24	PP
CHARTERS TS.	34.13	180.1	6	36	-5	11	55	-7					
PETROPAVLOVK	39.89	11.6	7	19	-11								
BRISBANE	41.87	171.4	7	42	-4	14	0	0					
ULAN-BATOR	46.77	324.1	8	10	-15								
RIVERVIEW	48.04	174.6									19	8	
ADELAIDE	49.49	188.2	8	43	-3								
AFIAMALU	50.04	122.2				16	2	6					
IRKUTSK	50.51	327.8	8	54	0								
SHILLONG	52.11	291.4	9	6A	0						11	11	
CHITTAGONG	52.14	287.3	8	52	-15								
ESEN BULAK	52.60	318.1	9	11	1								
HONOLULU	53.17	74.0				16	52	13					
MUNDARING	54.27	211.7	9	18	-4								
CHATRA	56.35	292.8	9	37	0								
MADRAS	64.09	277.7	10	30	0	19	9	8			20	15	SCS
NEW DELHI	65.14	295.1	10	35A	-2								
COLLEGE	67.00	25.0	10	47	-2								
FRUNSE	67.06	310.7	10	49	0								
L+HORE	67.46	298.5	10	51	-1								
POONA	69.24	284.6	11	1A	-2								
KHOROG	69.47	304.9	11	5	1								
WARSAK DAM	69.64	301.2	11	25K	20								
BOMBAY	70.15	285.2	11	8	0								
TASHKENT	71.05	309.1	11	13	-1								
QUETTA	73.90	297.7	11	31	0								
KHEYS	75.74	350.3	11	40	-1								
SVERDLOVSK	75.85	325.6	11	42	0								
MOULD BAY	77.29	14.2	11	49A	-1								
ASHKABAD	79.80	306.6	12	4	0								
COPPERMINE	80.13	22.4	12	4	-1								
TERRE ADELIE	80.93	182.0	12	18	8								
KIZYL-ARVAT	81.18	308.2	12	12	4								
YELLOWKNIFE	81.62	27.6	12	13	0						13	12	
SHASTA	81.81	50.2	12	15	1								
CALISTOGA	82.09	52.2	12	16A	0								
MINERAL	82.47	50.4	12	18A	0								
ALERT	82.49	3.7	12	18A	0								
BERKELEY	82.50	52.9	12	19K	1								
PARAISO	82.73	54.5	12	16	-3								
LICK	83.09	53.4	12	22K	1								
RESOLUTE	83.58	13.6	12	23	0								
PRIEST	84.12	54.4	12	18K	-8								
BLUE MTS.	84.52	45.3	12	27	-1	22	56	8			28	37	
APATITY	85.35	339.2	12	30	-2								
TEHERAN	85.72	305.6	12	35	1								
HUNGRY HORSE	85.76	41.3	12	35	1						14	16	
SHIRAZ	86.30	299.5	12	37	0	23	2	-4					
KEVO	86.31	342.3	12	35	-2								
PASADENA	86.59	55.8	12	39	1						13	21	
EUREKA	86.89	50.2	12	41	1								
BUTTE	87.40	43.2	12	43	1								
SODANKYLA	87.72	340.3	12	55	11								
KIROVOBAD	88.23	311.4	12	44	-2								
MOSCOW	88.51	327.6	12	44	-3								
BOZEMAN	88.52	43.2	12	44	-3						15	2	
GORIS	88.57	310.3	12	47	-1								
DUGWAY	89.01	48.8	12	50K	0								
TIFLIS	89.01	312.8	12	49	-1								
KAJAANI	89.09	337.3	12	49	-1								
KIRUNA	89.39	342.1	13	6K	15								

BAKURIANI	89.91	313.1	12	55	1							
PRICE	90.65	48.9	12	58	1							
UINTA BASIN	91.32	47.9	13	0	-1	24	8	16			25	11 SP
UMEA	91.94	339.0	13	25	22							
TONTO FOREST	92.02	54.0	13	6	2				13	21	14	12
NURMIJARVI	92.24	335.1	13	30	25							
HELSINKI	92.30	334.7	13	30	25							
FROBISHER	97.77	14.8	14	23	53							
WICHITA MTS.	101.53	49.6	13	56	9	24	23	3			18	11 PP
TULSA	103.02	47.4				24	32	5				
COLLMBERG	103.13	332.0	14	42	48							
KASPERSKE H.	104.34	330.1									14	51
ATHENS	105.24	316.4									26	26
TRIESTE	106.60	327.4				24	49	6				
CHILEKA	113.93	259.0									25	33
LWIRO	117.21	274.9									19	56
CARACAS	138.86	55.1									22	58 SKP
LA PAZ	146.73	98.4	19	37	3							

NOVEMBER 8 16.H 13.M 37.S EPICENTRE 2.69 128.45 DEPTH= 224.KM

A=-0.62110 B= 0.78234 C= 0.04664 D= 0.7832 E= 0.6218
G=-0.0290 H= 0.0365 K=-0.9989 HT= 7.1

DEPTH OF FOCUS= 0.030R

SE= 2.11

	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	13.95	329.0	3	10	0	5	44	5				
BAGUIO CITY	15.68	330.9	3	29	-2	6	27	9				
GUAM	19.34	55.5	4	12	2							
PORT MORESBY	22.17	123.0	4	39	1							
HONG KONG	23.92	325.7	4	55	0	8	55	3				
RABAUL	24.68	106.0	5	3	1						6	9
CHARTERS TS.	28.61	143.1	5	37	-1	10	8	0				
MUNDARING	36.38	197.7	6	43	-2							
BRISBANE	38.01	143.5	6	57	-1							
ADELAIDE	38.68	166.4	7	4K	0	12	50	6			8	27 PP
CHITTAGONG	40.56	301.9	7	22A	3							
SHILLONG	41.88	306.3	7	31A	1							
CANBERRA	42.44	154.8	7	35K	0				8	29		
TOOLANGI	43.07	160.1	7	41K	1				8	25	9	23 PP
MELBOURNE	43.13	160.8	7	40	0							
CHATRA	46.23	305.3	7	56A	-9							
TARRALEAH	47.66	161.9	8	17	1							
ULAN-BATOR	48.74	340.8	8	24	0							
MADRAS	48.81	284.9	8	26	1						15	2
DEHRA DUN	54.97	305.5	9	11A	1							
NEW DELHI	55.10	303.3	9	20A	9							
PETROPAVLOVK	56.03	21.5	9	18	0							
LAHORE	58.39	305.7	9	34	0							
YAKUTSK	59.19	0.7	9	40	0							
FRUNSE	62.27	317.9	10	1	0							
QUETTA	64.14	302.3	10	12	-1							
TASHKENT	65.40	314.7	10	21	0							
TIKSI	68.84	0.1	10	41	-1							
ASHKABAD	72.70	308.9	11	6	0							
VANNOVSKAYA	72.89	308.8	11	8	1							
MIRNY	73.56	194.0	11	10	-1							
KIZYL-ARVAT	74.52	309.9	11	16	0							
SVERDLOVSK	75.74	328.3	11	23	0							
SHIRAZ	76.44	299.7	11	26A	-1	20	43	-9				
GORIS	82.21	309.3	11	58	0							
KIROVOBAD	82.27	310.5	11	57	-1							
MAWSON	83.38	200.6	12	3	-1							
BAKURIANI	84.43	311.5	12	11	2							
COLLEGE	84.91	25.2	12	11	0							
MOSCOW	88.26	325.5	12	27	0							
APATITY	89.45	337.5	12	31A	-2							
JERUSALEM	91.34	301.7	12	43	1							
SODANKYLA	92.07	337.7	12	44	-1							
KAJAANI	92.29	334.4	12	44	-2							
MOULD BAY	92.59	12.8	12	48	0							
KIRUNA	94.25	338.8	12	54	-1							

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.

UMEA	95.55	335.0	12	59	-2							
COPPERMINE	97.23	20.0	13	8A	-1							
UPPSALA	97.99	331.5	13	11	-1							
RESOLUTE	98.52	10.6	13	15A	1							
UZHGOROD	98.59	319.9	13	15	0							
UINTA BASIN	111.99	44.4	18	12	3					18	57	PP
TONTO FOREST	113.01	51.0	18	15	4							
WICHITA MTS.	122.30	45.5	18	31	2	19	12		28	27	PKKP	
CUMBERLAND	130.38	36.8	18	47	3				22	10	PKS	
SAN JUAN	154.62	33.9	19	53	28							

NOVEMBER 9 2.H 46.M 49.5 EPICENTRE 56.65 -34.48 DEPTH= 89.KM

A= 0.45530 B=-0.31266 C= 0.83364 D=-0.5661 E=-0.8243
G= 0.6872 H=-0.4719 K=-0.5523 HT= -7.8

DEPTH OF FOCUS= 0.009R

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	
SCORESBY SD.	14.90	16.5	3	28	1								
GODHAVN	15.21	333.7	3	35	4								
FROBISHER	18.13	306.9	4	5K	-2								
SCHEFFERVLLE	18.19	277.8	4	5K	-2								
DURHAM	18.53	81.9	4	10K	-1	7	13	-19			14	56	SCS
KEW	20.56	90.1	4	32	-1								
JERSEY	20.75	97.3	4	26	-9								
FOLINIERE	21.87	96.6	4	45	-1								
KONGSBERG	23.14	64.1	4	59	0								
UCCLE	23.46	87.9	5	2	0								
PARIS	23.48	93.7	5	2K	0								
SKALSTUGAN	23.82	53.8	5	7	2								
DOURBES	23.95	89.2	5	31	25	9	54	40					
GARCHY	24.67	96.3	5	13A	0								
BENSBERG	24.94	85.4	5	16	0								
NORD	25.59	6.0	5	21	-1								
CLERMONT-FD.	25.62	99.0	5	24	2								
BAGNERES	25.81	106.9	6	33	69						6	55	
TOLEDO	25.99	117.2	5	27K	1	9	23	-25			5	58	PP
BESANCON	26.29	93.6	5	24	-4								
STRASBOURG	26.52	89.6	5	33A	2	9	29	-27			12	23	
KIRUNA	26.90	43.3	5	31	-3	10	32	29					
UPPSALA	27.02	61.3	5	36	1								
ALERT	27.04	352.2	5	33	-2								
STUTTGART	27.25	88.0	5	38	1	10	31	23					
UMEA	27.30	52.1	5	42	4	10	23	14					
JENA	27.37	82.3	5	35	-3	10	17	7			12	23	
COLLMBERG	27.97	80.7	5	42	-2								
RESOLUTE	28.82	331.3	5	51	0								
KEVO	29.16	38.9				10	45	6			6	45	PP
PAVIA	29.31	94.2									11	6	
KASPERSKE H.	29.42	84.1	5	55	-2						6	38	
PRUHONICE	29.49	82.0	6	3	6								
PALISADES	29.80	255.3				11	12	23					
NURMIJARVI	30.16	57.7				10	55	0			6	55	PP
KAJAANI	30.45	50.1	6	3	-3								
TRIESTE	31.54	89.6				11	29	13			7	23	PP
APATITY	31.84	42.4	6	17	-1						11	29	
KRAKOW	32.38	78.2	6	23	0								
ROME	33.27	96.0				12	1	18			13	55	SS
AQUILA	33.48	94.6									7	23	PP
COPPERMINE	36.34	320.8	6	56	-1								
MESSINA	37.54	97.7	7	1	-6	12	37	-12			8	33	PP
CUMBERLAND	40.03	260.4	7	27	0								
ST. LOUIS 1	40.38	267.9	7	32	2								
ATHENS	42.20	90.8	7	45	0								
ISTANBUL UN.	42.96	83.3	7	50	-1	14	23	14					
FAYETTEVILLE	44.40	268.6	8	2	-1								
SAN JUAN	44.95	224.8	8	7	0						8	58	
TULSA	45.41	269.8	8	11K	0								
BANFF	45.44	299.2	7	11	-60								
HUNGRY HORSE	46.54	295.3	8	19	-1						9	54	
BOZEMAN	46.82	290.7	8	23	1								
LARAMIE	46.92	282.6	8	24	1								
BUTTE	47.36	292.1	8	27	1								

WICHITA MTS.	47.83	271.0	8	30	0	15	31	12		10	1 PP
GOLDEN	47.94	280.9	8	32	1						
COLLEGE	48.67	328.5	8	36	-1						
TRINIDAD	50.42	215.3	8	51	1						
LUBBOCK	50.48	272.7	8	52	2						
BLUE MTS.	50.58	294.0	8	50	-1	16	9	12		10	47 PP
DUGWAY	51.57	286.8	9	0K	1						
KSARA	51.95	84.7	9	0	-1					16	36
CARACAS	52.46	221.7	9	5	0	16	35	12			
JERUSALEM	53.12	86.9	9	13	3						
GLEN CANYON	53.28	283.1	9	12	1						
EUREKA	53.76	288.4	9	16	1						
TONTO FOREST	55.11	280.7	9	26	1	17	3	4	9 32	10	24 PCP
BOULDER CITY	55.76	284.7	9	30	1					10	2
SHASTA	56.17	293.8	9	34	2						
PARAISO	59.46	290.5	9	52	-3						
FUQUENE	59.69	226.9	9	58	1						
BOGOTA	60.60	226.8	10	5	2						
CHINCHINA	60.91	228.6	10	4	-1						
WARSAK DAM	70.29	58.0	10	53	-12						
QUETTA	71.20	63.7	11	11	0						
NEW DELHI	77.45	56.9	11	48K	1						
LA PAZ	78.13	212.9	12	4	14						
SHILLONG	86.43	46.8	12	33K	0						

NOVEMBER 9 21.H 15.M 30.S EPICENTRE -8.83 -71.67 DEPTH= 576.KM

A= 0.31086 B=-0.93814 C=-0.15250 D=-0.9492 E=-0.3145
G=-0.0480 H= 0.1448 K=-0.9883 HT= 6.7

DEPTH OF FOCUS= 0.086R

SE= 2.52

	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	4.82	228.1	1	32	2							
NANA	5.98	237.9	1	41	1							
AREQUIPA	7.59	178.7	1	54	-1							
LA PAZ	8.37	156.0	2	1	-2	3	23	-18				
BOGOTA	13.57	349.7	2	57	3				3	4		
CHINCHINA	14.26	343.8	3	1	0				3	7		
FUQUENE	14.35	351.7	3	8A	6							
ANTOFAGASTA	14.83	175.5	3	5A	-2							
COPIAPO	18.46	176.3	3	41	0	5	48	-52				
BALBOA HTS.	19.34	335.8	3	53	3						6	19 *SP
CARACAS	19.77	13.9	3	55	1	7	26	24				
GALERAZAMBA	19.81	349.5	3	57	3	7	14	12	4	11		
TRINIDAD	21.88	28.0	4	12	-1							
SANTIAGO	24.50	177.9	4	34	-2							
SANTA LUCIA	24.51	177.9	4	34A	-2						6	4 PCP
FORT FRANCE	25.63	24.1	4	46	0	8	35	0				
ST.CLAUDE	26.60	21.8	4	54	-1	8	46	-5				
SAN JUAN	27.59	11.4	5	2	-1	9	0	-6			7	40 *SP
SANTIAGO MA.	27.75	322.8	5	11	6	9	27	18				
CONCEPCION	27.88	180.7	5	12	6	8	17	-53				
COLUMBIA	43.51	348.7	7	15	0						11	42 SCP
CUMBERLAND	46.09	344.2	7	33	-1	13	47	8			30	15 PKKP
BLACKSBURG	46.53	350.4	7	38	0							
WASHINGTON	47.75	354.3	7	47	0	13	57	-5			9	1 PCP
GEORGETOWN	47.75	354.3	7	47	0							
MORGANTOWN	48.82	351.5	7	56	1	14	20	4				
FAYETTEVILLE	49.46	335.9	7	58	-2	14	30	5				
PALISADES	49.63	357.8	8	0K	-1	14	30	3	9	27	9	6 PCP
PENNSYLVANIA	49.71	353.8	8	1	-1							
TULSA	49.97	334.3	8	3A	-1	14	33	1	9	13	12	46
WICHITA MTS.	50.25	331.0	8	5	-1	14	37	1	9	17	17	2 SCS
ST. LOUIS 1	50.29	341.1	8	5	-1							
CLEVELAND	50.88	350.4	8	10A	0	14	52	8				
LUBBOCK	51.01	327.3	8	11	0							
LONDON ONT.	52.34	351.2	8	19	-2							
LAWRENCE	52.37	336.8	8	19	-2							
SCARBOROUGH	52.75	353.1	8	23K	-1							
HALIFAX	53.70	7.1	8	27K	-3							
OTTAWA	54.10	356.5	8	32	-1							
BREBEUF	54.11	358.3	8	32K	-1	15	34	7			10	34 PP
SOCORRO	54.22	323.8	8	34	0							

TUCSON	55.37	319.4	8	41	-1	15	41	-2			38	23 PKPPKP
G. G. VIDELA	56.24	175.5	8	47	-1	15	44	-10			9	40 PP
TONTO FOREST	56.98	321.0	8	54A	1	16	17	13	10	43	11	7 PP
GOLDEN	57.50	329.5	8	57	1							
LARAMIE	58.83	330.6	9	6	1							
GLEN CANYON	58.96	323.1	9	8	2							
RAPID CITY	59.91	334.2	9	14	1						15	52
UINTA BASIN	60.14	327.2	9	14	0	16	49	5			13	4 SCP
BOULDER CITY	60.30	320.3	9	16K	1	16	58	12	11	24	37	34 PKPPKP
PRICE	60.31	325.9	9	17K	2	16	58	12				
PASADENA	61.38	316.7	9	23	1	17	3	4	11	23	10	2 PCP
SALT LAKE C.	61.69	326.2	9	26	2							
DUGWAY	61.84	325.1	9	26	1							
PONTA DELGDA	63.16	39.7	9	34K	0				11	41		
EUREKA	63.20	322.7	9	35K	1	17	37	16			19	17
SCHEFFERVLLE	63.54	3.2	9	34	-2							
PRIEST	64.19	317.3	9	42K	2	17	31	-2			37	42 PKPPKP
PARAISO	65.45	316.6	9	45	-3							
LICK	65.51	317.9	9	50K	2	18	2	13			37	42 PKPPKP
BUTTE	65.72	330.0	9	50	0	18	3	12				
BERKELEY	66.22	318.1	9	53K	0	18	2	5			12	4 PP
CALISTOGA	66.85	318.6	9	57K	0	18	17	12			37	36 PKPPKP
MINERAL	67.18	320.6	9	58K	-1	18	22	13				
BLUE MTS.	67.40	326.6	10	0	0	18	22	11			18	53 SP
UKIAH	67.54	318.8	10	4K	3	18	26	13	12	11	38	12 PKPPKP
SHASTA	67.87	320.6	10	1	-2							
HUNGRY HORSE	68.07	331.0	10	4A	0	18	20	1	12	7	23	0 SS
BANFF	70.73	332.5	10	19	-1							
SEATTLE	71.85	326.6	10	21	-5	18	57	-5				
FROBISHER	72.39	1.5	10	27	-2							
VICTORIA	72.97	326.9	10	33	0							
AVERROES	73.96	51.7	10	38	0	19	27	2	12	48	13	29 PP
BYRD STATION	74.58	187.7	10	51	9							
LISBON	74.82	46.0	10	46	3	19	40	6	12	52	13	42 PP
PORT HARDY	76.40	327.2	10	53K	1							
GRANADA	78.28	49.2	10	57A	-5	20	20	10			13	50 PP
YELLOWKNIFE	78.41	341.2	11	2	-1							
GODHAVN	78.92	6.5	11	5	0	20	17	0				
TOLEDO	78.92	46.5	11	6A	1	20	21	4	13	13	14	12 PP
ALMERIA	79.02	49.8	11	7A	1	20	21	3	13	19	11	22 PCP
N-LAZARVSKYA	79.57	160.4	11	6K	-3	20	22	-2	13	5	23	43 *SS
VALENTIA	80.04	33.5	11	11	0							
MOKA	80.97	85.2	11	13	-3	20	39	1				
ALICANTE	81.00	48.9	11	16A	0	20	44	6	13	22	11	19 PCP
SOUTH POLE	81.23	180.0	11	15	-2							
COPPERMINE	82.45	344.7	11	22A	-1							
BANDEIRA	82.96	104.0	11	23K	-3	20	54	-3	12	31	26	2 SS
BAGNERES	82.98	44.5	12	25	59	22	2	64				
SITKA	83.57	330.5	11	30	1	20	58	-5	13	44	14	53 PP
JERSEY	83.61	38.2	11	35	6	20	57	-7				
LUANDA	83.67	98.0	11	27K	-2	20	58	-6	13	35		
BARCELONA	83.86	46.6	11	37	7	21	2	-4				
FOLINIERE	84.46	39.0	11	32	-1							
RESOLUTE	84.58	354.0	11	33	-1							
KEW	85.48	36.5	11	37A	-1	21	3	-18	13	47	27	1 SS
HERMANUS	85.81	124.0	11	38	-2	21	8	-16	13	45		
CLERMONT-FD.	85.84	42.6	11	41	1	21	17	-8				
KAP TOBIN	85.87	14.9	11	40	0							
SCORESBY SD.	85.92	14.9	11	41	1	21	17	-8				
DURHAM	85.94	33.1	11	42	2	22	24	58	13	49	14	59 PP
GARCHY	86.25	41.2	11	41A	-1							
PARIS	86.33	39.6	11	42	0							
ABERDEEN	86.56	30.8	11	53	10	21	49	18			22	42 PS
SCOTT BASE	87.74	190.4	11	48	-1							
DOURBES	88.03	38.8	11	43	-7	21	30	-15				
UCCLE	88.07	38.0	11	52	2						14	0 PP
ISOLA	88.10	44.9	11	50	-1	21	26	-19				
BESANCON	88.14	41.7	11	50	-1							
MONACO	88.25	45.4	11	51	0							
CUGLIERI	88.26	49.1									37	0
DE BILT	88.93	36.9	11	58	4						15	12
MOULD BAY	89.35	349.8	11	56	0							
FELDBERG	89.63	41.5	11	57	-1							
STRASBOURG	89.64	40.8	11	57K	-1	22	5	6	14	4	15	40 PP
PAVIA	89.80	44.3	11	59	1	21	39	-21	14	5	25	59 PS
KIPAPA	89.82	291.6	12	0	1	21	38	-23			23	12 SP
BENSBERG	89.84	38.3	12	1K	2				14	5	15	5 *SP
HONOLULU	89.87	291.5	11	59	0	21	40	-21	14	8	26	58 SS
WITTEVEEN	90.00	36.5	11	59	0							

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.

KARLSRUHE	90.15	40.4	12	1	1	22	4	0						
MUNSTER	90.35	37.4	11	59	-2									
HEIDELBERG	90.44	40.1	12	0	-1									
STUTTGART	90.66	40.8	12	1A	-1	21	42	-26	14	8	28	30	SS	
RAVENSBURG	90.67	41.8	12	4	2									
PRATO	90.88	45.8	12	8	5	22	13	3						
BANGUI	90.95	85.7	11	49	-15	22	9	-2						
BOLOGNA	91.16	45.3	12	10	5	22	15	3			15	36	PP	
BERGEN	91.25	28.9	12	9	4	22	13	0	12	14	21	48	SKS	
ALERT	91.30	1.2	12	3K	-2									
KIMBERLEY	91.40	119.2	12	3	-3									
ROME	91.50	48.0	12	10A	4	21	44	-31	14	20	14	50	PP	
PADOVA	91.71	44.4	12	9	2	21	50	-27			25	10	PS	
COLLEGE	92.11	335.5	12	9	0	21	53	-28						
AQUILA	92.26	47.7	12	9	-1	21	53	-29	12	32	30	10	SS	
JENA	92.55	39.0	12	9	-2	21	54	-30	14	18	16	8	PP	
HALLE	92.89	38.5	12	12	-1						15	58		
CHEB	92.90	39.9	12	10	-3	21	50	-37	14	20	22	29	S	
TRIESTE	93.06	44.4	12	12	-1	22	35	6	14	26	16	0	PP	
KONGSBERG	93.18	30.2	12	14K	0				14	29	15	58	PP	
MESSINA	93.22	52.0	12	14	0	22	22	-6	14	26	16	8	PP	
REGGIO CALA.	93.28	52.1	12	14	0	21	58	-33						
COLLMBERG	93.50	38.8	12	14	-1	22	36	4						
KASPERSKE H.	93.51	41.0	12	14	-1									
LJUBLJANA	93.65	44.1	12	16	0	21	58	-36	14	29	16	4	PP	
NORD	93.87	6.9	12	16K	-1	22	0	-36						
COPENHAGEN	93.92	34.4	12	20K	3									
GOTEBORG	94.01	32.3	12	16	-2	22	2	-35	14	25	29	19	PKKP	
PRAGUE	94.20	40.1	12	20	1	22	4	-34			13	36		
PRUHONICE	94.26	40.2	12	17	-2									
ZAGREB	94.62	44.5	12	21A	0	22	52	10			21	55	SKS	
TARANTO	94.84	50.0	12	32	11	22	2	-42						
SKALSTUGAN	95.15	26.5	12	22	-1				14	30	29	12	PKKP	
VIENNA-H.	95.21	42.1	12	22	-1	22	6	2	14	37	16	35	PP	
BRATISLAVA	95.68	42.3	12	25	0	22	6	0	14	36	16	21	PP	
KARLSKRONA	95.74	34.2	12	26	0				14	35	16	33	PP	
PIETERMZBURG	96.02	121.1	12	29	2									
HURBANOVO	96.38	42.6	12	40	12				14	52	16	54	PP	
TITOGRAD	96.57	48.2	12	32	3	23	7	56			28	12		
RACIBORZ	96.61	40.4	12	29	0	22	20	9			16	35	PP	
CHORZOW	97.14	40.3	12	34	2	22	20	6			16	29	PP	
MAWSON	97.17	164.0	12	29K	-3	22	11	-3			22	58	S	
UPPSALA	97.21	30.6	12	32	0	22	12	-2	14	36	16	49	PP	
BROKEN HILL	97.51	105.9	12	33A	-1									
AFIAMALU	97.59	254.7	12	38	4									
BELGRADE	97.65	45.9	12	37A	3	22	18	2			18	7	PPP	
KRAKOW	97.72	40.6	12	34	0	22	21	4			16	48	PP	
PATRAS	98.06	52.6	12	45	9									
SKOPJE	98.14	48.8	12	41	5	23	24	65						
CHANGALANE	98.36	118.2	12	37	0				14	45	24	37	SP	
TROMSOE	98.42	20.7	12	37	-1						16	54	PP	
WARSAW	98.55	38.4	12	43	5	23	5	44			12	47	PCP	
UMEA	98.70	26.6	12	39	0	22	23	1	14	46	24	48	SP	
KIRUNA	98.91	22.6	12	38	-2	22	25	2	14	50	17	0	PP	
SOFIA	99.58	48.1	12	46	3	22	24	-2	15	0	17	0	PP	
ATHENS	99.60	52.9	12	42K	-1	22	27	1	14	50	23	29		
LWIRO	99.99	93.9	12	43	-2									
NURMIJARVI	100.74	30.0	12	47	-1	22	30	-1	15	1	17	7	PP	
HELSINKI	100.90	30.4	12	50	1	22	30	-2	15	1	17	8	PP	
KEVO	101.24	20.5	12	50	0	22	36	2	14	58	17	12	PP	
SODANKYLA	101.29	23.0	12	50	0	22	39	5	15	6	17	18	PP	
WELLINGTON	101.39	224.8	12	56	5	22	38	3	15	2	25	12	SP	
CHATEAU	101.63	227.0	12	58	6				15	20				
BUCHAREST	101.66	46.5	13	0	8	21	20	-76			17	30		
KAJAANI	101.99	26.3	12	54	0	22	36	-1	15	1	17	14	PP	
KARAPIRO	102.09	228.2	12	56	2									
ROXBURGH	103.23	219.2	13	6	7	22	45	2			25	40	SP	
PULKOVO	103.62	30.6	13	3	2	22	46	1	15	7	17	38	PP	
ISTANBUL UN.	103.77	49.9	13	3	2						25	47		
APATITY	103.87	22.5	13	2A	0	22	53	7	15	8	17	33	PP	
MIRNY	103.99	173.7	13	2K	0	22	45	-1	15	8	17	38	PP	
KHEYS	104.72	7.5	13	9	3	22	53	3	15	12	17	52	PP	
WILKES	105.01	180.9									15	15		
SIMFEROPOL	107.36	45.7				23	3	2			17	59	PP	
MOSCOW	108.09	34.2	13	23	777	23	6	2	15	30	18	4	PP	
JERUSALEM	108.93	59.5	13	30	777									
KSARA	109.42	57.3	13	32	777				15	47	18	14	PP	
TANANARIVE	114.05	115.2	14	5	-209									
NOUMEA	115.21	240.4									15	8		

TIFLIS	115.52	48.0	17	33	-4							
LUGANVILLE	116.94	247.7	17	37	-2							
GORIS	117.10	50.1	17	43	3	23	45	6			19	5 PP
MOORLANDS	117.85	211.7	17	30	-11							
TARRALEAH	118.33	211.4	17	44	2							
SVERDLOVSK	119.54	27.9	17	48	4	23	50	2			19	18 PP
MAGADAN	120.17	336.6	17	52	6	24	0	10				
PETROPAVLOVK	120.18	327.5	17	46	0							
RIVERVIEW	121.26	221.4	14	16A	-212	23	56	3	16	32	19	32 PP
CANBERRA	121.69	218.8	17	49K	0	23	59	4			19	35 PP
TEHERAN	121.82	53.4	17	52	3						19	31 PP
TOOLANGI	122.23	214.6	17	44	-6	24	3	7			34	48 SS
BRISBANE	123.89	228.6	14	34	-199						19	48 PP
SHIRAZ	123.95	60.2	17	53	0	25	42	100				
HONIARA	125.50	251.8	14	44	-192						17	58 PP
ASHKABAD	126.57	48.9	17	59	1						26	11 SKKS
ADELAIDE	127.82	211.7	17	47	-13						23	10 PPP
Y.-SAKHLINSK	132.01	328.7	18	12	4						20	49 PP
SEMIPALATNSK	132.47	24.1	18	13	4						23	44 PPP
TASHKENT	132.72	40.2	18	11	1				20	34	21	46 PKS
CHARTERS TS.	132.89	232.1	17	57	-13						15	8 P
RABAUL	134.42	255.3	18	2	-11							
FRUNSE	135.08	35.3	18	16	2						20	55 PP
QUETTA	135.92	55.4	18	6	-10							
KHOROG	136.21	43.5	18	25	9						27	4 SKKS
IRKUTSK	136.56	3.6	18	24	7						22	2 PKS
PORT MORESBY	137.31	245.8	18	10A	-8						27	15 SKKS
MIZUSAWA	137.90	321.1	18	26	7						21	13
WARSAK DAM	137.94	48.0	18	11	-8							
MUNDARING	138.74	190.2	18	11	-10							
TUKUBASAN	140.28	318.2	18	17A	-7	24	26	-12			21	34 PP
ULAN-BATOR	141.03	1.5	18	22	-4							
ESEN BULAK	141.16	13.4	18	27	0							
LAHORE	141.16	49.6	18	19	-8							
MATUSIRO	141.31	320.1	18	11	-16							
GUAM	144.01	280.7	18	29	-2							
ABUYAMA	144.03	320.2	18	31A	0							
BOMBAY	144.17	70.0	18	26	-5	27	49	185			20	42 PP
DEHRA DUN	144.54	48.7	18	33K	1	27	55	191			21	18 PP
NEW DELHI	144.75	52.0	18	32K	0	27	48	183			18	54 PCP
POONA	145.20	70.2	18	35K	2							
SEHORE	146.85	60.8	18	41	6							
KODAIKANAL	149.54	84.8	18	52	13	29	9	258			23	22 PPP
HYDERABAD	149.71	70.5	18	55K	16						28	19
MADRAS	152.06	78.9	18	50	7	28	59	245			18	56 PCP
CHATRA	153.13	45.5	18	45K	1	28	37	221			21	46 PP
BOKARO	153.79	52.6	18	49	4	28	42	226			21	49 PP
VISHAKHAPTNM	154.11	67.5	18	56	10						28	44
CALCUTTA	156.49	52.3	18	58	9							
SHILLONG	157.14	41.2	18	50K	0	28	58	238			29	26 PS
TOCKLAI	158.03	34.1	19	0	9							
CHITTAGONG	159.20	47.8	18	53	1							
ANPU	159.45	323.9	18	54	2							
TAIPEI	159.57	323.6	19	12	20							
HWALIEN	160.30	321.4	19	1	8							
ALISHAN	161.14	322.2	19	3	9							
TAITUNG	161.48	319.8	18	56	2							
TAWU	161.93	319.5	19	1	6							
HENGCHUN	162.28	319.0	18	58	3							
PORT BLAIR	164.38	78.3	19	1	4						29	37
HONG KONG	165.48	337.9	19	0	2						23	55 PP
BAGUIO CITY	165.87	303.5	19	0	1							
MANILA	166.24	296.1	19	5	6							
PHU-LIEN	167.99	7.7	19	0	0							

NOVEMBER 10 1.H 0.M 39.S EPICENTRE -9.02 -71.47 DEPTH= 596.KM

A= 0.31385 B=-0.93661 C=-0.15575 D=-0.9482 E=-0.3177
G=-0.0495 H= 0.1477 K=-0.9878 HT= 6.7

DEPTH OF FOCUS= 0.089R

SE= 2.36

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

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.

HUANCAYO	4.84	231.2	1	32	0	2	39	-6					
NANA	6.05	240.3	1	41	-1	3	18	15					
AREQUIPA	7.39	180.1	1	53	-1								
LA PAZ	8.12	156.7	2	0	-1	3	24	-13					
BOGOTA	13.79	349.1	2	59A	3	5	28	10	3	6			
CHINCHINA	14.50	343.3	3	1	-2	5	32	2	3	6			
FUQUENE	14.57	351.0	3	7A	3								
ANTOFAGASTA	14.63	176.2	3	4A	0						5	40	
BALBOA HTS.	19.59	335.5	3	53	2	7	2	5					
CARACAS	19.91	13.2	3	45K	-9	7	2	0					
GALERAZAMBA	20.03	349.1	3	58	3	7	8	4					
TRINIDAD	21.96	27.4	4	14	1								
SANTA LUCIA	24.31	178.3	4	35A	1	7	6	-67			5	59	
FORT FRANCE	25.72	23.6	4	45	-1	7	27	-68					
ST. CLAUDE	26.70	21.3	4	54	-1	7	46	-64					
SAN JUAN	27.73	11.0	5	2K	-2	9	5	-2			10	48	SCP
SANTIAGO MA.	28.01	322.7	5	14	8								
SAN SALVADOR	28.60	321.8	5	12	1	9	24	4					
COLUMBIA	43.73	348.5	7	15	0	12	56	-8			11	34	SCP
CUMBERLAND	46.32	344.1	7	34	-1	13	36	-4	8	59	10	23	PPP
BLACKSBURG	46.74	350.2	7	38	0								
WASHINGTON	47.96	354.1	7	44	-3						11	49	SCP
DALLAS	48.12	331.1	7	49	0								
MORGANTOWN	49.04	351.3	7	56	1	14	17	0					
FAYETTEVILLE	49.71	335.8	7	59	-1	14	23	-3					
PALISADES	49.83	357.6	8	0	-1	14	26	-2	9	51	16	12	SCS
PENNSYLVANIA	49.92	353.7	8	1	-1								
TULSA	50.22	334.2	8	3	-1	14	23	-10			12	11	
WICHITA MTS.	50.51	330.9	8	5	-1	14	25	-12	9	55	10	27	PP
CLEVELAND	51.09	350.3	8	11A	1	14	37	-8					
LUBBOCK	51.27	327.2	7	21	-51								
LONDON ONT	52.56	351.0	8	19	-2								
LAWRENCE	52.62	336.7	8	21	0								
SCARBOROUGH	52.96	353.0	8	23K	-1								
HALIFAX	53.86	7.0	8	30K	0								
BREBEUF	54.30	358.1	8	32K	-1	15	25	-2			18	47	SS
OTTAWA	54.30	356.3	8	31K	-2								
SOCORRO	54.48	323.7	8	34	0								
TUCSON	55.63	319.4	8	43	1	15	39	-5			38	24	PKPPKP
TONTO FOREST	57.25	320.9	8	54	1	16	2	-3	10	49	12	37	SCP
GOLDEN	57.76	329.4	8	53	-4								
GLEN CANYON	59.22	323.1	9	8	1						38	7	
RAPID CITY	60.16	334.1	9	15	2	16	45	3					
UINTA BASIN	60.40	327.1	9	14	0	16	46	2	11	11	12	5	*SP
BOULDER CITY	60.56	320.3	9	16K	0	16	51	4	11	11	38	1	PKPPKP
PASADENA	61.65	316.7	9	23	0	17	1	1	11	19	13	3	SCP
SALT LAKE C.	61.95	326.1	9	25K	0								
DUGWAY	62.10	325.1	9	26K	1								
EUREKA	63.47	322.7	9	35K	1	17	23	1	11	31	38	24	PKPPKP
SCHEFFERVLLE	63.72	3.0	9	34K	-2								
PRIEST	64.46	317.2	9	41K	1	17	38	4			38	10	PKPPKP
BOZEMAN	64.99	330.5	9	46	2	17	44	4	11	44	12	20	PP
PARAISO	65.72	316.6	9	45	-3								
LICK	65.78	317.8	9	50K	1	17	51	1			38	13	PKPPKP
BUTTE	65.98	329.9	9	50	0	17	54	2	11	45	38	11	PKPPKP
BERKELEY	66.48	318.0	9	54K	1	18	2	4			18	48	
CALISTOGA	67.12	318.6	9	58K	1	18	9	4			38	9	PKPPKP
MINERAL	67.45	320.6	9	59K	0								
BLUE MTS.	67.66	326.5	10	0K	0	18	12	1	11	59	18	44	PS
UKIAH	67.80	318.7	10	4K	3	18	27	14	12	3			
SHASTA	68.14	320.5	10	1	-2	18	17	0					
HUNGRY HORSE	68.32	331.0	10	5A	1	18	20	1	12	4	38	6	PKPPKP
BANFF	70.98	332.4	10	12	-8								
SEATTLE	72.11	326.6	10	21	-5	18	55	-7					
FROBISHER	72.57	1.4	10	28K	-1								
VICTORIA	73.23	326.9	10	33	0								
AVERROES	73.93	51.6	10	39K	2	19	25	3	12	42	16	50	*SPP
BYRD STATION	74.42	187.7	10	39	0						12	43	
PORT HARDY	76.66	327.2	10	51	-1								
GRANADA	78.26	49.1	11	6	6	20	12	5			25	18	SS
YELLOWKNIFE	78.65	341.1	11	2K	0								
TOLEDO	78.91	46.4	11	5K	1	20	13	-1	13	13	15	27	PP
ALMERIA	79.00	49.7	11	5K	1	20	17	2	13	14			
GODHAVN	79.08	6.4	11	5	0	20	11	-5					
MOKA	80.80	85.1	11	13	0	20	34	1					
ALICANTE	80.99	48.8	11	14K	0						13	19	
SOUTH POLE	81.04	180.0	11	13	-2								
COPPERMINE	82.68	344.7	11	22	-1								
BANDEIRA	82.73	103.9	11	23K	0	20	50	-2	13	27	29	43	PKKP

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.

BAGNERES	82.98	44.5	12	25	61						14	33
SITKA	83.83	330.4	11	30	1	20	57	-6	13	35		
BARCELONA	83.85	46.5				20	59	-4				
FOLINIERE	84.49	38.9	11	31	-1							
RESOLUTE	84.79	353.9	11	33K	0							
KEW	85.52	36.4	11	35	-2	21	14	-5	13	44	21	2 SKS
HERMANUS	85.55	124.0	11	38	1	21	8	-11	13	47		
CLERMONT-FD.	85.85	42.6	11	38	0							
DURHAM	86.00	33.1	11	40A	1	21	23	0	13	48	15	7 PP
KAP TOBIN	86.01	14.9	11	39K	0							
SCORESBY SD.	86.05	14.9	11	41K	2	21	4	-20				
GARCHY	86.26	41.1	11	39K	-1				13	48		
PARIS	86.36	39.5	11	41A	0				13	49		
ABERDEEN	86.62	30.7				21	33	4			21	14 SKS
SCOTT BASE	87.59	190.4	11	47	0							
DOURBES	88.06	38.7	11	43	-6						13	50 PP
ISOLA	88.10	44.9	11	49	0	21	23	-19				
UCCLE	88.10	38.0	11	52	3	21	21	-21				
BESANCON	88.16	41.7	11	50	1						13	52
MONACO	88.25	45.4	11	50	0							
MOULD BAY	89.57	349.8	11	56K	0							
STRASBOURG	89.66	40.7	11	56A	0	21	55	-1	14	5	21	29 SKS
PAVIA	89.80	44.3									23	15 SCS
BENSBERG	89.87	38.3	11	58K	1	21	38	-20	14	6	22	57 SP
WITTEVEEN	90.04	36.4	11	59	1						14	6
KIPAPA	90.06	291.6	12	2	4							
HONOLULU	90.12	291.4	12	1	3						23	15
KARLSRUHE	90.17	40.4	12	0	1							
MUNSTER	90.39	37.4	12	0	0							
HEIDELBERG	90.46	40.1	11	59	-1							
STUTTGART	90.68	40.8	12	0	-1				14	7		
BANGUI	90.77	85.7	11	50	-11							
KIMBERLEY	91.14	119.2	12	1	-2							
ALERT	91.48	1.2	12	3	-2							
ROME	91.49	48.0	11	51	-14	21	44	-28			27	1 PS
PADOVA	91.71	44.4	12	11	5	22	16	2			21	41 SKS
AQUILA	92.24	47.6	13	11	63				13	25	16	1 PP
COLLEGE	92.36	335.5	12	9	0	21	47	-33				
JENA	92.58	39.0	12	8	-2	21	49	-33	14	17	23	37 PS
HALLE	92.92	38.4	12	11	0	22	24	0				
TRIESTE	93.06	44.4	12	12	0	22	25	-1	14	22	21	49 SKS
MESSINA	93.18	52.0	12	11	-1	22	21	-6	14	24	16	8 PP
KONGSBERG	93.25	30.2	12	13	0				14	26	16	6 PP
KASPERSKE H.	93.53	41.0	12	13K	-1				14	22	16	7
COLLMBERG	93.53	38.8	12	13	-1	22	24	-6				
LJUBLJANA	93.65	44.1	12	15	1				14	23	16	7 PP
COPENHAGEN	93.96	34.4	12	18A	2							
NORD	94.03	6.9	12	15K	-1	21	55	-39				
GOTEBORG	94.07	32.3	12	18	2				14	26		
PRUHONICE	94.29	40.2	12	18	1							
VIENNA-H.	95.22	42.1	12	22	0							
SKALSTUGAN	95.23	26.5	12	22	0				14	31	29	13 PKKP
BRATISLAVA	95.70	42.3	12	25	1							
KARLSKRONA	95.78	34.2	12	23	-1				14	35		
RACIBORZ	96.63	40.4	12	29	1						14	38
HAWSON	96.94	164.0	12	30K	1				14	40		
BROKEN HILL	97.28	105.9									12	32 PCP
UPPSALA	97.28	30.6	12	31	0	22	2	-9	14	38	22	52 S
KRAKOW	97.74	40.6	12	34	1							
CHANGALANE	98.10	118.2	12	36	1				14	44	12	41 PCP
TROMSOE	98.53	20.7	12	37	1							
WARSAW	98.58	38.4				23	19	61			23	10 SKS
UMEA	98.78	26.7	12	39	1				14	45	16	40 PP
KIRUNA	99.01	22.6	12	38	-1	22	20	0	14	48	16	47 PP
UZHGOROD	99.19	42.1	12	41	2							
ATHENS	99.56	53.0	12	43A	2							
LWIRO	99.79	93.9	12	45	3							
LWOW	100.37	41.0	12	49	4	23	31	65				
NURMIJARVI	100.81	30.1	12	47	0	22	30	2	14	52	16	59 PP
HELSINKI	100.97	30.4	12	52	5						16	53 PP
KEVO	101.35	20.6	12	50	1	22	31	0	14	55	17	5 PP
SODANKYLA	101.39	23.0	12	49	0						17	2 PP
WELLINGTON	101.39	224.7				22	33	2			25	13 SP
KAJAANI	102.08	26.3	12	53	1	22	31	-3	15	2	17	11 PP
ROXBURGH	103.20	219.1				22	41	2			25	37 SP
PULKOVO	103.68	30.6									17	31
ISTANBUL UN.	103.74	50.0	17	15	255							
MIRNY	103.78	173.7	12	59	-1	23	59	77			16	16 PP

APATITY	103.97	22.5	13	1	0	22	41	-2	15	3	17	20 PP
SIMFEROPOL	107.35	45.8	13	17	777							
MOSCOW	108.14	34.2	17	56	777							
JERUSALEM	108.86	59.5	17	26K	777						17	56
BAKURIANI	114.56	48.2	17	33	0							
TIFLIS	115.51	48.1	17	38	3							
KIROVOBAD	116.85	49.0	17	38	1							
GORIS	117.08	50.2	17	40	2							
SVERDLOVSK	119.62	28.0	17	42	-1							
PETROPAVLOVK	120.44	327.5	17	47	3							
RIVERVIEW	121.25	221.3	17	50K	4	23	55	5			19	30 PP
CANBERRA	121.66	218.6	17	48	1	24	3	12	20	9	19	36 PP
TEHERAN	121.78	53.5	17	49	2						19	28 PP
TOOLANGI	122.18	214.4	17	49	1						19	38 PP
MELBOURNE	122.28	213.8	17	49	1							
SHIRAZ	123.88	60.4	17	45	-6	25	38	100			20	10 PP
BRISBANE	123.90	228.4	17	53	2							
KIZYL-ARVAT	124.60	48.3	17	55	3							
ASHKABAD	126.55	49.1	17	58	2							
ADELAIDE	127.76	211.5	17	50	-9							
SEMIPALATNSK	132.56	24.3	18	8	0							
TASHKENT	132.74	40.5	18	10	2							
CHARTERS TS.	132.93	231.8	17	56	-12						20	44 PP
RABAUL	134.55	255.0	18	3	-8							
FRUNSE	135.12	35.6	18	16	4							
QUETTA	135.87	55.6	18	4	-10							
IRKUTSK	136.74	3.8	18	18	3							
PORT MORESBY	137.41	245.5	18	9	-8						27	9 SKKS
WARSAK DAM	137.93	48.2	18	9	-9							
MUNDARING	138.59	189.9	18	11	-8							
TUKUBASAN	140.55	318.2	18	15K	-8						39	14 SS
LAHORE	141.14	49.9	18	20	-5							
ULAN-BATOR	141.21	1.7	18	22	-3							
ESEN BULAK	141.30	13.6	18	27	2							
MATUSIRO	141.58	320.1	18	29	4							
BOMBAY	144.05	70.3	18	32	3							
GUAM	144.23	280.5	18	29	0						21	14
ABUYAMA	144.30	320.2	18	29K	0							
DEHRA DUN	144.53	49.1	18	32K	2							
NEW DELHI	144.71	52.3	18	31K	1							
POONA	145.08	70.6	18	33K	2							
DARWIN	149.29	226.6	18	50	13							
BOKARO	153.76	53.1	18	47	4						28	38
SHILLONG	157.16	41.8	18	50K	2						19	24
CHITTAGONG	159.18	48.5	18	53	3							
HONG KONG	165.73	338.3	19	0	3						20	11 PKP2
BAGUIO CITY	166.14	303.2	19	0	3							
PHU-LIEN	168.15	8.7	19	7	9							

NOVEMBER 10 17.H 17.M 50.S EPICENTRE 44.69 149.26 DEPTH= 88.KM

A=-0.61302 B= 0.36460 C= 0.70090 D= 0.5112 E= 0.8595
G=-0.6024 H= 0.3583 K=-0.7133 HT= -3.4

DEPTH OF FOCUS= 0.009R

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
NEMURO	2.98	244.1	0	35	-11	1	9	-12				
ABASHIRI	3.63	261.1	0	48K	-7	1	32	-5				
KUSIRO	3.91	245.7	0	48	-11	1	33	-11				
OBIHIRO	4.73	250.1	1	3	-7	2	8	4				
HIROO	4.95	242.9	1	3	-10	1	59	-11				
ASAHIGAWA	5.03	262.0	1	9K	-5	2	9	-3				
Y.-SAKHLINSK	5.13	299.3	1	13A	-3						2	25
URAKAWA	5.36	243.9	1	11K	-8	2	11	-9				
WAKKANAI	5.42	280.4	1	18	-2	2	38	17				
RUMOE	5.53	265.0	1	18	-3							
TOMAKOMAI	5.94	252.4	1	19	-8	2	31	-3				
SAPPORO	5.94	256.9	1	21K	-6	2	39	5				
MURORAN	6.47	251.4	1	25	-9	2	36	-11				
UGLEGORSK	6.60	314.3	1	36A	0	2	56	6				
SUTTSU	6.81	257.0	1	35	-4	2	56	1				
MORI	6.84	250.8	1	35	-4	2	52	-4				
HAKODATE	6.84	248.1	1	28A	-11	2	43	-13				

HATINOHE	7.06	236.6	1	30	-12	2	44	-18			
AOMORI	7.34	241.1	1	36	-10	2	57	-12			
MIYAKO	7.39	229.6	1	34	-13	2	48	-22			
MORIOKA	7.80	233.1	1	42	-10	3	1	-19			
MIZUSAWA	8.22	230.3	1	47	-11	3	11	-19			
AKITA	8.42	237.0	2	7	6						
ISINOMAKI	8.63	226.3	1	48	-16	3	15	-25			
SAKATA	9.11	233.8	2	1	-9	3	56	4			
YAMAGATA	9.28	229.1	2	0	-12	3	35	-21			
HUKUSIMA	9.58	226.7	2	5	-12	3	35	-28			
OKHA	9.78	337.2	2	20	1					4	26
ONAHAMA	9.99	222.2	2	13	-9	3	51	-22			
SHIRAKAWA	10.19	225.2	2	15	-10	3	59	-19			
NIIGATA	10.23	232.1								3	4
PETROPAVLOVK	10.37	33.2	2	24	-3					4	44
MITO	10.65	221.8	2	20	-11	4	7	-22			
UTUNOMIYA	10.81	224.4	2	20	-13	4	12	-21			
KAKIOKA	10.91	222.4	2	22	-12	4	14	-21			
TUKUBASAN	10.96	222.6	2	21	-14	4	12	-24			
TYOSI	11.02	218.5	2	23	-13	4	15	-23			
TAKADA	11.26	231.4	2	24	-15	4	31	-13			
MAEBASI	11.34	226.6	2	26	-14	4	29	-16			
KUMAGAYA	11.37	224.8	2	30	-11	4	29	-17			
TOKYO C.M.O.	11.56	222.1	2	49	6	4	28	-23			
NAGANO	11.60	230.1	2	38	-6	5	1	9			
TITIBU	11.65	225.2	2	32	-12	4	30	-23			
OIWAKE	11.66	227.9	2	33	-11	4	45	-8			
MATUSIRO	11.69	229.6	2	32A	-13	4	30	-24			
YOKOHAMA	11.81	221.7	2	33	-13	4	59	2			
WAZIMA	11.84	236.2	2	42	-5						
MATUMOTO	12.03	229.4	2	49	0	4	42	-20			
TOYAMA	12.13	233.0	2	48	-3	5	0	-5			
MERA	12.15	219.8	3	1	10						
KOHU	12.16	225.8	2	48	-3	4	51	-14			
HUNATU	12.19	224.7	2	47	-4	4	47	-19			
AJIRO	12.38	222.4	2	43	-11	4	48	-22			
MISIMA	12.40	223.1	2	46	-8	4	51	-20			
OSIMA	12.48	220.8				4	50	-22			
KANAZAWA	12.57	233.9	2	49	-7						
IIDA	12.65	227.5	2	50	-8						
HUKUI	13.15	233.4	2	56	-8						
GIHU	13.31	230.1	2	58	-8						
HAMAMATU	13.33	225.6	3	7	1	5	26	-7			
NAGOYA	13.38	228.9	3	0	-7	5	34	0			
TSURUGA	13.52	232.6	3	1	-8						
HIKONE	13.70	231.1	3	5	-6						
KLYUCHI	13.76	28.1	3	9	-3					6	36
KAMEYAMA	13.89	229.3	3	23	9	5	41	-5			
TU	13.97	228.8								3	36
KYOTO	14.17	231.7	3	6	-11	6	8	15			
TOYOOKA	14.33	235.3	3	10	-9					7	3
NARA	14.36	230.5	3	16	-4						
ABUYAMA	14.37	231.6	3	9K	-11	6	40	43			
OSAKA	14.55	231.1	3	14	-8	6	1	-1		6	57
OWASE	14.62	228.0	3	42	19					4	2
TOTTORI	14.72	236.6	3	14	-10						
SAIGO	14.78	240.5	3	28	3					8	37
MAGADAN	14.91	3.1	3	27	0						
SUMOTO	15.13	231.8	3	30	0	6	58	43			
SIOMISAKI	15.33	227.5	3	32	0	6	29	9			
TAKAMATU	15.63	233.7	3	26	-10	6	39	12			
TORISIMA	15.85	209.5				6	10	-21			
MUROTO	16.34	230.8	3	45	0	6	50	7			
HAMADA	16.41	239.3	3	39	-7	6	47	3			
KOTI	16.48	232.9	3	43	-4	6	51	5			
HIROSIMA	16.55	237.2	4	44	57	6	49	2			
MATUYAMA	16.71	235.2	3	46	-3					9	6
ASHIZURI	17.39	232.1	3	53	-5	7	14	7			
SIMONOSEKI	17.74	239.1	3	50	-12						
OOITA	17.82	236.1	4	1	-2	7	23	7			
HUKUOKA	18.33	239.2	4	5	-4	7	35	8			
KUMAMOTO	18.66	236.9	4	7	-6	7	40	5			
MIYAZAKI	18.88	233.6	4	15	-1	7	47	7			
NAGASAKI	19.21	238.2	4	14	-5	7	50	4		9	15 PCP
KAGOSIMA	19.64	234.5	4	25K	1	8	2	7			
YAKUSIMA	20.50	232.4	4	30	-3	8	19	7			
YAKUTSK	20.76	333.6	4	31	-4	8	20	3			
TIKSI	28.75	346.7	5	47	-4	10	52	19			

ULAN-BATOR	29.17	291.6	5	51	-4					
TAIPEI	29.82	238.1							11	32
IRKUTSK	30.32	300.7	6	2A	-3					
TAWU	32.21	235.6							11	26
HONG KONG	36.40	243.8	6	53K	-4	12	33	1		
ESEN BULAK	36.59	292.0	7	2	3					
BAGUIO CITY	37.11	229.8	6	58	-5	12	43	1		
MANILA	38.29	227.5	7	14	1	13	3	3		
COLLEGE	39.43	36.8	7	21	-2					
PHU-LIEN	42.40	250.0	7	48	1	14	14	12		
SEMIPALATNSK	45.40	303.0	8	11	0				15	6 PS
SITKA	46.76	46.6	8	25	3					
MOULD BAY	47.45	19.0	8	25	-2					
RABAUL	48.74	176.1	8	34K	-3				9	43 PP
KIPAPA	48.93	100.4	8	41	2	15	45	10	19	26 SS
HONOLULU	48.95	100.6				15	46	11	18	25 SCS
SHILLONG	49.60	267.4	8	40A	-4	15	46	2	15	55 PS
COPPERMINE	51.56	28.8	8	56	-3					
CHITTAGONG	51.65	264.2	9	0	1	16	17	5	12	2
ALERT	52.06	5.0	9	1	-2					
FRUNSE	52.14	296.0	9	1K	-2	16	26	7	11	8 PP
SVERDLOVSK	53.49	316.9	9	12	-1				12	27 PPP
RESOLUTE	53.63	17.3	9	12	-2					
PORT MORESBY	53.87	182.6	9	12	-4	16	44	1		
CALCUTTA	53.99	266.9	9	18	1	16	47	3		
YELLOWKNIFE	54.17	34.7	9	16	-2					
HONIARA	54.73	167.0	9	19	-3	16	54	0		
BOKARO	55.01	270.0	9	25	1	17	3	5		
TASHKENT	56.32	297.0	9	35	1	17	20	5	17	44 PS
DEHRA DUN	56.58	281.3	9	32	-4	17	23	4	11	37 PP
VICTORIA	56.93	52.4	9	37	-1					
KHOROG	56.96	292.0	9	36A	-2	17	30	6		
APATITY	58.14	336.0	9	45A	-2	17	40	1	13	10 PPP
NEW DELHI	58.21	280.1	9	43A	-4	17	44	4	11	59 PP
PORT BLAIR	58.26	253.9	9	56	9					
KEVO	58.36	339.8	9	49	1	17	40	-2	13	18 PPP
LAHORE	58.45	284.7	9	45	-4	17	47	4		
WARSAK DAM	58.92	288.6	9	49	-3					
BANFF	59.75	46.5	9	50	-8					
SODANKYLA	60.17	337.9	10	0	0				12	19 PP
TROMSOE	60.34	342.1	10	1	-1					
KIRUNA	61.40	340.3	10	10	1	18	25	4		
SHASTA	61.91	59.5	10	12	0					
HUNGRY HORSE	62.19	48.5	10	13	-1	18	33	2		
KAJAANI	62.25	335.0	10	15	0					
UKIAH	62.32	61.3	10	18	3					
BLUE MTS.	62.47	53.2	10	15	-1	18	44	10	12	36 PP
MINERAL	62.60	59.4	10	19A	2					
CALISTOGA	63.01	61.4	10	21A	1					
BERKELEY	63.68	62.0	10	25A	1	18	58	8	23	14 SS
QUETTA	64.33	287.8	10	25	-3	19	4	6		
LICK	64.39	62.1	10	30A	1					
BUTTE	64.40	49.9	10	27	-2				19	15 SP
CHARTERS TS.	64.52	183.1	10	26	-3	19	2	2		
PULKOVO	64.54	330.6	10	29	-1	19	4	4	14	27 PPP
PARAISO	64.55	63.4	10	34	4					
MOSCOW	64.58	324.4	10	30K	0	19	10	9	12	56 PP
UMEA	64.60	337.6	10	31A	1				12	54 PP
SCORESBY SD.	64.96	356.7	10	35K	3					
KAP TOBIN	65.03	356.7	10	34	1					
GODHAVN	65.13	8.8	10	32	-1					
ASHKABAD	65.15	299.4	10	33	0	19	16	8	12	58 PP
BOZEMAN	65.45	49.5	10	33	-2				19	20 SP
PRIEST	65.75	62.6	10	38K	1					
NURMIJARVI	65.88	333.5	10	35	-3	19	18	1	14	40 PPP
HELSINKI	66.04	333.1	10	38	-1					
MADRAS	66.11	264.7	10	41	1	19	27	8	13	8 PP
EUREKA	66.55	57.2	10	41	-1				13	9 PP
SKALSTUGAN	66.82	340.6	10	45	1					
POONA	66.93	273.6	10	47	2	19	31	2		
BOMBAY	67.42	274.6	10	49	1	19	39	4	13	19 PP
FROBISHER	67.87	17.1	10	51K	0					
DUGWAY	67.96	54.9	10	50K	-1					
AFIAMALU	68.22	138.9				19	54	9		
UPPSALA	68.54	336.1	10	51A	-4	19	53	4	20	48 SCS
PASADENA	68.59	62.9	10	53	-2	19	59	10		
FLAMING GRGE	69.45	52.5	11	0	0					
UINTA BASIN	69.75	53.1	11	0	-2	20	12	9	13	33 PP
RAPID CITY	70.67	46.7	11	8	0				20	25 SP

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.

GLEN CANYON	70.80	56.9	11	8	-1							
TEHERAN	70.84	301.4	11	9	0	20	26	10			38	9 PKPPKP
KONGSBERG	70.86	339.6	11	11	2	20	18	2	11	21	13	45 PP
BERGEN	71.21	342.0	11	11	0							
GORIS	71.30	307.2	11	11A	-1	20	34	13				
LARAMIE	71.31	50.1	11	14	2							
BRISBANE	71.80	176.7	11	12	-3	19	59	-28				
GOTEBORG	71.94	337.5	11	15	0							
KARLSKRONA	72.22	334.8	11	16A	-1							
GOLDEN	72.54	51.2	11	19	0							
TONTO FOREST	72.79	58.8	11	19	-1	20	49	11			11	36 PCP
COPENHAGEN	73.55	336.2	11	25A	0	20	53	7				
WARSAW	73.67	329.8	11	25	-1	20	50	2			11	45 PCP
SIMFEROPOL	73.84	318.0	11	28	1	20	57	8			14	13 PP
SHIRAZ	74.21	296.1	11	26A	-3						20	59
TUCSON	74.44	60.0	11	29	-1							
KRAKOW	75.85	329.1	11	37	-1	21	22	10				
CHORZOW	76.00	329.7	11	40	1						11	54 PCP
SCHEFFERVLLE	76.24	20.5	11	41	1							
RACIBORZ	76.45	330.0	11	42	1						11	52 PCP
COLLMBERG	77.17	333.6	11	43	-2	21	35	9				
HALLE	77.33	334.3	11	49	3							
WITTEVEEN	77.69	337.8	11	54	6							
PRAGUE	77.76	332.1	11	54	5							
PRUHONICE	77.80	332.0	11	48	-1							
DURHAM	77.86	343.2	12	8K	19				12	29		
BUCHAREST	77.92	322.2	11	53	3							
JENA	77.94	334.2	11	49	-1	21	40	6			27	16 SS
RIVERVIEW	78.17	178.4	11	49	-2	21	44	7			11	56 PCP
MUNSTER	78.19	336.9	11	52	1							
BRATISLAVA	78.45	329.6	11	50	-2						13	20 PKS
LAWRENCE	78.48	45.9	11	55	2							
VIENNA-H.	78.64	330.0	11	53	-1							
KASPERSKE H.	78.85	332.1	11	52A	-3							
BENSBERG	79.22	336.7	11	57A	0							
ISTANBUL UN.	79.25	318.3	11	59A	2	21	57	9				
CANBERRA	79.64	180.2	11	59	0	22	2	10			12	8 PCP
ADELAIDE	79.86	188.8	11	57K	-3						21	58
WICHITA MTS.	79.87	50.8	11	59	-1	22	5	10			15	8 PP
BELGRADE	79.97	325.7	12	1	0	22	6	10			12	5 PCP
UCCLE	80.13	338.3	12	5	3	22	6	8				
SOFIA	80.50	322.8	12	12	8	22	13	12			14	49 PP
TULSA	80.50	48.3	12	3K	-1	22	7	6			27	32 SS
STUTTGART	80.55	334.4	12	4	0							
KEW	80.67	341.3	12	5	1							
DOURBES	80.70	337.8	11	57	-8							
STRASBOURG	81.18	335.3	12	8A	1	22	28	20			16	24 PP
LJUBLJANA	81.18	330.0	12	7	0							
FAYETTEVILLE	81.21	47.2				22	6	-3				
KSARA	81.22	309.4	12	11K	4	22	23	14			15	23 PP
ST. LOUIS 1	81.24	43.1	12	8	1							
LONDON ONT.	81.75	34.8	12	12	2							
TRIESTE	81.80	330.2	12	13	3	22	22	7			22	33 SKS
OTTAWA	81.84	30.2	12	12	1							
TOOLANGI	81.95	183.0	12	12A	1	22	25	9			12	22 PCP
SCARBOROUGH	81.95	33.3	12	14A	3							
MUNDARING	82.02	207.9	12	8	-4	22	22	5				
VALENTIA	82.14	347.4	12	16	4							
MELBOURNE	82.23	183.4	12	12	-1							
TITOGRAD	82.43	325.1	12	26	12	22	49	28			24	9 PPS
PARIS	82.44	338.6	12	16	2							
BREBEUF	82.49	28.9	12	14	0	22	30	8				
BESANCON	82.90	335.8	12	22	6							
JERUSALEM	83.11	308.4	12	17	0							
FOLINIERE	83.22	340.4	12	17	-1							
GARCHY	83.69	337.6	12	22A	2							
ATHENS	84.16	319.7	12	22	0	22	44	6				
AQUILA	84.78	328.8	12	26	1	22	46	1	12	58	15	22 PP
ISOLA	85.34	333.7	12	32	4							
ROME	85.51	329.1	12	31K	2	22	55	3			15	49 PP
KARAPIRO	85.60	159.4	12	30	1							
CUMBERLAND	85.92	41.9	12	29	-2	23	4	8				
PALISADES	86.30	31.3	12	36A	3	23	10	11				
TARRALEAH	86.64	182.1	12	37	2							
WASHINGTON	86.90	34.4	12	41	5							
BAGNERES	88.37	337.9	13	49	66							
WELLINGTON	88.60	161.1	12	46	2	23	10	-11			24	30 SP
COLUMBIA	89.34	39.7	12	49	2	23	15	-13				

ROXBURGH	91.53	166.0				23	30	-17			30	10 SS
TOLEDO	92.45	339.8	13	3A	1	23	49	-6			16	48 PP
LWIRO	112.87	290.8	14	36	-230						19	22 PP
WILKES	114.63	196.1				25	15	6			19	32
CARACAS	116.06	40.3	14	50	-223						19	30 PP
CHINCHINA	116.31	51.6									19	44
FUQUENE	116.94	49.6									19	49
BOGOTA	117.46	50.4									19	51 PP
TRINIDAD	118.32	34.7									19	54 PP
SCOTT BASE	122.74	175.7	18	44	-1							
NANA	128.95	65.0	19	1	4							
HUANCAYO	129.96	63.6	19	3	4							
PIETERMZBURG	130.12	265.8									21	19
BANDEIRA	132.43	294.4	19	11	7						20	30 PP
BYRD STATION	133.85	166.0	19	8	1						21	35
SOUTH POLE	134.50	180.0	18	54	-14						19	10
AREQUIPA	135.71	63.8	19	15	5							
LA PAZ	137.86	60.2	19	18	4						22	58 PKS
N-LAZARVSKYA	146.65	204.1	19	29K	-1							
SANTA LUCIA	147.35	83.8	19	36K	5						32	26

NOVEMBER 11 11.H 29.M 4.S EPICENTRE -17.00-174.25 DEPTH= 158.KM

A=-0.95207 B=-0.09581 C=-0.29049 D=-0.1001 E= 0.9950
G= 0.2890 H= 0.0291 K=-0.9569 HT= 5.4

DEPTH OF FOCUS= 0.020R

SE= 1.28

	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	
AFIAMALU	3.89	38.2	0	59	-1								
LUGANVILLE	17.93	272.0	4	2	2								
KOUMAC	20.63	256.8	4	28	0								
KARAPIRO	22.70	201.3	4	51	3	8	54	13			10	0	*SS
CHATEAU	23.85	199.9	4	59	-1	9	3	2			10	20	*SS
WELLINGTON	25.98	199.1	5	17	-3	9	35	-1			10	55	*SS
HONIARA	26.19	283.4	5	22	1								
BRISBANE	32.14	245.4	6	14	0	11	12	-2					
MONOWAI	32.44	203.9	5	19	-58	10	6	-73					
RIVERVIEW	35.25	235.0	6	41A	0	12	1	-1			13	12	*SS
RABAUL	35.29	287.3	6	41	0						9	12	
CANBERRA	37.42	233.6	6	59A	0	12	32	-3	7	40	9	16	PCP
CHARTERS TS.	37.51	259.0	6	59	-1	12	25	-11					
TOOLANGI	40.83	231.7	7	26A	-1	13	30	4	7	49	9	26	PP
KIPAPA	41.36	23.2	7	33	1								
MOORLANDS	41.48	224.2	7	33	0								
TARRALEAH	41.91	224.7	7	37	1								
ADELAIDE	45.46	237.5	8	4A	-1						14	25	
GUAM	50.56	304.2	8	44	0								
DARWIN	53.18	267.1	9	4	0								
SCOTT BASE	61.60	184.5	10	4	1								
MUNDARING	64.06	242.3	10	18	-1								
BYRD STATION	67.52	171.1	10	40	-1	19	23	0					
WILKES	68.64	204.8	10	48	0	19	41	5					
MATUSIRO	69.63	320.7	10	53	-1								
MANILA	71.15	292.4	11	3	0								
PARAISO	72.20	41.9	11	13	4								
BAGUIO CITY	72.30	293.9	11	10	0								
SOUTH POLE	73.11	180.0	11	15	0								
PRIEST	73.19	42.9	11	12A	-3								
BERKELEY	73.22	40.6	11	16A	1								
LICK	73.28	41.4	11	14K	-2								
UKIAH	73.41	39.1	11	18	2								
CALISTOGA	73.50	39.8	11	12A	-5								
PASADENA	73.71	45.8	11	18	0						20	38	
SHASTA	74.90	38.3	11	25	0								
MINERAL	75.15	38.9	11	26K	0								
MIRNY	75.65	204.4	11	29	0	20	58	2	12	20			
BOULDER CITY	77.00	45.8	11	38	1				12	24			
TUCSON	77.97	50.8	11	43	1				12	26			
EUREKA	78.15	42.3	11	44A	1						12	39	
TONTO FOREST	78.64	48.8	11	46	0				12	33	14	45	PP
VICTORIA	79.35	31.6	11	49	0								
GLEN CANYON	79.75	46.3	11	53	1								
BLUE MTS.	80.38	37.2	11	54	-1				12	39	14	55	PP

DUGWAY	80.58	43.0	11	56	0						
UINTA BASIN	82.78	44.2	12	8A	1	22	12	1	12 54	15 9	PP
FLAMING GRGE	83.20	43.7	12	10	0						
BUTTE	83.80	38.1	12	12	-1				12 56		
COLLEGE	84.08	11.0	12	13	-1						
HUNGRY HORSE	84.23	35.6	12	14	-1					15 30	PP
BOZEMAN	84.53	39.0	12	15	-1					13 3	
BANFF	85.00	32.7	12	17K	-2						
GOLDEN	85.35	46.2	12	21	1						
MAWSON	86.03	198.8	12	24A	0						
WICHITA MTS.	88.25	53.0	12	34	0				13 18	2[illegible] 3	55
RAPID CITY	88.71	43.0	12	38	2						
TULSA	90.82	52.7	12	47K	1	23	4	-22			
FAYETTEVILLE	92.10	53.0	12	52	0						
COPPERMINE	94.74	19.1	13	4A	0						
ULAN-BATOR	95.19	318.5	13	6	0						
MOULD BAY	98.64	11.4	13	21A	-1						
CUMBERLAND	98.65	55.5	13	22	0	24	40	56		26 13	SP
CHITTAGONG	99.82	290.4	13	48	21						
RESOLUTE	103.48	15.6	13	42	-2						
CARACAS	109.44	84.6				24	54	21			
QUETTA	122.99	295.2	18	40	3						
KEVO	125.64	351.1	18	43	1						
SODANKYLA	127.87	349.9	18	46	-1						
KIRUNA	128.32	353.0	18	47	-1						
NURMIJARVI	134.45	347.0	18	45	-14					22 29	PKS
HELSINKI	134.69	346.6								18 59	
SHIRAZ	135.52	295.1	19	3	2					22 34	
BULAWAYO	136.80	212.2	19	3	0						
BROKEN HILL	141.54	217.0	19	4	-8						
LWOW	144.08	339.7	19	15	-2						
WITTEVEEN	144.25	359.0	19	18	1						
MUNSTER	145.07	358.0	19	19	1						
KRAKOW	145.10	344.0	19	19A	0					19 42	
CHORZOW	145.12	345.1	19	20	1						
HALLE	145.22	353.2	19	20	1						
KEW	145.27	6.7	19	18	-1					20 18	
COLLMBERG	145.29	352.0	19	19	0						
RACIBORZ	145.50	345.8	19	21	2						
JENA	145.83	353.4	19	20	0				20 10		
PRAGUE	146.27	349.9	19	22	2						
PRUHONICE	146.34	349.7	19	23	2						
KASPERSKE H.	147.32	350.5	19	24	2						
BANDEIRA	147.44	193.7	19	23	1					19 28	PKP2
VIENNA-H.	147.64	346.7	19	28A	5						
FOLINIERE	147.90	7.8	19	28	5						
STUTTGART	148.18	355.6	19	25	1						
KSARA	148.20	307.5	19	28	4				20 16		
ISTANBUL UN.	148.77	324.8	19	30	5					23 2	
JERUSALEM	149.51	304.3	19	28	2						
GARCHY	149.72	3.6	19	28	2						
LJUBLJANA	150.12	347.7	19	28	2					19 33	PKP2
LWIRO	150.28	232.1	19	35	8						
CLERMONT-FD.	151.23	3.8	19	37	9						
ISOLA	152.88	357.9	19	40	10						
TOLEDO	155.66	18.5	19	38	4					23 49	PP

NOVEMBER 11 19.H 54.M 11.S EPICENTRE -9.35 -71.48 DEPTH= 606.KM

A= 0.31339 B=-0.93580 C=-0.16143 D=-0.9482 E=-0.3176
G=-0.0513 H= 0.1531 K=-0.9869 HT= 6.6

DEPTH OF FOCUS= 0.090R

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
HUANCAYO	4.63	234.3	1	30	-1	2	43	0				
NANA	5.88	243.1	1	39	-1	3	0	-1				
AREQUIPA	7.07	180.0	1	51	0							
LA PAZ	7.82	155.6	1	59	1	3	33	1				
BOGOTA	14.12	349.4	2	59	0	5	30	7				
CHINCHINA	14.81	343.7	3	11	5	5	44	9				
CARACAS	20.24	13.0	3	55	-1	7	5	-2				
TRINIDAD	22.26	27.0	4	14	-1							
COLUMBIA	44.05	348.6	7	14	-3							

CUMBERLAND	46.63	344.2	7	34K	-2					8	57	
BLACKSBURG	47.07	350.2	7	48	8							
TULSA	50.51	334.3	8	4K	-1					9	12	
WICHITA MTS.	50.79	331.0	8	6	-1	14	38	-1		9	54	PP
LAWRENCE	52.92	336.8	8	20	-2							
BREBEUF	54.63	358.2	8	35K	1							
TUCSON	55.88	319.5	8	43	0				10 35	9	33	PCP
TONTO FOREST	57.50	321.1	8	54	0				10 46	9	40	PCP
GLEN CANYON	59.48	323.2	9	8	1							
RAPID CITY	60.45	334.2	9	15	1							
UINTA BASIN	60.67	327.2	9	15K	0				11 6	11	43	PP
FLAMING GRGE	61.01	327.8	9	17	0							
PASADENA	61.88	316.8	9	23	0							
DUGWAY	62.36	325.2	9	26K	0							
EUREKA	63.72	322.8	9	36K	1							
SCHEFFERVLLE	64.05	3.0	9	34K	-3							
PRIEST	64.69	317.3	9	41K	0							
BOZEMAN	65.27	330.5	9	46	2				11 43			
PARAISO	65.95	316.7	9	45	-4							
LICK	66.02	318.0	9	50K	1							
BERKELEY	66.72	318.1	9	54K	1							
CALISTOGA	67.36	318.7	9	58K	1							
MINERAL	67.70	320.7	9	59K	0							
BLUE MTS.	67.93	326.6	10	0K	-1					11	23	PCP
SHASTA	68.39	320.6	10	2	-1							
HUNGRY HORSE	68.61	331.0	10	4	-1							
BANFF	71.27	332.5	10	19	-1							
FROBISHER	72.90	1.4	10	28K	-2							
VICTORIA	73.50	326.9	10	34	1							
BYRD STATION	74.09	187.8	10	38	2					13	39	
SOUTH POLE	80.71	180.0	11	14	2							
FOLINIERE	84.75	38.9	11	32	0							
RESOLUTE	85.12	353.9	11	33K	-1							
SCOTT BASE	87.27	190.4	11	45	1							
MOULD BAY	89.89	349.8	11	56K	0							
KIMBERLEY	90.99	119.2								14	7	
COLLEGE	92.66	335.5	12	9	0				14 18			
SKALSTUGAN	95.53	26.5	12	21K	-1							
CANBERRA	121.39	218.5	17	48	3							
BRISBANE	123.68	228.2	17	53	4							
SHIRAZ	124.05	60.6	17	53	3							
ADELAIDE	127.47	211.4	18	0A	3							
CHARTERS TS.	132.71	231.5	18	10	3							
QUETTA	136.07	55.9	18	16	3							
MATUSIRO	141.82	319.8	18	21	-3							
DEHRA DUN	144.75	49.4	18	31	2					20	43	
NEW DELHI	144.92	52.7	18	31	2							
DARWIN	149.05	226.2	18	40	5							
CHATRA	153.36	46.5	18	45K	4							
SHILLONG	157.41	42.3	18	50K	3					19	25	

NOVEMBER 12 7.H 6.M 32.S EPICENTRE 35.38 29.64 DEPTH= 73.KM

A= 0.71019 B= 0.40412 C= 0.57647 D= 0.4946 E=-0.8691
G= 0.5010 H= 0.2851 K=-0.8171 HT= -0.0

DEPTH OF FOCUS= 0.006R

SE= 3.24

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
KSARA	5.38	105.1	1	16A	-3	2	12	-9					
ATHENS	5.41	300.2	1	18K	-2	2	16	-6					
ISTANBUL UN.	5.67	355.0	1	22	-1								
JERUSALEM	5.88	126.1	1	25	-1								
PATRAS	6.94	296.4	1	42	1								
BUCHAREST	9.42	344.3									4	31	
SIMFEROPOL	10.15	18.3	2	25	0								
TITOGRAD	10.71	314.1	2	33	0	4	38	6			3	42	
TARANTO	11.02	301.1	2	29	-8								
REGGIO CALA.	11.55	287.7	2	37	-7	4	35	-17					
KISHINEV	11.64	357.2	2	45	0								
MESSINA	11.64	288.1	2	39	-6	4	37	-17			2	52	PP
BELGRADE	11.75	326.1	3	16A	30	5	39	42			6	54	
BAKURIANI	12.57	55.6	2	58	1								
TIFLIS	13.44	57.4	3	10	1								

GORIS	13.88	67.9	3	13	-1					
KIROVOBAD	14.16	63.3	3	18	0					
UZHGOROD	14.31	339.9	3	22	2					
AQUILA	14.43	303.7	3	24	2	5	52	-8		
ROME	14.89	301.0	3	26	-2	5	54	-17		
LWOW	15.00	345.8	3	34	5					
NIEDZIKA	15.61	336.8	3	39	2				4	13
LJUBLJANA	15.62	317.6	3	35	-2				4	54 PGPGPG
MAKHACH-KALA	15.77	55.9	3	44	5					
TRIESTE	15.82	315.2	3	39	0	6	28	-4	4	58 PGPGPG
VIENNA-H.	16.19	326.6	3	45	1					
KRAKOW	16.28	337.2	3	45	0				4	0 PP
PADOVA	16.80	312.0							4	8
TEHERAN	17.70	82.5	4	5K	2	7	27	12		
WARSAW	17.93	342.6	4	9	3	7	27	7	4	36 PPP
KASPERSKE H.	18.11	324.2	4	5	-3					
PRUHONICE	18.27	327.6	4	8	-2					
PRAGUE	18.39	327.6	4	10	-1	7	34	4	4	43
MONACO	19.01	302.7	4	22	4					
ISOLA	19.41	303.7	4	24	1					
COLLMBERG	19.91	328.1	4	25	-3				4	47 PP
STUTTGART	20.10	317.9	4	29	-1					
SHIRAZ	20.10	100.1	4	30	0	8	10	3		
JENA	20.29	325.5	4	28	-4	8	13	3	8	55
STRASBOURG	20.84	315.9	4	49	11	8	22	1	5	10 PP
MOSCOW	21.07	12.6	4	39	-1					
BESANCON	21.27	311.1	4	51	9				5	24
KIZYL-ARVAT	21.50	71.9	4	46	2					
BENSBERG	22.47	320.8	4	56	2				5	42
CLERMONT-FD.	22.56	305.5	5	5	10					
MUNSTER	22.85	323.3	4	55	-2					
KARLSKRONA	22.89	339.6	4	55	-3				5	33
VANNOVSKAYA	22.94	75.2	4	59	1					
GARCHY	23.10	309.1	4	59A	-1					
ASHKABAD	23.13	75.1	5	5	5					
DOURBES	23.40	316.7	5	8	5				5	42
COPENHAGEN	23.48	335.2	5	4	0					
UCCLE	23.89	318.0							5	28 PP
BAGNERES	24.01	297.6	5	26	17					
ALICANTE	24.23	286.0	5	19K	8				5	56 PP
PULKOVO	24.40	0.8	5	13	0					
HELSINKI	24.99	354.5	5	17	-1					
GOTEBORG	25.26	337.6	5	20	-1					
NURMIJARVI	25.35	354.2	5	20	-2	9	40	0	10	18
UPPSALA	25.70	346.0				9	46	0		
FOLINIERE	25.86	310.4	5	24	-2					
ALMERIA	25.92	282.7	5	24K	-3	10	4	15	6	16 PP
TOLEDO	26.96	289.7	5	36A	0	10	20	14	5 50	6 23 PP
KONGSBERG	27.56	337.9	5	39	-3				6	45 PP
KAJAANI	28.75	358.2	5	51	-2				7	29
UMEA	29.04	351.4	5	52	-3				6	39 PP
SVERDLOVSK	29.93	34.6	6	2	-1					
SKALSTUGAN	30.18	344.6	6	3	-2					
QUETTA	31.67	88.7	6	18	0					
SODANKYLA	32.08	357.8	6	32	10					
APATITY	32.28	2.7	6	22K	-2	11	33	2	12	27
BANGUI	32.49	200.8	6	24	-2	11	34	0		
KIRUNA	32.92	353.6	6	27A	-2					
KEVO	34.46	358.4	6	41	-2	11	41	-24	7	51 PP
TROMSOE	34.80	353.5	6	43	-2					
FRUNSE	35.34	64.0	6	50	0					
LWIRO	37.45	181.4	7	9	1					
NEW DELHI	40.60	85.9	7	33A	-1					
CHATRA	49.40	83.2	8	43A	-1					
CHILEKA	51.03	173.4	9	0A	3					
SHILLONG	53.75	82.3	9	16A	-1					
ALERT	55.42	350.8	9	27A	-2					
TIKSI	59.66	21.3	9	58	-1					
FROBISHER	62.29	330.2	10	15K	-2					
KIMBERLEY	63.95	184.8	10	27	-1					
RESOLUTE	64.37	345.9	10	29	-1					
SCHEFFERVLLE	65.34	320.7	10	34A	-3					
MOULD BAY	66.92	352.3	10	45A	-2					
COPPERMINE	73.73	346.8	11	26A	-2					
BREBEUF	73.86	314.5	11	28K	-1					
OTTAWA	75.13	315.3	11	35	-1					
PALISADES	76.59	310.9							21	40 17
PENNSYLVANIA	79.13	312.5	11	58	0					
COLLEGE	80.06	358.9	12	2	-1					

MORGANTOWN	81.11	312.6	12	9	0							
CUMBERLAND	87.12	312.4	12	39	0	23	12	2	12	57		
BANFF	88.54	338.9	12	44	-2							
RAPID CITY	90.05	328.1	12	55	2							
HUNGRY HORSE	90.55	336.7	12	55	0				13	12		
TULSA	92.75	318.5	13	6	1							
BLUE MTS.	94.71	337.1	13	13	-1				13	35	30	9 PKKP
WICHITA MTS.	95.15	319.5	13	16	0							
UINTA BASIN	95.82	329.9	13	18	-1				13	39	17	11 PP
EUREKA	99.02	333.7	13	34	0							
TONTO FOREST	101.64	327.8	13	46	0						14	19
CHARTERS TS.	122.75	92.5	18	49	2							

NOVEMBER 13 11.H 18.M 25.S EPICENTRE -23.77-179.84 DEPTH= 475.KM

A=-0.91614 B=-0.00250 C=-0.40086 D=-0.0027 E= 1.0000
G= 0.4009 H= 0.0011 K=-0.9161 HT= 3.7
DEPTH OF FOCUS= 0.070R

SE= 1.16

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
AFIAMALU	12.43	39.3	2	43	-2	4	50	-7					
KARAPIRO	14.65	194.6	3	9	1	5	50	11					
CHATEAU	15.87	193.2	3	20	0	6	7	5					
WELLINGTON	18.03	193.2	3	41	-1	6	39	-2					
BRISBANE	24.93	255.9	4	47	1								
RIVERVIEW	27.24	241.9	5	7A	1								
CANBERRA	29.33	239.7	5	25K	0						8	16	PCP
CHARTERS TS.	31.61	270.0	5	45	1								
TOOLANGI	32.64	236.9	5	53	0								
PORT MORESBY	34.60	288.8	6	10K	1								
ADELAIDE	37.56	243.1	6	34K	0								
DARWIN	48.03	274.6	7	55	-2								
SCOTT BASE	54.51	183.5	8	44	0								
MUNDARING	56.41	246.4	8	56	-1								
BYRD STATION	61.72	170.1	9	33	0								
SOUTH POLE	66.37	180.0	10	2	0								
MIRNY	67.32	205.7	10	7	-1								
BAGUIO CITY	70.57	298.7	10	27	-1								
MAWSON	77.92	200.4	11	8	-1								
PARAISO	80.72	43.6	11	27	3								
PRIEST	81.69	44.6	11	29A	0								
BERKELEY	81.74	42.5	11	30K	1								
LICK	81.80	43.2	11	33A	4								
CALISTOGA	82.03	41.7	11	30A	-1								
PASADENA	82.15	47.5	11	31	0								
SHASTA	83.43	40.2	11	37	-1								
MINERAL	83.69	40.8	11	39K	0								
BOULDER CITY	85.44	47.5	11	48	1				13	38	15	13	PP
TUCSON	86.26	52.4	11	53	2				13	46			
EUREKA	86.65	44.1	11	53A	0				13	50	15	22	PP
TONTO FOREST	87.00	50.5	11	55	0				13	49	29	45	PKKP
GLEN CANYON	88.18	48.1	12	1	1								
BLUE MTS.	88.92	39.1	12	3	-1				13	59	12	26	
SALT LAKE C.	90.00	44.8	12	9	0								
UINTA BASIN	91.26	46.0	12	14A	-1				14	12	15	43	PP
FLAMING GRGE	91.68	45.6	12	16	-1								
COLLEGE	91.76	13.1	12	15	-2				14	11			
HUNGRY HORSE	92.77	37.5									29	30	PKKP
BOZEMAN	93.06	40.9	12	22	-1				14	17			
WICHITA MTS.	96.46	55.0	12	37	-1				14	32.			
QUETTA	120.87	292.0	17	59	1								
SHIRAZ	133.18	289.0	18	20	-1								
SODANKYLA	133.39	346.3									21	1	SKP
KIRUNA	134.19	349.4									21	3	SKP
KAJAANI	135.81	343.0	18	17	-9						21	9	SKP
UMEA	137.81	346.9									21	14	SKP
NURMIJARVI	139.54	341.6									21	19	SKP
LWIRO	141.98	231.0	18	35	-3								
KSARA	147.27	296.0	18	50	4								
JERUSALEM	148.07	292.3	18	52	5								
NIEDZIKA	149.90	333.3	18	57	7								
COLLMBERG	150.78	343.4	18	58	7								

PRUHONICE	151.52	340.3	19	0	8											
KASPERSKE H.	152.57	340.7	19	1	7											
ATHENS	155.41	310.6												25	23	

NOVEMBER 14 4.H 35.M 45.S EPICENTRE -17.42 167.64 DEPTH= 0.KM

A=-0.93258 B= 0.20431 C=-0.29757 D= 0.2140 E= 0.9768
G= 0.2907 H=-0.0637 K=-0.9547 HT= 5.3

SE= 3.63

	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
PORT VILA	0.71	115.5	0	14	-3							
LUGANVILLE	1.95	345.3	0	34A	-1							
KOUMAC	4.46	225.0	1	9	-1							
NOUMEA	4.98	192.8	1	19	1							
HONIARA	10.91	315.7	2	39	-1							
BRISBANE	16.93	231.5	4	1	1	8	11	63				
RABAUL	20.06	309.1	4	40	2	8	19	1			4	59 PP
AFIAMALU	20.12	82.9	4	36	-2	8	25	6				
CHARTERS TS.	20.42	259.2	4	41	0							
PORT MORESBY	21.45	289.2	4	53	1	8	53	7				
KARAPIRO	21.58	162.8	4	51	-2							
RIVERVIEW	22.04	219.0	4	57	-1	9	4	7				
GISBORNE	23.01	158.9	5	7	0							
CANBERRA	24.35	219.3	5	21	1	9	46	8	5	28	5	33 *SP
WELLINGTON	24.55	167.0	5	24	2	9	39	-2				
TOOLANGI	27.96	219.7	6	4	10				6	13		
ROXBURGH	28.01	177.5				10	39	1				
MELBOURNE	28.44	219.9	6	4	6							
ADELAIDE	31.13	230.2	6	17	-5	11	27	-1	6	32		
DARWIN	35.89	272.9	7	3	-1							
HONOLULU	51.07	42.4	9	11	5	16	29	6			20	43
KIPAPA	51.21	42.4				16	28	3			20	44
MANILA	55.92	301.9				17	30	1				
BAGUIO CITY	57.28	303.4	9	51	-1							
MATUSIRO	60.45	332.9	10	11	-3							
SCOTT BASE	60.46	180.2	10	12	-2							
HONG KONG	65.54	305.2	11	1	14	19	45	13				
MIRNY	68.04	204.6	11	2	-1							
ULAN-BATOR	84.63	323.9	12	36	-1							
YAKUTSK	84.68	343.1	12	35	-2							
PARAISO	84.93	49.6	12	42	4							
BERKELEY	85.68	48.3	12	45K	3	23	18	4			24	15
CALISTOGA	85.79	47.5	12	44A	2							
LICK	85.90	49.0	12	43K	0							
PRIEST	86.10	50.4	12	44K	0							
SHASTA	86.83	45.7	12	47A	0							
PASADENA	87.16	53.0	12	59	10	23	24	-4				
MINERAL	87.22	46.3	12	54K	5							
COLLEGE	88.77	17.4	12	54	-3							
SEATTLE	89.95	39.5				23	33	-21				
BOULDER CITY	90.39	52.4	13	4	0						13	44
EUREKA	90.83	48.8	13	6	0						16	47 PP
BLUE MTS.	91.94	43.4	13	10	-2						16	52 PP
TUCSON	92.23	57.0	13	7	-6						13	38
TONTO FOREST	92.54	55.0	13	14	0				13	25	13	54
TIKSI	92.65	348.5	13	13	-2							
UINTA BASIN	95.75	49.7	13	30	1	24	9	4			17	15 PP
COPPERMINE	101.27	22.2	13	52	-2							
WICHITA MTS.	102.73	57.4									18	10 PP
TULSA	105.21	56.7				24	46	-5			18	31 PP
CUMBERLAND	113.40	58.2	18	43	3						19	44 PP
BOGOTA	118.34	94.2									20	7 PP
SHIRAZ	119.95	294.5	18	55	2	25	53	3				
APATITY	122.04	341.0	18	53	-4						22	26 PKS
BREBEUF	122.30	46.9	18	56	-1							
KEVO	122.40	344.8	18	57	0							
PALISADES	122.59	52.2									20	27 PP
SODANKYLA	124.16	342.9	19	0	-1							
SCHEFFERVLLE	124.34	34.8	18	59	-2							
KIRUNA	125.45	345.4	19	2	-1							
KAJAANI	126.04	339.5	19	4	0							
CARACAS	126.74	89.8									20	59 PP
BAKURIANI	126.74	309.4	19	8	2							
PULKOVO	127.72	334.3	19	9	1							

UMEA	128.57	342.2	19 8	-1			
SKALSTUGAN	130.87	345.7	19 15A	1			
TRINIDAD	132.05	91.3					21 42
LWIRO	134.96	248.3	19 32	11			
ISTANBUL UN.	137.46	312.3	19 25	-1			23 4 PP
UZHGOROD	138.04	325.6	19 7	-20			
COLLMBERG	140.65	334.9	19 30	-2			
PRUHONICE	140.98	332.4	19 28	-4			
JENA	141.50	335.6	19 34	1			22 21 PP
KASPERSKE H.	142.03	332.2	19 31K	-3			
ATHENS	142.39	310.3	19 39	4			
LJUBLJANA	143.77	327.8	19 34	-3			20 12
STUTTGART	144.12	335.4	19 36	-2			
KARLSRUHE	144.27	336.4	19 41	3			
TRIESTE	144.43	327.9	19 39	1			42 36 SSP
DOURBES	144.66	341.1	19 39	0			
STRASBOURG	144.86	336.6	19 39A	0			21 21
FELDBERG	145.34	335.7	19 41	1			
VALENTIA	145.53	357.7	19 39	-1			
AQUILA	146.84	323.9	19 45	3			23 27
FOLINIERE	147.27	345.4	19 45	2			
GARCHY	147.62	340.2	20 48K	64			
MESSINA	147.99	315.9	19 49	5			
ISOLA	148.71	332.6	19 51	6			
CLERMONT-FD.	148.93	338.8	19 52	6			
BAGNERES	152.31	340.0	20 0	9			
TOLEDO	156.49	343.8	20 1A	5			20 27 PKP2

NOVEMBER 15 21.H 6.M 27.S EPICENTRE 44.28 149.16 DEPTH= 0.KM

A=-0.61671 B= 0.36817 C= 0.69579 D= 0.5126 E= 0.8586
G=-0.5974 H= 0.3567 K=-0.7182 HT= -3.3

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
KURILSK	1.32	316.2	0 27K	1				0 49
NEMURO	2.76	251.1	0 48A	1	1 21	0		
ABASHIRI	3.52	267.4	1 0	3	1 42	2		
KUSIRO	3.70	251.0	1 1	1	1 41	-4		
HIROO	4.71	246.9	1 16	2	2 10	0		
ASAHIGAWA	4.92	266.5	1 21K	4				
URAKAWA	5.13	247.6	1 23K	3	2 20	-1		
Y.-SAKHLINSK	5.28	303.5	1 24A	2	2 21	-4		
WAKKANAI	5.44	284.7	1 30	5	2 35	6		
RUMOE	5.44	269.1	1 29	4				
TOMAKOMAI	5.76	256.0	1 33	4	2 39	2		
SAPPORO	5.80	260.6	1 34K	5	2 44	6		
MURORAN	6.29	254.6	1 38	2	2 46	-4		
HAKODATE	6.63	251.0	1 42K	1	2 55	-4		
MORI	6.65	253.8	1 44	2	3 15	16		
SUTTSU	6.66	260.2	1 44K	2	3 12	13		
HATINO+E	6.78	239.1	1 43A	0	2 55	-7		
UGLEGORSK	6.84	317.0	1 38	-6				3 10
MIYAKO	7.08	231.7	1 46	-2	3 0	-10		
AOMORI	7.09	243.7	1 48	0	3 6	-4		
MORIOKA	7.51	235.2	1 53A	-1	3 11	-10		
MIZUSAWA	7.91	232.2	1 58	-1	3 20	-11		
AKITA	8.14	239.1	2 6	4	3 44	8		
ISINOMAKI	8.30	227.9	2 1	-4	3 28	-12		
SAKATA	8.82	235.6	2 12	0	4 4	11		
YAMAGATA	8.96	230.8	2 12	-2	3 47	-10		
HUKUSIMA	9.26	228.1	2 13	-5	3 55	-9		
ONAHAMA	9.65	223.4	2 21A	-2	3 57	-17		
SHI-AKAWA	9.86	226.5	2 26	0	4 11	-8		
NIIGATA	9.93	233.7						2 50
MITO	10.31	223.0	2 30K	-2	4 23	-7		
AIKAWA	10.33	236.5	2 32	-1	4 21	-10		
UTUNOMIYA	10.48	225.7	2 32	-3	4 23	-11		
KAKIOKA	10.57	223.5	2 32	-4	4 23	-13		
TUKUBASAN	10.62	223.7	2 32	-5	4 23	-14		
TYOSI	10.66	219.5	2 34	-3	4 27	-12		
PETROPAVLOVK	10.75	32.3	2 37	-1				4 52
TAKADA	10.95	232.8	2 36	-5	4 39	-7		
MAEBASI	11.01	227.8	2 41A	-1	4 34	-13		

KUMAGAYA	11.03	225.9	2	40	-2	4	43	-5			
HONGO	11.18	223.2	2	44	0					4	40
TOKYO C.M.O.	11.22	223.2	2	42	-3	4	42	-10			
NAGANO	11.29	231.4	2	48	2	4	52	-2			
TITIBU	11.32	226.3	2	45	-1	4	45	-10			
OIWAKE	11.34	229.2	2	46	0	4	57	2			
MATUSIRO	11.37	230.9	2	44A	-3	5	0	4			
YOKOHAMA	11.46	222.8	2	40	-8	4	49	-9			
WAZIMA	11.56	237.6	2	50	0	4	55	-6			
MATUMOTO	11.72	230.6	2	52	0						
MERA	11.79	220.7	2	56	3						
KOHU	11.83	227.0	2	57	4	4	58	-9			
TOYAMA	11.84	234.3	2	54	1	5	35	28			
HUNATU	11.85	225.8	2	53	0	4	56	-12			
AJIRO	12.04	223.4	2	54	-2	5	0	-12			
MISIMA	12.06	224.1	2	49	-7	4	56	-17			
OSIMA	12.13	221.8	2	48	-9	5	1	-13			
TAKAYAMA	12.19	232.3	2	57	-1						
KANAZAWA	12.28	235.2	2	59	0						
IIDA	12.33	228.6	3	1	1	5	15	-4			
SHIZUOKA	12.45	225.3	3	6	4	5	15	-7			
OMAESAKI	12.83	224.8	3	19	12						
HUKUI	12.85	234.6	3	6	-1						
GIHU	13.00	231.2	3	11	2						
NAGOYA	13.06	230.0	3	10	0	5	43	6		7	12
TSURUGA	13.22	233.8	3	12	0	5	36	-5			
HIKONE	13.39	232.2	3	15	1	5	36	-9			
KAMEYAMA	13.57	230.4	3	21	5					4	37
KYOTO	13.86	232.7	3	20	0	6	8	12			
TOYOOKA	14.04	236.4	3	25	2						
NARA	14.05	231.5	3	23	0						
ABUYAMA	14.06	232.7	3	21K	-2						
KLYUCHI	14.16	27.5	3	20	-4						
OSAKA	14.25	232.2	3	20	-5	6	3	-2			
OWASE	14.30	228.9	3	24	-2	6	18	11			
KOBE	14.42	233.1	3	26	-2						
TOTTORI	14.44	237.8	3	27	-1						
SAIGO	14.52	241.6	3	26	-3					7	55
WAKAYAMA	14.75	231.9	3	31	-1	5	44	-33			
SUMOTO	14.82	232.8	3	31	-2	6	34	15		3	43 PP
YONAGO	15.00	239.3	3	36	1						
SIOMISAKI	15.01	228.4	3	34	-1	6	39	16			
MATSUE	15.16	239.9	3	47	10						
MAGADAN	15.32	3.2	3	40K	1					6	53
TAKAMATU	15.33	234.7	3	38	-2	6	46	15			
TORISIMA	15.46	209.9	3	50	9	6	48	14			
TSURUGISAN	15.69	233.5	3	39	-5						
MUROTO	16.03	231.7	3	51	2	7	3	16			
HAMADA	16.14	240.3	3	48	-2	6	59	9			
KOTI	16.19	233.8	3	51	0	7	1	10			
HIROSIMA	16.27	238.2	3	59	7	7	4	11			
MATUYAMA	16.42	236.1	4	1	7	7	11	15			
UWAZIMA	16.99	235.1	4	0	-1	7	22	13			
ASHIZURI	17.09	233.0	4	0	-2	7	22	10			
SIMONOSEKI	17.48	240.0	4	8	1						
OOITA	17.54	237.0	4	9K	1	7	37	15			
HUKUOKA	18.06	240.1	4	17	3	7	41	7			
ITUHARA	18.36	243.5	4	18	0	7	42	1			
KUMAMOTO	18.38	237.7	4	19	1	7	51	10			
YAKUTSK	21.10	334.1	4	46A	-3						
TIKSI	29.13	346.9	6	1A	-4					6	54 PP
ULAN-BATOR	29.26	292.3	6	4	-2						
IRKUTSK	30.47	301.3	6	13A	-4	11	9	-9			
HONG KONG	36.16	244.2	7	6	0	12	46	0	7 28	8	30 PP
ESEN BULAK	36.68	292.4	7	12	2	12	52	-2			
BAGUIO CITY	36.80	230.1	7	11	0						
MANILA	37.96	227.8	7	22	1	13	7	-7			
COLLEGE	39.80	36.5	7	37	0	13	39	-3			
PHU-LIEN	42.20	250.3	7	58	2	14	16	-1			
SEMIPALATNSK	45.57	303.3	8	24	0						
TOCKLAI	46.73	266.8	8	36	3						
KHEYS	46.84	347.0	8	32K	-2					10	18 PP
SITKA	47.09	46.3	8	37	1				8 50		
MOULD BAY	47.86	18.8	8	40A	-2						
RABAUL	48.34	176.0	8	46K	1	15	41	-5		13	56
KIPAPA	48.92	100.0	8	52	2	16	2	8			
HONOLULU	48.94	100.2	8	52	2	15	58	4		10	51 PP
SHILLONG	49.52	267.6	8	54K	0	15	59	-3		10	49 PP

CHITTAGONG	51.54	264.4	9	10	0	16	28	-2			
COPPERMINE	51.95	28.7	9	11A	-2						
CHATRA	52.14	272.2	9	14K	0	16	38	0		12	17 PPP
HAWAII V.OB.	52.17	99.8	9	16	1						
FRUNSE	52.26	296.3	9	15	0	16	37	-3			
ALERT	52.48	5.0	9	14A	-3						
PORT MORESBY	53.46	182.5	9	25K	1	16	54	-2		10	45 PCP
SVERDLOVSK	53.75	317.0	9	25A	-1					10	41 PCP
PORT HARDY	53.84	51.4	9	30	3						
CALCUTTA	53.91	267.1	9	30	3	17	3	1		11	32 PP
RESOLUTE	54.04	17.2	9	26A	-2						
HONIARA	54.35	166.9	9	30	-1	17	9	1			
YELLOWKNIFE	54.55	34.5	9	32K	0						
TASHKENT	56.45	297.2	9	45K	-1	17	33	-3		10	17
DEHRA DUN	56.60	281.5	9	47K	0	17	34	-4		10	54 PCP
KHOROG	57.05	292.2	9	50K	0	17	41	-3			
VICTORIA	57.23	52.2	9	50	-2						
PORT BLAIR	58.08	254.1	9	58	0	17	58	0		18	14 PS
NEW DELHI	58.22	280.3	9	57K	-1	17	53	-7		11	57 PP
SEATTLE	58.33	52.6	10	7	8	18	3	2			
LAHORE	58.49	284.9	9	59	-1	17	59	-4			
APATITY	58.49	336.1	9	58	-2	17	55	-8		12	2 PP
KEVO	58.72	339.8	10	1	-1	18	7	1		11	50 PP
WARSAK DAM	58.98	288.8	10	2	-2						
BANFF	60.08	46.3	10	11	0						
SODANKYLA	60.52	338.0	10	13	-1					39	35 PKPPKP
VISHAKHAPTNM	60.63	266.5	10	17K	2	18	29	-2		12	19 PP
TROMSOE	60.71	342.2	10	15	-1					10	50 PCP
SEHORE	61.60	275.5	10	21	-1						
KIRUNA	61.76	340.4	10	22	-1	18	47	2			
HUNGRY HORSE	62.51	48.3	10	27	-1				10 40		
UKIAH	62.58	61.1	10	29	1				10 42		
KAJAANI	62.60	335.0	10	26A	-2					39	31 PKPPKP
BLUE MTS.	62.77	53.0	10	29	-1	18	57	-1	10 41	12	56 PP
MINERAL	62.87	59.2	10	30A	0				10 42		
CALISTOGA	63.27	61.2	10	33K	0						
BERKELEY	63.93	61.7	10	37A	0	19	13	0			
CHARTERS TS.	64.11	183.0	10	38	0	19	3	-12			
HYDERABAD	64.30	269.6	10	37K	-3	19	14	-3		13	8 PP
QUETTA	64.39	287.9	10	39	-1	19	16	-2			
LICK	64.64	61.9	10	42K	0						
BUTTE	64.72	49.7	10	42	0						
PARAISO	64.79	63.2	10	46	3						
PULKOVO	64.86	330.7	10	42	-1	19	21	-3		14	39 PPP
MOSCOW	64.87	324.5	10	43A	0	19	16	-8		13	4 PP
UMEA	64.95	337.6	10	42	-2	19	16	-9		19	33 PS
ASHKABAD	65.29	299.5	10	46	0	19	29	0			
SCORESBY SD.	65.37	356.7	10	47	0						
KAP TOBIN	65.43	356.7	10	46	-1						
GODHAVN	65.55	8.7	10	47A	-1	19	33	1			
BOZEMAN	65.77	49.3	10	48	-1	19	36	1		13	11 PP
KOUMAC	65.99	164.5	10	52	1						
PRIEST	66.00	62.4	10	51A	0						
MADRAS	66.01	264.8	10	51K	0	19	39	1		13	23 PP
NURMIJARVI	66.21	333.5	10	50A	-2	19	29	-12		13	25 PP
HELSINKI	66.37	333.2	10	50	-3						
EUREKA	66.83	57.0	10	56K	0	19	38	-10	11 10	13	22 PP
POONA	66.89	273.7	10	54K	-2	19	44	-5			
SKALSTUGAN	67.19	340.6	10	57	-1						
BOMBAY	67.38	274.7	10	58	-1	19	47	-8		13	29 PP
AFIAMALU	67.95	138.7	11	3	0	20	9	7			
NOUMEA	68.12	162.7	11	5	1						
DUGWAY	68.25	54.7	11	4K	-1						
FROBISHER	68.29	17.0	11	3A	-2						
SALT LAKE C.	68.44	53.8	11	1	-5						
PASADENA	68.83	62.7	11	8	0	19	45	-27	11 21		
UPPSALA	68.89	336.1	11	7K	-2	20	7	-6		21	19 SCS
FLAMING GRGE	69.75	52.3	11	15	1						
BOULDER CITY	69.76	59.3	11	14K	0				11 28	39	32 PKPPKP
PRICE	69.80	54.1	11	16A	2						
KODAIKANAL	69.83	264.6	11	24	9	20	21	-3			
UINTA BASIN	70.05	52.9	11	15	-1	20	24	-2	11 29	13	47 PP
TIFLIS	70.86	309.9	11	22	1	20	35	-1			
TEHERAN	71.00	301.5	11	22K	0	20	38	1		39	11 PKPPKP
RAPID CITY	71.00	46.6	11	23	1	20	44	6			
GLEN CANYON	71.08	56.7	11	22	0						
KONGSBERG	71.22	339.6	11	22	-1	20	39	-1		25	37 SS
BRISBANE	71.40	176.6	11	24	0						

GORIS	71.50	307.3	11	25K	0	20	45	2			14	5 PP
BERGEN	71.58	342.0	11	25	0				11	40		
GOTEBORG	72.30	337.5	11	27K	-2							
KARLSKRONA	72.56	334.9	11	29	-2							
GOLDEN	72.85	51.1	11	33	0							
TONTO FOREST	73.06	58.6	11	34	0	21	2	1	11	48	14	25 PP
COPENHAGEN	73.90	336.2	11	38K	-1	21	13	3				
WARSAW	73.99	329.8	11	40	1	21	9	-3			11	56 PCP
SIMFEROPOL	74.10	318.0	11	39K	-1	21	8	-5			16	7 PP
SHIRAZ	74.33	296.1	11	41	0	21	7	-8			14	15 PP
LWOW	74.79	326.7	11	44A	0	21	18	-2			14	31 PP
IASI	75.38	323.1				21	48	21				
ABERDEEN	76.09	344.3				21	47	12			27	4 SS
KRAKOW	76.17	329.1	11	52	0	21	33	-3			12	5 PCP
CHORZOW	76.32	329.7	11	53	0						11	58 PCP
SCHEFFERVLLE	76.65	20.4	11	54A	-1							
RACIBORZ	76.77	330.0	11	56	1						12	10 PCP
COLLMBERG	77.51	333.6	11	58	-1	21	45	-5				
RIVERVIEW	77.76	178.3	12	3K	2	21	56	3	12	12	12	19 *SP
WITTEVEEN	78.04	337.8	12	3A	1							
PRAGUE	78.09	332.1	12	3	1	21	51	-5			15	52
BUCHAREST	78.20	322.2	12	7	4	21	55	-3				
DURHAM	78.23	343.2	12	5	2	22	3	5	12	24	15	2 PP
JENA	78.28	334.2	12	3	-1	21	53	-5			27	23 SS
MUNSTER	78.54	336.9	12	3	-2							
CHEB	78.76	333.3	12	0	-6	21	52	-12			22	19
BRATISLAVA	78.77	329.6	12	5	-1	22	3	-1			14	57 PP
LAWRENCE	78.81	45.8	11	56	-10							
VIENNA-H.	78.97	330.0	12	8	1				12	26	15	0 PP
DE BILT	79.09	338.3	12	13	5	22	9	2				
LUBBOCK	79.17	53.5	12	9	1							
KASPERSKE H.	79.18	332.1	12	9K	1							
TIMISOARA	79.19	325.8	12	11	2	21	56	-12			13	12
CANBERRA	79.23	180.1	12	10K	1	22	9	0			22	16 SKS
ADELAIDE	79.45	188.7	12	11K	1						22	13
ISTANBUL UN.	79.51	318.3	12	10	0	22	11	-1				
BENSBERG	79.57	336.7	12	11A	0	22	10	-2			14	54 PP
WICHITA MTS.	80.18	50.7	12	13	-1	22	18	-1	12	27	30	57 PKKP
BELGRADE	80.27	325.7	12	14	0	22	16	-3			12	27 PCP
UCCLE	80.49	338.2	12	17	2	22	20	-2				
HEIDELBERG	80.50	335.0	12	15K	-1							
SOFIA	80.78	322.7	12	21	4	22	25	0			23	5 PS
TULSA	80.83	48.2	12	18K	1	22	21	-4			27	54
STUTTGART	80.89	334.4	12	18	0	22	25	-1	12	33	28	19 SS
KARLSRUHE	80.94	335.0	12	19	1							
KEW	81.03	341.2	12	18	0	22	25	-2			28	5 SS
DOURBES	81.06	337.8	12	18	0	22	28	0				
ZAGREB	81.16	328.9	12	22	3	22	29	0				
TUBINGEN	81.17	334.4	12	19	0							
KSARA	81.43	309.3	12	20	0	22	29	-2	12	30	15	28 PP
LJUBLJANA	81.50	329.9	12	20	-1						14	59 PP
STRASBOURG	81.52	335.2	12	21	0	22	33	1			15	1 PP
FAYETTEVILLE	81.54	47.0	12	21	0						34	26
TOOLANGI	81.54	183.0	12	23K	2	22	39	6	12	37	12	50 *SP
MUNDARING	81.63	207.9	12	21	0	22	33	-1				
RAVENSBURG	81.66	333.7	12	22A	0							
FELDBERG	82.07	334.8	12	24	0							
WELSCHBRUCH	82.09	336.0	12	22	-2						14	19
LONDON ONT.	82.12	34.7	12	24	0							
TRIESTE	82.12	330.2	12	23	-1	22	35	-4			22	49 SKS
SKOPJE	82.19	323.5	12	25	1	22	33	-6				
OTTAWA	82.23	30.1	12	23	-2							
VALENTIA	82.53	347.3	12	27	1							
TITOGRAD	82.73	325.1	12	41	14	23	0	15			27	7
PARIS	82.80	338.5	12	27	-1							
BREBEUF	82.88	28.8	12	28A	0	22	47	1				
PADOVA	82.99	331.2	12	35	6	23	4	17			32	43 SSS
BESANCON	83.25	335.7	12	29	-1						15	39 PP
JERUSALEM	83.32	308.4	12	31K	1							
JERSEY	83.58	341.5									23	0
FOLINIERE	83.59	340.3	12	32	0							
BOLOGNA	83.97	331.1	12	25	-9	22	52	-5				
GARCHY	84.05	337.5	12	34A	0							
PAVIA	84.10	332.8	12	39	5	22	58	-1				
ATHENS	84.43	319.7	12	37A	1	22	58	-4				
PRATO	84.59	331.0	12	48	11	22	56	-7				
AQUILA	85.09	328.7	12	39	0	23	3	-5	13	8	16	3 PP
PATRAS	85.12	321.1	12	39	0							
TARANTO	85.19	325.3				23	15	6			13	55

KARAPIRO	85.24	159.4	12	42K	2							
PENNSYLVANIA	85.34	33.9	12	41	1							
CLERMONT-FD.	85.42	336.9	12	47	6	23	25	13				
MORGANTOWN	85.47	35.9	12	42	1	23	8	-4				
ISOLA	85.68	333.7	12	41	-1							
ROME	85.83	329.1	12	44A	1	23	23	8	13	1	23	8 SKS
CUMBERLAND	86.27	41.8	12	45	0				12	58		
CHATEAU	86.44	159.8	12	46	0							
PALISADES	86.69	31.2	12	48A	1	23	18	-6				
HALIFAX	86.81	22.8	12	51	3							
WASHINGTON	87.28	34.3	12	52	2							
GEORGETOWN	87.28	34.3	12	51	1							
BLACKSBURG	87.30	37.5	12	50	0							
MESSINA	87.81	325.2	12	50	-2	23	12	-22	13	3	16	16 PP
WELLINGTON	88.23	161.0	12	55K	1	23	21	-17	13	10	29	27 SS
BAGNERES	88.73	337.8	13	1	4							
BARCELONA	89.69	335.8									23	26
COLUMBIA	89.70	39.7	13	2	1	23	31	-21				
ROXBURGH	91.15	166.0	13	12	4	24	21	16			23	13 SKS
TOLEDO	92.81	339.7	13	15A	-1	24	15	-5			17	8 PP
ALICANTE	93.29	336.5	13	16	-2	24	27	3				
GRANADA	95.24	338.5									25	34
ALMERIA	95.25	337.5	13	37	10	24	44	41				
AVERROES	99.89	340.3	13	48	0				14	2		
SAN JUAN	109.80	35.7	18	19	777						19	2 PP
BALBOA HTS.	111.13	52.7									19	20 PP
LWIRO	112.95	290.6	14	47	-232	27	19	115				
ST. CLAUDE	113.70	32.6									22	24
WILKES	114.22	196.0	18	43	1	25	21	-8			19	38 PP
FORT FRANCE	115.10	32.6									19	24
CARACAS	116.41	40.3	19	0	14						19	52 PP
CHINCHINA	116.62	51.7	18	59	13						20	9 PP
FUQUENE	117.26	49.7									20	2 PP
BOGOTA	117.77	50.5	15	11	-218						20	1 PP
CHILEKA	118.05	275.3	18	51	2							
MIRNY	118.53	202.2	18	50A	0						29	57 PS
TRINIDAD	118.70	34.7									20	5 PP
BROKEN HILL	121.85	281.3	18	57A	1							
SCOTT BASE	122.34	175.7	18	58	1						28	58 PKKP
CHANGALANE	126.80	267.6	19	3	-3							
HUANCAYO	130.21	63.9	19	15	2							
BANDEIRA	132.54	294.0	19	14	-3						21	39 PP
BYRD STATION	133.47	166.1	19	19	0						22	46
SOUTH POLE	134.09	180.0	19	4	-16						19	19
AREQUIPA	135.95	64.0	19	27	4							
LA PAZ	138.12	60.5	19	23	-4							
ANTOFAGASTA	141.77	70.7	19	34	0						22	55 PP
N-LAZARVSKYA	146.25	203.8	19	42K	0							
SANTIAGO	147.45	84.3	19	48	5							
SANTA LUCIA	147.46	84.3	19	48K	4						42	17
G. G. VIDELA	152.80	150.2	19	49	-3							

NOVEMBER 16 2.H 30.M 9.S EPICENTRE 44.47 148.98 DEPTH= 60.KM

A=-0.61356 B= 0.36897 C= 0.69814 D= 0.5154 E= 0.8570
G=-0.5983 H= 0.3598 K=-0.7160 HT= -3.4

DEPTH OF FOCUS= 0.004R

SE= 2.52

	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	1.09	314.3	0	19	-2							
Y.-SAKHLINSK	5.07	302.4	1	15	-1							
MIZUSAWA	7.93	230.4	1	56A	1	3	28	3				
PETROPAVLOVK	10.67	33.3	2	37	4							
MATUSIRO	11.39	229.6	2	40	-3							
ABUYAMA	14.07	231.6	3	25A	7							
YAKUTSK	20.87	334.1									5	53
TIKSI	28.92	347.0	5	53	-3							
ULAN-BATOR	29.07	291.9	5	56	-1							
BAGUIO CITY	36.82	229.6	7	4	0	12	46	2				
COLLEGE	39.72	36.6	7	29	1							
MOULD BAY	47.72	18.9	8	32A	-1							
KIPAPA	49.09	100.0				15	51	8				
HONOLULU	49.11	100.2				15	51	8				

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.

SHILLONG	49.40	267.4	8	46A	0						
ALMATA-2	50.07	295.3	8	52	1						
CHITTAGONG	51.43	264.2	9	3	2						
COPPERMINE	51.85	28.7	9	4A	-1						
CHATRA	52.00	271.9	8	59	-7						
FRUNSE	52.06	296.1	9	6	0						
ALERT	52.30	5.0	9	5	-3						
PORT MORESBY	53.64	182.2	9	13	-5	16	51	6			
RESOLUTE	53.90	17.2	9	18	-2						
YELLOWKNIFE	54.47	34.5	9	24	0						
HONIARA	54.56	166.7				17	1	3			
TASHKENT	56.25	297.0	9	36	-1						
DEHRA DUN	56.43	281.2	9	38	0						
VICTORIA	57.22	52.2	9	51	7						
NEW DELHI	58.05	280.1	9	50A	0						
APATITY	58.26	336.0	9	50	-1						
LAHORE	58.31	284.6	9	51	0						
SEATTLE	58.32	52.6	10	3	12						
WARSAK DAM	58.80	288.6	9	55	0						
BANFF	60.04	46.3	10	4	1						
SODANKYLA	60.30	337.9	10	5	0						
KIRUNA	61.54	340.3	10	13	0						
SHASTA	62.19	59.2	10	17	-1						
KAJAANI	62.37	334.9	10	18	-1						
HUNGRY HORSE	62.49	48.3	10	20	0				10	33	
BLUE MTS.	62.76	53.0	10	21	-1	18	51	7	10	35	39 41 PKPPKP
MINERAL	62.89	59.2	10	23K	1						
CALISTOGA	63.29	61.2	10	16K	-9						
BERKELEY	63.96	61.7	10	29A	0	19	7	8			
QUETTA	64.20	287.7	10	31	0						
PULKOVO	64.63	330.6	10	33	-1						
MOSCOW	64.64	324.3	10	34	0						
LICK	64.67	61.9	10	32K	-2						
BUTTE	64.70	49.7	10	32	-2						11 45
PARAISO	64.82	63.1	10	38	3						
ASHKABAD	65.08	299.3	10	32	-5						
KIZYL-ARVAT	65.60	301.5	10	40	0						
BOZEMAN	65.74	49.2	10	39	-2				10	51	
NURMIJARVI	65.99	333.4	10	41	-2	19	23	-1			15 8 PCS
PRIEST	66.03	62.4	10	43K	0						
HELSINKI	66.15	333.1	10	43	-1						11 27
EUREKA	66.84	57.0	10	49A	1				11	1	
FROBISHER	68.14	17.0	10	55	-1						
DUGWAY	68.25	54.7	10	57A	0						
SALT LAKE C.	68.44	53.7	10	59	1						
UPPSALA	68.66	336.0	10	58A	-1				11	13	
FLAMING GRGE	69.74	52.3	11	7	1						
BOULDER CITY	69.77	59.2	11	7	1				11	21	
UINTA BASIN	70.04	52.9	11	8A	0	20	15	3	11	22	28 7 SSS
KIROVOBAD	70.50	308.0	11	11	0						
TIFLIS	70.64	309.7	11	12	1						
RAPID CITY	70.97	46.5	11	14	1				11	28	
GLEN CANYON	71.09	56.6	11	14	0						
GORIS	71.28	307.1	11	16	1						
LARAMIE	71.61	49.9	11	9	-8						
GOTEBORG	72.07	337.4	11	19	-1						
GOLDEN	72.83	51.0	11	25	1						
TONTO FOREST	73.08	58.5	11	26	0				11	40	14 7 PP
SIMFEROPOL	73.87	317.9	11	11	-19						
SHIRAZ	74.13	295.9	11	32	0	20	57	-2			
LWOW	74.56	326.6	11	35	1	21	10	6			
KISHINEV	74.74	322.2	11	36	0						
KRAKOW	75.94	328.9	11	43A	1						11 58 PCP
UZHGOROD	76.19	326.8	11	45	1						
RACIBORZ	76.55	329.9	11	47	1						11 58 PCP
COLLMBERG	77.28	333.4	11	50	0						12 5 PP
WITTEVEEN	77.82	337.7									26 51
PRUHONICE	77.90	331.9	11	53	0						
DURHAM	78.01	343.1	11	13	-41	20	50	-51			
JENA	78.05	334.0	11	54	0	21	45	3			
BRATISLAVA	78.54	329.4	11	57	0						
VIENNA-H.	78.74	329.9	11	59	1						
KASPERSKE H.	78.96	332.0	12	0A	1						
LUBBOCK	79.16	53.4	12	1	1						
ISTANBUL UN.	79.28	318.2	12	2	1	22	2	7			
BENSBERG	79.34	336.6	12	1	0				12	14	
CANBERRA	79.42	180.0							12	17	
WICHITA MTS.	80.17	50.6	12	5	-1	22	23	19			

UCCLE	80.27	338.1	12	9	3												
STUTTGART	80.66	334.3	12	9	1							12	21				
TULSA	80.80	48.1	12	9A	0												
DOURBES	80.83	337.7	12	9	0												
KSARA	81.20	309.2	12	14	3												
STRASBOURG	81.29	335.1	12	13A	1												
FAYETTEVILLE	81.51	47.0	12	13	0												
TRIESTE	81.89	330.1														28	21 SS
PARIS	82.58	338.4	12	19	1												
BREBEUF	82.78	28.7	12	19A	0												
BESANCON	83.02	335.6	12	22	2												
JERUSALEM	83.09	308.3	12	23A	2												
FOLINIERE	83.36	340.2	12	23	1												
GARCHY	83.82	337.4	13	31K	66												
ATHENS	84.20	319.6	12	39A	13												
AQUILA	84.86	328.6														19	51
MORGANTOWN	85.40	35.7	12	35	3											12	41 PP
ISOLA	85.45	333.6	12	35	2												
ROME	85.60	329.0														24	34
CUMBERLAND	86.21	41.7	12	36	0							12	50				
PALISADES	86.60	31.1	12	34	-4	23	14	5	12	53							
COLUMBIA	89.64	39.5							13	7							
TOLEDO	92.59	339.6	13	20	14	25	40	97								31	47 SS
CARACAS	116.35	40.1														29	43 PKKP
LA PAZ	138.14	60.2	19	21	2												

NOVEMBER 16 6.H 46.M 13.S EPICENTRE -41.37 -87.10 DEPTH= 0.KM

A= 0.03806 B=-0.75172 C=-0.65838 D=-0.9987 E=-0.0506
G=-0.0333 H= 0.6575 K=-0.7527 HT= -2.2

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
SANTIAGO	15.27	64.0	3	45	6							
SANTA LUCIA	15.27	64.1	3	45A	6	6	43	13				
COPIAPO	19.62	49.8	4	38	5	8	32	23				
ANTOFAGASTA	22.47	43.5	5	7	4	9	0	-5				
G. G. VIDELA	27.29	157.5	4	47	-61							
AREQUIPA	28.24	33.1	6	0	3							
LA PAZ	29.69	39.0	6	14	4	11	15	9				
NANA	30.62	20.0	6	21	3							
HUANCAYO	30.98	22.8	6	22	1							
BYRD STATION	40.61	188.3	7	44	1							
BOGOTA	47.29	17.8	8	41	4	15	39	8			19	9 SS
CHINCHINA	47.29	15.7	8	39A	2							
FUQUENE	48.19	18.0	8	47	3	15	56	12				
SCOTT BASE	53.19	194.7	9	22	0							
SAN SALVADOR	54.80	357.5	9	28	-6							
CARACAS	54.86	24.5	9	35A	0	17	19	4				
TRINIDAD	56.92	30.6	9	51	1							
SAN JUAN	62.55	22.5	10	27	-1							
WELLINGTON	69.36	232.9									21	27
ROXBURGH	69.91	226.7				20	17	-8			25	12 SS
CHATEAU	70.15	235.0	11	15	-2							
KARAPIRO	70.93	236.1	11	19	-2							
WILKES	71.77	187.4	11	26	0	21	31	45	11	45		
MIRNY	72.41	180.0	11	30	0							
COLUMBIA	75.21	5.2	11	45	-2							
LUBBOCK	75.81	347.3	11	50	0							
WICHITA MTS.	76.45	350.3	11	53	-1						14	44 PP
CUMBERLAND	76.60	1.3	11	54	0							
AFIAMALU	76.99	262.9				21	53	8				
TULSA	77.32	352.8	11	58K	0							
TONTO FOREST	78.50	339.8	12	5	0				12	8	14	49 PP
LAWRENCE	80.30	353.6	12	12	-3							
GEORGETOWN	80.41	7.9	12	16	1							
MORGANTOWN	80.88	5.6	12	19	1							
BOULDER CITY	81.07	337.5	12	20	1							
GLEN CANYON	81.12	340.4	12	21	2							
PENNSYLVANIA	82.21	7.1	12	24	-1							
GOLDEN	82.38	345.9	12	26	0							
PRIEST	83.04	333.2	12	30K	1							
PARAISO	83.81	332.0	12	31	-2							
UINTA BASIN	83.83	342.9	12	34	1						30	41 PKKP

LARAMIE	83.98	346.1	12	5	-29					
FLAMING GRGE	84.37	343.2	12	37	1					
LICK	84.46	333.0	12	38A	2					
DUGWAY	84C48	340.5	12	37K	1					
EUREKA	84.65	338.0	12	38K	1					
SALT LAKE C.	84.79	341.4	12	34	-4					
BERKELEY	85.15	332.8	12	39A	-1					
CALISTOGA	85.95	332.9	12	43K	-1					
KIMBERLEY	86.06	125.2	12	46A	2					
RAPID CITY	86.29	348.4	12	48	3					
MINERAL	87.16	334.3	12	50A	0					
BREBEUF	87.32	9.4	12	59K	9					
SHASTA	87.74	333.9	12	51	-1					
BANDEIRA	87.90	107.9	12	56	3					
TOOLANGI	87.91	219.2	12	54	1			13	1	
MELBOURNE	87.95	218.7	12	54	1					
CANBERRA	87.96	222.8	12	54	1			13	0	
BOZEMAN	89.26	343.5	13	2	2					
BUTTE	89.93	342.6	13	5	2					
BLUE MTS.	90.00	339.0	13	3	0					
CHANGALANE	92.33	128.4	13	15	1			13	24	
HUNGRY HORSE	92.45	342.4	13	17	3					
ADELAIDE	93.16	216.1	13	18	0					
CHARTERS TS.	101.38	230.3	14	41	46					
AVERROES	104.29	58.2						18	0	PP
GRANADA	109.16	57.1	19	8A	777					
TOLEDO	110.51	54.6	18	46K	11			19	55	PP
ROME	122.11	60.4						34	2	
STRASBOURG	122.32	51.5						30	25	SP
AQUILA	122.93	60.3						32	47	
TRIESTE	124.66	56.9						38	25	
KASPERSKE H.	126.02	52.9	19	6	1					
COLLMBERG	126.54	50.3	19	8	2					
ATHENS	127.94	69.5	19	10	2					
TUKUBASAN	143.21	277.8						42	5	PSS
MANILA	143.88	230.8	19	36	-2					
MATUSIRO	144.74	277.3	19	38	-1					
SHIRAZ	145.40	96.7	19	40	0					
BAGUIO CITY	145.55	232.0	19	40	-1					
TEHERAN	147.29	86.1	19	46	3					
MADRAS	149.63	154.9	20	6	19					
BOMBAY	151.80	136.6	19	57	7					
QUETTA	156.26	109.8	19	59	2					
CHITTAGONG	161.03	176.9	20	5	3					
WARSAK DAM	161.60	106.7	20	5	2					
NEW DELHI	161.92	129.9	20	3K	0					
DEHRA DUN	163.70	127.9	20	7	2					
SHILLONG	164.22	176.6	20	7	2					
CHATRA	164.75	160.2	19	58	-8					

NOVEMBER 16 22.H 43.M 22.S EPICENTRE -22.22-175.02 DEPTH= 0.KM

A=-0.92314 B=-0.08039 C=-0.37596 D=-0.0868 E= 0.9962
G= 0.3745 H= 0.0326 K=-0.9266 HT= 4.1

SE= 2.74

	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	7.47	199.9	1	49	-4	3	9	-10					
AFIAMALU	8.82	21.0	2	7	-5	3	35	-18					
PORT VILA	16.28	283.0	3	57K	6								
NOUMEA	17.15	266.2	3	46A	-17								
GISBORNE	17.43	198.5	4	7	1	7	8	-11					
KARAPIRO	17.64	205.3	4	10	1								
ROXBURGH	26.50	205.2	5	45	4	10	14	0			11	26	SS
HONIARA	27.17	293.9	5	46	-1								
MONOWAI	27.44	206.9	5	46	-3								
RIVERVIEW	31.88	241.3	6	17	-12	11	43	3			7	58	
CANBERRA	33.94	239.4	6	45	-2						8	3	PP
CHARTERS TS.	36.11	266.0	7	2	-3	12	40	-5					
RABAUL	36.47	294.6	7	5	-3	12	52	1			13	7	PCP
TOOLANGI	37.20	236.7	7	12K	-3				7	16	9	19	PCP
PORT MORESBY	38.44	283.3	7	23	-2	13	15	-6			13	37	PCS
ADELAIDE	42.21	242.0									15	18	
HONOLULU	46.30	22.1									18	33	SS
KIPAPA	46.44	22.1				15	23	5			18	32	SS

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.

TERRE ADELIE	52.34	200.2	9	16	0							
GUAM	53.04	308.1	9	20	-1							
SCOTT BASE	56.37	184.6	9	44	-1	17	40	5				
MUNDARING	61.10	244.8	10	16	-2					18	32	
BYRD STATION	62.50	170.7	10	25	-3					39	28	
WILKES	63.63	205.7	10	34	-1	19	6	-2		13	2	PP
MIRNY	70.63	205.1	11	18K	-1	20	30	-3		11	46	PCP
TUKUBASAN	71.95	323.1	11	26A	-1	20	36	-12		25	34	SS
MATUSIRO	73.24	322.2	11	34	-1							
ABUYAMA	73.63	319.4	11	32A	-5							
BAGUIO CITY	73.82	295.7	12	36	58							
PARAISO	76.57	41.3	11	58	4							
PRIEST	77.51	42.4	12	0K	1							
BERKELEY	77.65	40.2	12	1A	1	21	54	3				
LICK	77.68	40.9	12	1A	1							
PASADENA	77.87	45.3	12	2	1	21	57	3				
CALISTOGA	77.96	39.4	12	2K	1							
PETROPAVLOVK	78.34	344.1	12	3	-1							
Y.-SAKHLINSK	78.75	332.0	12	6	0	22	2	-1				
G. G. VIDELA	79.03	156.2	12	2	-5							
SHASTA	79.43	37.9	12	9	-1							
MINERAL	79.66	38.6	12	7A	-4				12	22		
MAWSON	80.88	199.2	12	16K	-1	22	23	-3				
BOULDER CITY	81.16	45.4	12	19	0							
TUCSON	81.83	50.4	12	23	1							
HONG KONG	81.94	297.9	12	23	0	22	38	2				
EUREKA	82.49	42.0	12	26	0							
TONTO FOREST	82.62	48.5	12	27	1	22	49	6		15	41	PP
PORT HARDY	83.83	28.1	12	33A	0							
GLEN CANYON	83.87	46.1	12	36	3							
VICTORIA	84.16	31.6								16	32	PP
BLUE MTS.	84.96	37.1	12	38	0	23	12	5		13	44	PP
SALT LAKE C.	85.81	42.8	12	43	1							
UINTA BASIN	87.02	44.1	12	49	1	23	28	1		29	17	SS
N-LAZARVSKYA	87.14	182.3	12	46K	-3	23	24	-4		29	20	SS
FLAMING GRGE	87.46	43.7	12	51	0							
PHU-LIEN	87.57	293.5	12	54	3	23	21	-11				
HUNGRY HORSE	88.87	35.7	12	58	1							
SANTA LUCIA	89.21	125.9	13	0	1	23	24	-23				
COLLEGE	89.31	11.3	12	59	0							
GOLDEN	89.46	46.3	13	0	0							
BANFF	89.76	32.8	13	2	1							
WICHITA MTS.	91.95	53.2	13	11	-1	24	20	8		30	28	SS
RAPID CITY	93.00	43.3	13	14	-2							
HUANCAYO	94.28	104.8	13	25	3							
TULSA	94.53	53.1	13	24A	1	24	40	6				
FAYETTEVILLE	95.79	53.5	13	29	0							
AREQUIPA	95.87	110.3	13	31	1							
ULAN-BATOR	98.59	318.3	13	40	-2							
LA PAZ	98.75	111.8	13	45	2	24	23	2				
CHINCHINA	100.56	88.9	13	58	7					17	58	PP
TIKSI	101.11	344.4	13	54	1					17	52	PP
BOGOTA	101.86	89.8	14	4	7					18	9	PP
CUMBERLAND	102.16	56.5				25	46	69		18	2	PP
CARACAS	110.55	86.8								19	3	PP
NEW DELHI	115.32	292.1	18	45K	1					29	22	
SEMIPALATNSK	116.08	316.4	18	47	2							
LAHORE	118.34	294.8	18	51	2							
FRUNSE	119.46	307.6	18	53	1							
WARSAK DAM	121.02	297.2	18	56	1							
TASHKENT	123.36	305.6	18	59	0	26	3	2		27	39	SKKS
QUETTA	124.41	292.1	19	2	1							
SVERDLOVSK	126.97	325.4	19	7	1							
KEVO	130.65	350.1	19	19	6					22	51	PKS
APATITY	131.30	345.9	19	16A	2					21	29	PP
ASHKABAD	131.86	301.6	19	17	2							
SODANKYLA	132.84	348.8	19	19	2					21	27	
KIRUNA	133.38	352.0	19	21	3					22	47	PKS
KAJAANI	135.51	346.0	19	23	1					22	54	PKS
SHIRAZ	136.85	290.1	19	25	0					22	58	
UMEA	137.18	350.1	19	27	2							
TEHERAN	137.59	299.1	19	29	3					23	1	
SKALSTUGAN	138.37	355.1	19	30A	3							
PULKOVO	138.42	341.0	19	29	1							
MOSCOW	138.71	332.4	19	32	4					22	16	PP
NURMIJARVI	139.32	345.2	19	32	3	26	48	10		22	19	PP
HELSINKI	139.55	344.7	19	32	2							
GORIS	140.93	305.8	19	28	-4					25	8	

UPPSALA	141.35	349.8							22	56	PP
TIFLIS	141.45	309.7	19	29	-4				25	34	PPP
BANDEIRA	142.22	193.2	19	31	-3	19	39		22	40	PP
KONGSBERG	142.46	356.1	19	32	-3						
GOTEBORG	144.19	353.6	19	36	-2						
COPENHAGEN	146.12	352.4	19	44K	3						
LWIRO	146.34	226.7	19	45	4						
SIMFEROPOL	147.08	320.5	19	45	2				30	4	SKKS
DURHAM	147.12	7.0	19	51A	8						
WARSAW	147.58	341.5	19	46	3				19	51	PKP2
LUANDA	148.08	195.6	19	50A	6						
LWOW	148.62	336.0	19	47	2						
KRAKOW	149.83	340.7	19	49	2				20	11	PKP2
CHORZOW	149.90	342.0	19	54	7				19	59	PKP2
MUNSTER	150.23	356.7	19	47	-1						
HALLE	150.27	351.2	19	54	6				23	38	PP
COLLMBERG	150.31	349.8	19	49	1				23	38	PP
RAC'BORZ	150.31	342.7	19	55	7				20	4	PKP2
KSARA	150.48	299.8	19	56	8						
KEW	150.51	6.7	19	54	6						
JENA	150.88	351.4	19	55	6				23	22	PP
PRAGUE	151.22	347.3	19	59	10						
BENSBERG	151.26	357.1	19	57	8				20	12	PKP2
UCCLE	151.47	0.8	19	56	6				43	13	SS
JERUSALEM	151.50	296.0	19	59	9						
CHEB	151.59	350.0	19	54	4				30	24	PS
DOURBES	152.17	0.5	19	58	7						
KASPERSKE H.	152.29	347.8	19	52	1				23	33	
ISTANBUL UN.	152.40	318.4	19	57	6				23	46	PP
VIENNA-H.	152.47	343.4	19	48	-3						
FOLINIERE	153.15	8.0	20	1	9						
STUTTGART	153.28	353.7	19	54	2				20	16	
PARIS	153.39	3.7	20	3K	11						
STRASBOURG	153.60	355.8	19	54	1				20	14	PKP2
WELSCHBRUCH	153.84	357.9	20	4	11				20	28	
GARCHY	154.95	3.1	19	57	3						
LJUBLJANA	154.99	344.2	19	52	-2				20	19	PKP2
BESANCON	155.01	358.4	20	9	15				20	31	
TRIESTE	155.55	345.0							20	22	PKP2
CLERMONT-FD.	156.46	3.3	20	29	33						
ATHENS	157.50	318.4	19	59	1						
BANGUI	157.88	218.7	19	59	1				24	7	PP
ISOLA	158.03	356.0							20	35	PKP2
PATRAS	158.50	321.7	20	36	37						
AQUILA	158.72	342.6	20	25	26	20	38		31	8	SKKS
ROME	159.39	343.9	20	27	27	20	40		31	10	SKKS
TOLEDO	160.79	21.5	20	6A	5	27	7	2	24	26	PP
MESSINA	161.66	332.6							23	46	
AVERROES	164.45	42.1	20	7A	2	20	16		24	51	PP

NOVEMBER 17 0.H 47.M 59.S EPICENTRE 7.78 -37.37 DEPTH= 0.KM

A= 0.78751 B=-0.60144 C= 0.13452 D=-0.6070 E=-0.7947
G= 0.1069 H=-0.0817 K=-0.9909 HT= 6.8

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	
TRINIDAD	23.89	278.7	5	16	0								
ANTIGUA	25.61	293.6									8	16	
CARACAS	29.30	277.6	6	23K	17	10	53	-6					
SAN JUAN	29.87	293.5	6	10	-1	11	9	1					
PONTA DELGDA	31.64	17.8				11	43	7					
FUQUENE	36.18	268.6	7	7K	1								
BOGOTA	36.61	267.3	7	10A	0	12	55	2					
AVERROES	37.57	43.3	7	16A	-2	12	51	-17			9	9	PPP
CHINCHINA	38.11	268.1	7	15A	-7								
LA PAZ	38.84	231.5	7	29	1	13	28	1					
LISBON	39.93	35.2	7	39	2	13	47	4			9	12	PP
AREQUIPA	41.47	234.4	7	48	-2								
BALBOA HTS.	41.74	274.7	7	52	0	14	7	-3					
GRANADA	42.37	41.2	8	5	8	14	26	7			9	59	PP
HUANCAYO	42.58	242.8	7	58	-1								
ALMERIA	42.93	42.4	8	2K	0	14	32	4			9	52	PP
HALIFAX	43.20	332.5	8	6K	2								
TOLEDO	43.69	37.7	8	9A	1	14	27	-12			9	51	PP

ANTOFAGASTA	44.96	225.0	8	16A	-2	14	56	-1				
ALICANTE	45.07	41.8	8	22K	3	15	0	1			10	15 PP
MOKA	46.00	92.9	8	25	-2						8	35 PP
PALISADES	46.34	321.5	8	29	0	15	22	5	8	43	9	27 PCP
WASHINGTON	47.23	317.2	8	38	2							
GEORGETOWN	47.23	317.2	8	37	1							
COPIAPO	47.32	221.2	8	37	0							
COLUMBIA	47.90	309.4	8	42	0						15	47 SP
BAGNERES	48.13	36.8	8	45	2						11	11
BARCELONA	48.42	39.8	8	48	2	15	51	5				
PENNSYLVANIA	48.73	319.0	8	48	0							
BLACKSBURG	48.77	313.6	8	49	1							
BREBEUF	48.88	326.5	8	51K	2	15	59	6			19	22 SS
VALENTIA	49.33	21.8	8	53	0							
MORGANTOWN	49.54	316.6	8	56	2							
OTTAWA	49.99	325.2	8	57	-1							
SCARBOROUGH	51.12	321.6	9	8	2							
SAN SALVADOR	51.18	281.3	9	12	5							
FOLINIERE	51.30	30.6	9	7	-1							
SANTIAGO	51.76	215.8	9	9	-2							
SANTA LUCIA	51.76	215.7	9	9A	-2	16	28	-5			11	10 PP
CUMBERLAND	51.96	309.5	9	12	-1	16	38	2			10	54 PP
LONDON ONT.	51.99	319.9	9	12	-1							
GARCHY	52.26	33.9	9	13A	-2							
SCHEFFERVLLE	52.46	339.0	9	17K	0							
PARIS	52.86	32.1	9	19K	-1							
ISOLA	52.94	39.1	9	20	0							
LUANDA	53.06	107.2	9	22A	1							
KEW	53.16	28.1	9	20	-2	16	49	-3			17	17
BESANCON	53.89	35.4	9	26	-1						10	33
WELSCHBRUCH	54.73	34.3	9	37	4						10	21
DOURBES	54.73	31.8	9	31	-2	17	15	2				
PAVIA	54.75	39.0	9	4	-29	17	29	16			13	11
DURHAM	54.87	24.5	9	39K	5	17	20	5			10	44 PCP
UCCLE	55.02	31.0	9	37	2	17	21	4				
BANDEIRA	55.06	114.2	9	36A	0	17	19	1			21	9 SS
ROME	55.49	43.8	9	38	-1	17	28	5			11	43 PP
STRASBOURG	55.62	34.8	9	39	-1	17	25	0			11	50 PP
DE BILT	56.21	30.1	9	46	2							
AQUILA	56.30	43.6	9	44	-1	17	16	-18			11	42 PP
TUBINGEN	56.33	35.4	9	43	-2							
MESSINA	56.39	49.0	9	46A	1	17	25	-10	10	3	11	50 PP
ABERDEEN	56.39	22.2				17	35	0			18	27 PS
REGGIO CALA.	56.43	49.1	9	38	-8	17	39	3			11	58 PP
PADOVA	56.55	39.8	9	49	3	17	34	-3			13	14 PPP
STUTTGART	56.57	35.2	9	45	-2	17	30	-8			12	56 PPP
BENSBERG	56.57	32.1	9	45A	-2	17	45	7	9	57	11	49 PP
HEIDELBERG	56.58	34.3	9	45A	-2							
WITTEVEEN	57.37	30.1	9	51	-1							
TRIESTE	57.85	40.2	9	55A	-1	17	52	-3			12	3 PP
TARANTO	58.35	46.9	9	49	-10	17	59	-2				
LJUBLJANA	58.50	40.0	9	59A	-1						12	7 PP
FAYETTEVILLE	58.79	307.6	10	1	-1							
JENA	58.94	33.9	10	1	-2	18	11	2			22	21 SS
CHEB	58.98	35.0	9	58	-6	18	9	0			19	31
KAŞPERSKE H.	59.24	36.4	10	2A	-3							
ZAGREB	59.35	40.7	10	7A	1	18	15	1				
+ALLE	59.42	33.4	10	6	-1	18	22	7				
COLLMBERG	59.90	34.0	10	9	-1	18	28	7				
TULSA	60.01	307.0	10	9K	-2	18	24	1			22	1 SS
FROBISHER	60.13	344.6	10	12K	1							
PRAGUE	60.15	35.7	10	11	-1						14	41
LAWRENCE	60.33	310.6	10	11	-2							
TITOGRAD	60.40	45.3	10	11	-2	18	31	3			12	22 PP
VIENNA-H.	60.54	38.2	10	13A	-1						11	10 PCP
BRATISLAVA	60.96	38.5	10	15K	-2	18	41	6			14	0 PP
BERGEN	61.41	22.5	10	18	-2							
HURBANOVO	61.53	39.2	10	35	14						12	15 PP
COPENHAGEN	61.77	29.4	10	23	0	18	46	1				
SKOPJE	61.82	46.4	10	26	3	18	46	0				
BELGRADE	61.96	43.0	10	23K	-1	18	52	5			12	50 PP
WICHITA MTS.	62.01	305.2	10	22	-2	18	49	1			12	49 PP
GODHAVN	62.30	353.6	10	26K	0	18	49	-3				
RACIBORZ	62.37	36.9	10	26	-1						11	23 PCP
ATHENS	62.55	51.2	10	27A	-1	18	58	3				
GOTEBORG	62.61	27.3	10	27A	-1							
KONGSBERG	62.67	24.7	10	30	1	18	28	-28			12	47 PP
TIMISOARA	62.77	42.2	10	31	2	19	1	3			19	6 PS

CHORZOW	62.91	36.9	10	30	0					12	53 PP
KAP TOBIN	63.34	5.7	10	31	-2						
SOFIA	63.36	46.0	10	36	3	19	5	0		12	51 PP
KRAKOW	63.39	37.4	10	32A	-1					11	12 PCP
SCORESBY SD.	63.40	5.7	10	33	0						
UZHGOROD	64.37	39.4	10	38	-2						
LUBBOCK	64.50	303.4	10	40	-1						
WARSAW	64.82	35.4	10	45	2	19	23	0		13	4 PP
BUCHAREST	65.73	44.7	10	51	2	19	31	-3		20	51
LWOW	65.81	38.6	10	48	-1	19	37	2			
SKALSTUGAN	65.96	21.9	10	48A	-2						
UPPSALA	66.23	26.9	10	50A	-2	19	32	-9		12	23
LWIRO	66.75	95.8	10	55	0						
ISTANBUL UN.	67.14	48.8	10	56	-2	19	55	4			
RAPID CITY	67.31	314.5	11	0	1	19	56	2			
IASI	67.38	42.0	10	58	-1						
HERMANUS	67.96	131.9				20	6	5		25	3
GOLDEN	68.16	309.6	11	5	1						
LARAMIE	68.56	311.3	11	7	1						
BROKEN HILL	68.93	108.7	11	38K	29						
UMEA	69.14	23.6	11	9A	-1	20	12	-3		24	38 SS
NURMIJARVI	69.71	27.8	11	14	0	20	19	-3		13	47 PP
HELSINKI	69.73	28.2	11	12	-2						
KIMBERLEY	69.99	124.3	10	43K	-32						
BULAWAYO	70.55	114.5	11	18A	-1						
KIRUNA	71.04	19.9	11	21A	-1	20	39	1		21	0 PS
JERUSALEM	71.16	59.2	11	22	0						
FLAMING GRGE	71.36	310.5	11	25	1						
TROMSOE	71.43	17.9	11	25	1						
UINTA BASIN	71.44	309.8	11	22	-2	20	41	-1		13	55 PP
SIMFEROPOL	71.45	45.3	11	23A	-1	20	49	7		13	59 PP
KSARA	71.80	57.1	11	26	0	20	56	10		14	6 PP
TUCSON	71.91	301.3	11	27	0						
PULKOVO	72.16	29.5	11	28K	0	20	52	1		25	25 SS
KAJAANI	72.28	24.7	11	28	-1	20	53	1		21	17 PS
TONTO FOREST	72.36	303.4	11	30	0				11 45	14	12 PP
GLEN CANYON	72.76	306.2	11	35	3						
SODANKYLA	73.01	21.3	11	32	-1					13	46
BOZEMAN	73.07	315.3	11	38	4						
SALT LAKE C.	73.21	310.1	11	34	-1						
DUGWAY	73.90	309.5	11	37A	-2						
KEVO	74.02	19.1	11	39	0	21	11	-1		25	52 SS
BUTTE	74.16	315.6	11	40	0						
RESOLUTE	74.27	346.5	11	40	-1						
G. G. VIDELA	74.87	191.0	11	51	7	21	18	-3			
MOSCOW	75.17	34.4	11	45A	-1					14	40 PP
CHILEKA	75.33	108.4	11	49K	2						
BOULDER CITY	75.33	305.1	11	48A	1						
HUNGRY HORSE	75.36	317.9	11	47	0						
ALERT	75.43	356.7	11	46	-1						
CHANGALANE	75.44	119.6	11	47	0					11	59 PCP
APATITY	75.56	22.0	11	49	1	21	17	-12		14	33 PP
EUREKA	76.30	308.7	11	53	1	21	30	-7		12	57
BANFF	76.56	320.7	11	52	-2						
YELLOWKNIFE	77.25	332.3	11	57A	-1						
BLUE MTS.	77.43	314.1	11	58	-1	21	54	5		14	45 PP
PASADENA	78.08	303.2	12	2	0	22	2	6			
COPPERMINE	78.20	337.7	12	3K	0						
TIFLIS	79.03	49.1	12	7	0						
PRIEST	80.05	305.3	12	15K	2						
GORIS	80.25	51.3	12	17K	3					22	27 SCS
MOULD BAY	80.57	346.1	12	16	0						
MINERAL	80.63	309.6	12	16A	0						
LICK	80.79	306.5	12	18K	1						
SHASTA	81.21	310.0	12	19	0						
BERKELEY	81.25	307.1	12	21K	2	22	33	4		15	35 PP
PARAISO	81.43	305.6	12	17	-3						
CALISTOGA	81.46	307.9	12	21A	1						
VICTORIA	81.61	317.9	12	20	-1						
UKIAH	81.93	308.4	12	27	4					13	31
KHEYS	83.26	9.5	12	33K	3	22	49	-1		15	32 PP
PORT HARDY	84.12	320.3	12	34	0						
TEHERAN	84.51	54.8	12	37	1	23	8	6			
SHIRAZ	86.11	60.8	12	44	0	23	15	-3			
TANANARIVE	87.72	109.3	12	57	5						
SVERDLOVSK	87.90	33.0	12	52K	-1					23	47 SCS
ASHKABAD	89.75	51.9	13	4	3						
COLLEGE	91.50	336.4	13	10	0						
QUETTA	98.33	58.0	13	41	0	25	18	59			

TIKSI	100.23	4.4	13	52	3	25	25	57	18	8	PP
FRUNSE	100.48	43.9	13	53A	3				26	45	PS
WARSAK DAM	101.07	53.2							15	57	
BOMBAY	106.29	67.8	17	42	777				29	2	
NEW DELHI	107.36	56.9	18	50A	777				28	10	
IRKUTSK	111.82	24.2							19	17	PP
MADRAS	114.62	71.9							19	36	
CHATRA	116.21	55.1	18	50	5						
BOKARO	116.26	58.7							19	41	
SHILLONG	120.56	54.3	18	55	1						
PORT BLAIR	126.73	69.2							21	7	
MATUSIRO	135.72	5.1	19	22	-1						
TUKUBASAN	136.17	3.0	19	27K	4				21	59	PP
HONG KONG	139.12	42.4							22	25	PP
MOORLANDS	145.25	185.9	19	42	2						
TARRALEAH	145.46	185.0	19	42	2						
MUNDARING	145.60	138.0	19	41	1						
BAGUIO CITY	147.53	42.2	19	50	7						
TOOLANGI	150.23	184.6	19	54	6				22	3	
CANBERRA	151.98	191.1	19	54	4				43	19	SS
ADELAIDE	152.70	173.0	20	1	10				43	9	
NOUMEA	152.91	235.2	19	57	5						
RIVERVIEW	152.91	195.7	20	2	10				43	1	SS
BRISBANE	158.26	205.0							21	7	
CHARTERS TS.	167.27	195.7	20	10	3						
RABAUL	169.87	290.0	19	19A	-50				19	52	
PORT MORESBY	175.25	249.9	20	14	3				25	46	PP

NOVEMBER 18 14.H 38.M 27.S EPICENTRE 29.84-113.82 DEPTH= 0.KM

A=-0.35090 B=-0.79481 C= 0.49513 D=-0.9148 E= 0.4039
G=-0.2000 H=-0.4529 K=-0.8688 HT= 1.9

SE= 3.16

	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
TUCSON	3.51	46.2	0	56A	-1							
TONTO FOREST	4.93	25.4	1	12	-5	2	33	17				
PASADENA	5.66	320.4	1	28	0							
BOULDER CITY	6.18	352.4	1	34K	-1							
SOCORRO	7.21	52.5	1	46	-3							
GLEN CANYON	7.35	14.1	1	51	0							
PRIEST	8.51	319.3	2	8K	0	4	23	38				
PARAISO	9.65	314.3	2	15	-8							
EUREKA	9.77	350.2	2	25K	0							
LICK	9.92	321.0	2	28A	1	4	45	25				
PRICE	10.05	13.4	2	36	7							
DUGWAY	10.36	4.3	2	36A	3							
BERKELEY	10.64	321.0	2	36A	-1	4	55	17				
UINTA BASIN	11.01	17.3	2	41	-1							
SALT LAKE C.	11.02	7.9	2	46	4							
CALISTOGA	11.37	322.8	2	47A	0							
GOLDEN	12.03	33.0	2	59	3							
UKIAH	12.07	322.6	3	0	3							
MINERAL	12.26	330.8	3	5K	6							
SHASTA	12.89	329.5	3	5	-2							
WICHITA MTS.	13.77	65.4	3	16	-3	6	9	15				
BLUE MTS.	15.23	350.5	3	38	0	6	25	-4			4	37 PG
BOZEMAN	15.95	7.1	3	50	2						7	6
BUTTE	16.18	3.1	3	52	1						7	15
TULSA	16.30	63.5	3	49A	-3	6	55	1				
LAWRENCE	17.80	54.3	4	10	-1							
HUNGRY HORSE	18.48	359.6	4	19	0						7	59
SEATTLE	18.95	342.1	4	14	-11	7	48	-6				
VICTORIA	20.05	341.1	4	36	-2							
BANFF	21.34	357.0	4	49	-2							
PORT HARDY	23.24	337.6	5	8K	-2							
CUMBERLAND	24.40	69.0	5	16	-5	9	47	8			7	40
SAN SALVADOR	27.86	120.0	5	53	-1							
COLUMBIA	28.07	73.0	5	53	-2	10	38	-2				
CLEVELAND	28.53	57.2	5	59K	-1	10	54	7				
SANTIAGO MA.	28.53	119.3									13	55
BLACKSBURG	28.69	66.3	6	13	12							
LONDON ONT.	29.18	54.2	6	3	-2							
MORGANTOWN	29.35	61.4	6	7	0							
SITKA	31.08	337.2	6	26	4						11	43 SP

PENNSYLVANIA	31.11	59.6	5	23	-59						
WASHINGTON	31.48	63.4	6	26	0						
GEORGETOWN	31.48	63.4	6	25	-1						
YELLOWKNIFE	32.66	359.3	6	36	0						
PHILADELPHIA	33.04	61.7	6	41	2	12	2	4			
OTTAWA	33.58	51.8	6	43A	-1						
PALISADES	34.11	60.0	6	48A	-1	12	14	-1		9	26 PCP
BREBEUF	35.05	52.2	6	54A	-3	12	35	6		8	20 PP
COPPERMINE	38.02	359.2	7	22	0						
BALBOA HTS.	38.18	115.9	7	18	-5					14	21
HAWAII V.OB.	38.89	264.2	7	31	2						
KIPAPA	40.52	268.7	7	42	-1					13	56 SP
HONOLULU	40.64	268.5	7	42	-2	13	49	-5		9	50 PPP
COLLEGE	40.95	338.6	7	45	-1					14	9 SP
SCHEFFERVLLE	41.72	39.5	7	51	-1						
HALIFAX	41.96	55.2	7	56	2						
CHINCHINA	43.71	116.9	8	7	-2						
FROBISHER	44.35	26.9	8	14	0						
SAN JUAN	44.73	93.6	8	14	-3					9	56
FUQUENE	44.88	114.7	8	27	9						
BOGOTA	45.13	115.9	8	17K	-3	15	2	2		18	2 SS
RESOLUTE	45.91	6.9	8	27	1						
MOULD BAY	46.54	358.2	8	29	-2						
CARACAS	47.66	103.7	8	35K	-5	15	29	-7			
FORT FRANCE	50.59	95.3	8	59	-4						
TRINIDAD	52.28	100.0	9	12	-4						
NANA	54.77	133.9	9	27	-7						
HUANCAYO	55.77	132.6	9	37	-4						
ALERT	55.79	7.2	9	32	-9						
SCORESBY SD.	62.82	22.2	10	29	-1						
KAP TOBIN	62.83	22.3	10	28	-2						
LA PAZ	63.74	130.0	10	32	-4	19	6	-4			
PETROPAVLOVK	65.34	318.4	10	46	0					19	35 PS
ANTOFAGASTA	67.62	137.1	10	56K	-5	19	51	-7		24	15 SS
KHEYS	69.68	1.4								13	49 PP
TIKSI	69.93	342.5	11	10	-5					20	26
AFIAMALU	70.77	240.7				20	37	2			
SANTA LUCIA	75.04	143.7	11	40	-5	21	20	-3	13 4	14	23 PP
TROMSOE	75.09	15.4	11	47	1						
YAKUTSK	75.28	334.1	11	47	0						
ABERDEEN	76.11	31.4	11	53A	1					26	25 SS
KEVO	76.72	13.1	11	58	3	21	47	5		26	33 SS
KIRUNA	76.82	16.2	11	56	0	21	52	9			
Y.-SAKHLINSK	77.13	317.0	11	55A	-2	21	50	4			
SKALSTUGAN	77.65	21.7	12	4	4						
SODANKYLA	78.62	14.6	12	5	0						
APATITY	79.83	12.2	12	14	2	22	22	7		15	24 PP
UMEA	79.88	18.9	12	12A	0	22	21	6		15	14 PP
KEW	80.23	35.6	12	16	2	22	19	0			
KAJAANI	81.62	16.0	12	22	1					12	50
GOTEBORG	81.67	26.1	12	22A	0						
FOLINIERE	81.75	37.9	12	24	2						
UPPSALA	82.12	22.5	12	26A	2	22	44	5			
LISBON	82.17	49.8	12	25	1						
COPENHAGEN	83.29	27.4	12	36K	6	22	58	7			
DOURBES	83.54	34.7	12	31	0						
MUNSTER	83.76	32.1	12	35	2						
NURMIJARVI	83.78	19.3	12	33	0	23	1	6		15	48 PP
HELSINKI	84.14	19.3	12	35	1						
KARLSKRONA	84.16	25.8	12	31	-4						
BENSBERG	84.23	33.0	12	36	1						
TUKUBASAN	84.45	308.7	12	32A	-4				12 40	15	50 PP
TOLEDO	84.83	46.6	12	41K	3	23	11	5		15	51 PP
MATUSIRO	85.55	309.8	12	39	-3						
PULKOVO	85.94	17.3	12	46A	3	23	11	-6		16	6 PP
HEIDELBERG	86.01	33.5	12	47	3						
HALLE	86.04	30.6	12	45	1	23	27	9			
STRASBOURG	86.10	34.5	12	49A	5	23	26	8		24	18
AVERROES	86.27	53.6	12	45	0	23	25	5		16	12 PP
JENA	86.28	31.1	12	45	0	22	48	-32		23	27 PS
COLLMBERG	86.65	30.2	12	47	0					16	12 PP
GRANADA	86.67	48.7	12	55K	8	23	34	10		29	34 SS
STUTTGART	86.71	33.7	12	47	0	22	35	-49		40	43
CHEB	87.24	31.4								23	31
ROSELEND	87.45	37.2	12	51	0						
ALMERIA	87.60	48.4	12	56	4	23	37	5		16	16 PP
ALICANTE	87.98	46.3	13	8	15	23	47	11			
ABUYAMA	88.26	309.6	12	53A	-2						
ISOLA	88.68	38.2	12	56	-1						

PAVIA	89.12	36.4							24	37	
WARSAW	89.22	25.9				24	1	13			
VIENNA-H.	90.37	30.7							23	5	PKKS
KRAKOW	90.50	27.8	13	6	1						
BOLOGNA	90.69	35.8							39	54	
TRIESTE	91.07	33.8	13	8	0	24	11	7	16	47	PP
LJUBLJANA	91.15	33.1	13	9	1				16	48	PP
MOSCOW	91.34	15.7							16	48	PP
HONIARA	91.39	260.0	13	9	0	24	7	0			
IRKUTSK	91.68	337.7	13	11K	0				24	20	PS
LWOW	92.29	25.8	13	14	0						
ROME	93.13	37.1				23	58	-24	17	13	PP
AQUILA	93.28	36.2							30	43	SS
SVERDLOVSK	93.54	3.1	13	20K	1				17	9	PP
ULAN-BATOR	94.39	333.9	13	21	-2						
BELGRADE	94.81	30.8	13	24	-1				31	19	SSP
RABAUL	95.54	268.3							26	7	
TITOGRAD	96.12	32.9							18	50	
WELLINGTON	96.70	226.0				24	57	47	26	39	SP
MESSINA	97.43	37.9	13	36	-1	24	58	44	17	36	PP
SKOPJE	97.49	32.0							21	33	
SEMIPALATNSK	99.14	350.9							18	6	
ISTANBUL UN.	101.52	27.8				25	42	67	18	6	PP
ATHENS	101.73	33.0							18	9	
ROXBURGH	102.29	224.5				25	51	73	32	51	SS
PORT MORESBY	102.41	266.2				24	44	5	18	9	PP
BRISBANE	105.81	247.3							16	37	
TIFLIS	106.11	16.5							18	32	PP
FRUNSE	107.27	353.5							18	51	PP
CHARTERS TS.	108.04	256.8							19	4	PP
GORIS	108.58	16.1							19	0	PP
TASHKENT	109.14	357.5							19	2	PP
RIVERVIEW	109.74	241.8				26	57	106	19	13	PP
BAGUIO CITY	110.26	303.7							19	9	PP
KSARA	110.50	26.6	18	33	-1				19	13	PP
HONG KONG	110.59	312.7				25	20	5	19	12	PP
MANILA	111.03	302.0							19	16	PP
JERUSALEM	112.03	28.2							19	20	PP
ASHKABAD	112.16	6.7							19	26	PP
KHOROG	112.84	355.4							19	28	PP
TEHERAN	113.30	13.1	19	6	26				29	13	
TOOLANGI	115.38	239.8	18	47	3				29	35	
WARSAK DAM	116.30	355.0	18	44	-2						
LAHORE	118.45	352.1							20	6	PP
DEHRA DUN	119.11	348.3	18	53	2						
SHIRAZ	119.42	13.7	18	56	4	27	47	119			
SHILLONG	119.64	333.2	18	53	1				20	16	PP
ADELAIDE	119.77	244.5	18	56	3				30	13	PS
QUETTA	120.31	359.2	18	54	0						
NEW DELHI	120.96	348.7	18	54	-1				20	21	PP
CHITTAGONG	122.53	331.6	19	0	2						
BANGUI	123.17	61.5	18	55	-4						
CALCUTTA	123.72	335.2							20	33	
BANDEIRA	129.31	85.0	19	9	-2						
N-LAZARVSKYA	129.42	159.6	18	57	-14				21	16	PP
BOMBAY	131.12	351.6				28	9	106	22	43	PP
POONA	131.34	350.3	19	14	-1						
PORT BLAIR	131.44	324.3							22	43	
HYDERABAD	131.53	344.3							22	0	PP
LWIRO	135.17	59.4	19	24	2						
MADRAS	135.32	340.4							23	31	PP
MIRNY	139.82	196.3	19	43	13						
HERMANUS	140.25	109.1							23	14	PKS
BROKEN HILL	142.06	74.5	19	31	-3						
MAWSON	142.16	177.9	19	26	-9						
BULAWAYO	144.74	82.9	19	36	-3						
PIETERMZBURG	149.01	98.7							20	23	
CHANGALANE	149.86	91.6	19	51	4				37	45	SPP
TANANARIVE	159.88	61.5	20	5	4						

NOVEMBER 19 11.H 0.M 55.S EPICENTRE 44.47 149.26 DEPTH= 37.KM

A=-0.61536 B= 0.36599 C= 0.69813 D= 0.5112 E= 0.8595
G=-0.6000 H= 0.3569 K=-0.7160 HT= -3.4

DEPTH OF FOCUS= 0.001R

SE= 2.95

	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
KURILSK	1.25	308.1	0	21	0							
NEMURO	2.89	248.1	0	42A	-3	1	14	-5				
ABASHIRI	3.61	264.6	0	54	-1	1	37	0				
KUSIRO	3.82	248.8	0	55A	-3	1	37	-5				
OBIHIRO	4.66	252.7	1	7	-3							
ASAHIGAWA	5.01	264.5	1	16A	1							
Y.-SAKHLINSK	5.24	301.4	1	18	0							
URAKAWA	5.26	246.1	1	17A	-1	2	16	-3				
WAKKANAI	5.46	282.7	1	24	3	2	41	17				
RUMOE	5.52	267.3	1	23	1							
TOMAKOMAI	5.87	254.4	1	26	-1							
SAPPORO	5.89	259.0	1	27A	0	2	43	8				
MURORAN	6.40	253.3	1	32	-2	2	49	2				
UGLEGORSK	6.75	315.6	1	43	4							
SUTTSU	6.76	258.8	1	41	2							
HAKODATE	6.76	249.8	1	36A	-3	2	50	-6				
MORI	6.77	252.5	1	40	0	3	7	11				
HATINOHE	6.94	238.1	1	35	-7	2	50	-10				
AOMORI	7.24	242.7	1	42	-4	2	57	-11				
MIYAKO	7.25	230.9	1	52	6	2	54	-14				
MORIOKA	7.67	234.4	1	46	-6	3	6	-13				
MIZUSAWA	8.08	231.5	1	54	-4	3	16	-13				
AKITA	8.30	238.3	2	8	7	3	27	-7				
ISINOMAKI	8.48	227.4	1	55	-8	3	23	-16				
SAKATA	8.98	235.0	2	7	-3							
YAMAGATA	9.13	230.2	2	5	-7	3	40	-15				
HUKUSIMA	9.43	227.6	2	9	-7	3	52	-10				
ONAHAMA	9.83	223.0	2	26	4	3	55	-17				
SHIRAKAWA	10.04	226.1	2	19	-6	4	2	-15				
MITO	10.49	222.6	2	24	-7	4	15	-13				
AIKAWA	10.49	235.9	2	39	8	4	15	-13				
PETROPAVLOVK	10.56	32.6	2	31	-1							
UTUNOMIYA	10.65	225.3	2	35	2							
KAKIOKA	10.75	223.1	2	35	0							
TYOSI	10.85	219.2	2	28	-8							
MAEBASI	11.18	227.4	2	34	-6	4	33	-12				
KUMAGAYA	11.21	225.6	2	34K	-7	4	32	-14				
TOKYO C.M.O.	11.40	222.9									3	34
NAGANO	11.46	230.9	2	40	-4							
TITIBU	11.50	226.0	2	39	-6							
MATUSIRO	11.54	230.5	2	38	-7	4	42	-12				
YOKOHAMA	11.65	222.5	2	38	-9	4	43	-14				
WAZIMA	11.72	237.1	2	43	-5	4	47	-11				
KOHU	12.01	226.6	2	51	-1	4	45	-20				
HUNATU	12.03	225.4				4	55	-11			4	22
AJIRO	12.22	223.1	2	37	-17	4	54	-16				
OSIMA	12.31	221.5				4	55	-17				
IIDA	12.51	228.3	3	1	3							
NAGOYA	13.23	229.6	3	7	-1							
HIKONE	13.56	231.8	3	7	-5							
ABUYAMA	14.23	232.3	3	15K	-6							
OSAKA	14.41	231.8	3	38	15						4	39
TORISIMA	15.66	209.9				6	45	9				
HAMADA	16.29	240.0	3	54	6						7	2
OOITA	17.70	236.7	3	59	-6	7	31	12				
HUKUOKA	18.21	239.8	4	13	1	7	40	10				
SAGA	18.49	239.2	4	21	6							
KUMAMOTO	18.54	237.4	4	10	-6							
MIYAZAKI	18.75	234.1	4	20	2	7	56	13				
NAGASAKI	19.10	238.7	4	23	1	8	11	21				
KAGOSIMA	19.51	235.0	4	28	1	8	12	13				
YAKUTSK	20.96	333.8	4	40	-2							
TIKSI	28.97	346.8	6	5	7							
ULAN-BATOR	29.25	292.0	5	59	-2							
HONG KONG	36.30	244.1	7	2	0	12	31	-9				
ESEN BULAK	36.67	292.2	7	7	2							
BAGUIO CITY	36.97	230.0	7	6	-2	12	50	0				
MANILA	38.14	227.7	7	16	-1							
COLLEGE	39.61	36.6	7	30	0							

PHU-LIEN	42.33	250.2	7	53	1						
SEMIPALATNSK	45.53	303.1	8	20	2						
KHEYS	46.67	347.0	8	24	-3						
MOULD BAY	47.66	18.9	8	34K	-1						
RABAUL	48.52	176.1	8	40	-1					10	28
KIPAPA	48.89	100.2	8	44	0						
SHILLONG	49.59	267.6	8	48K	-2						
CHITTAGONG	51.63	264.4	9	3	-2						
COPPERMINE	51.75	28.7	9	5K	-1						
FRUNSE	52.24	296.2	9	9	-1						
ALERT	52.28	5.0	9	8	-2						
PORT MORESBY	53.65	182.6	9	24	4	17	1	11			
SVERDLOVSK	53.66	317.0	9	19	-1						
RESOLUTE	53.84	17.2	9	20K	-2						
YELLOWKNIFE	54.35	34.6	9	26A	1						
BOKARO	55.01	270.1	9	30	0						
TASHKENT	56.42	297.1	9	40	0						
DEHRA DUN	56.63	281.4	9	41K	-1	17	31	2			
VICTORIA	57.06	52.3	9	45	0						
NEW DELHI	58.25	280.3	9	54	1						
DUZHANBE	58.25	294.6	9	51	-2						
APATITY	58.35	336.0	9	53K	-1						
LAHORE	58.50	284.8	9	54	-1	17	55	1			
WARSAK DAM	58.99	288.7	9	57A	-1						
BANFF	59.90	46.4	10	4	-1						
SODANKYLA	60.37	338.0	10	5	-3						
TROMSOE	60.55	342.1	10	8	-1						
KIRUNA	61.61	340.4	10	14A	-2						
SHASTA	62.02	59.4	10	18	-1						
HUNGRY HORSE	62.34	48.4	10	21	0						
KAJAANI	62.45	335.0	10	21	-1					10	59
BLUE MTS.	62.60	53.1	10	23K	0					12	41 PP
MINERAL	62.71	59.3	10	25K	1				10 39		
CALISTOGA	63.12	61.3	10	25K	-1						
BERKELEY	63.78	61.9	10	30	-1						
QUETTA	64.39	287.9	10	34	-1						
LICK	64.50	62.0	10	35K	0						
BUTTE	64.55	49.8	10	35	-1						
PARAISO	64.65	63.3	10	40	4						
PULKOVO	64.73	330.7	10	36	-1						
MOSCOW	64.76	324.5	10	36	-1						
UMEA	64.80	337.6	10	36	-1						
SCORESBY SD.	65.19	356.8	10	39A	-1						
KAP TOBIN	65.25	356.8	10	40A	0						
ASHKABAD	65.26	299.5	10	42	2						
VANNOVSKAYA	65.41	299.6	10	40	-1						
BOZEMAN	65.59	49.4	10	41	-1						
PRIEST	65.85	62.5	10	44K	0						
NURMIJARVI	66.08	333.5	10	44A	-1	19	29	0		24	5 SS
HELSINKI	66.24	333.2	10	45A	-1					11	16
EUREKA	66.67	57.1	10	50K	1						
POONA	66.94	273.7	10	49K	-2						
SKALSTUGAN	67.03	340.6	10	51A	0						
AFIAMALU	68.05	138.8	10	56	-2						
FROBISHER	68.08	17.1	10	56K	-2						
SALT LAKE C.	68.28	53.9	11	0	1						
PASADENA	68.69	62.8	11	2	0	20	26	25			
UPPSALA	68.74	336.1	11	1	-1						
FLAMING GRGE	69.58	52.4	11	7	0						
BOULDER CITY	69.60	59.4	11	8K	1						
UINTA BASIN	69.89	53.0	11	9K	0	20	32	17		13	43 PP
KIROVOBAD	70.66	308.2	11	14	0						
TIFLIS	70.79	309.9	11	15	0						
RAPID CITY	70.83	46.7	11	17	2						
GLEN CANYON	70.92	56.8	11	16	1						
TEHERAN	70.96	301.5	11	17K	1	20	33	6		21	33 SCS
KONGSBERG	71.07	339.7	11	16	0						
BERGEN	71.42	342.1	11	19	1						
GORIS	71.44	307.3	11	19	1						
LARAMIE'	71.46	50.1	11	20	1						
BAKURIANI	71.48	310.6	11	21	2						
BRISBANE	71.58	176.7	11	18	-1						
GOTEBORG	72.15	337.5	11	22A	-1						
GOLDEN	72.68	51.2	11	26	0						
TONTO FOREST	72.91	58.7	11	28K	1				11 38	14	11 PP
COPENHAGEN	73.76	336.2	11	32	0						
SIMFEROPOL	74.00	318.0	11	34	0						
SHIRAZ	74.31	296.1	11	35	0	20	55	-10			

LWOW	74.67	326.7	11 37	0				
KISHINEV	74.87	322.3	11 38	-1				
IASI	75.28	323.1	11 45	4				
KRAKOW	76.04	329.1	11 46K	1				12 24
UZHGOROD	76.30	326.9	11 47	0				
SCHEFFERVLLE	76.45	20.5	11 47K	-1				
RACIBORZ	76.65	330.0	11 49	0				12 8 PCP
COLLMBERG	77.37	333.6	11 52	-1				12 2 PP
HALLE	77.53	334.3	11 54	0				
RIVERVIEW	77.95	178.4			21 53	8		
PRAGUE	77.96	332.1	11 57	1				
JENA	78.14	334.2	11 56	-1				12 23
MUNSTER	78.39	336.9	11 56	-2				
BRATISLAVA	78.64	329.6	12 0A	0				
VIENNA-H.	78.84	330.1	12 1	0				
KASPERSKE H.	79.05	332.1	12 2K	0				
CANBERRA	79.42	180.2	12 4	0			12 13	
ISTANBUL UN.	79.42	318.3	12 5	1				
BENSBERG	79.42	336.7	12 4K	0			12 14	
ADELAIDE	79.64	188.8	12 5	0				
WICHITA MTS.	80.01	50.8	12 7K	0	22 14	7		15 14 PP
BELGRADE	80.15	325.7	12 6	-2	22 14	5		12 17 PCP
UCCLE	80.34	338.3	12 11	2				
TULSA	80.65	48.2	12 11	0				
STUTTGART	80.75	334.5	12 11K	0			12 21	
KEW	80.88	341.3	12 12	0				
DOURBES	80.91	337.8	12 12	0				
KSARA	81.36	309.4	12 15	1				
FAYETTEVILLE	81.36	47.1	12 14	0				
LJUBLJANA	81.37	330.0	12 15K	1				
STRASBOURG	81.38	335.3	12 15K	1				
TOOLANGI	81.73	183.0	12 16K	0			12 26	
LONDON ONT.	81.93	34.8	12 17	0				
WELSCHBRUCH	81.95	336.1	12 16	-1				
TRIESTE	81.99	330.2	12 17K	-1				32 19 SS
MELBOURNE	82.01	183.4	12 16	-2				
OTTAWA	82.03	30.2	12 17K	-1				
BREBEUF	82.69	28.8	12 21K	0				
BESANCON	83.10	335.8	12 24	1				
JERUSALEM	83.25	308.4	12 24	0				
FOLINIERE	83.43	340.4	12 26	1				14 0
GARCHY	83.90	337.6	12 28K	1				
ROSELEND	84.31	334.7	12 30	1				
AQUILA	84.97	328.8	12 34	1				
PENNSYLVANIA	85.15	33.9	12 34	0				
CLERMONT-FD.	85.27	337.0	12 31	-3				
MORGANTOWN	85.28	35.9	12 35	1				
KARAPIRO	85.39	159.4	12 35	0				
ISOLA	85.54	333.8	12 37	1				13 29
ROME	85.70	329.2	12 45	9				
MONACO	85.82	333.3	12 37	0				
CUMBERLAND	86.08	41.9	12 38K	0	23 13	5		29 10 SS
PALISADES	86.49	31.2			23 19	7		
MESSINA	87.70	325.2						44 6
COLUMBIA	89.51	39.7	12 55	0				
TOLEDO	92.66	339.8	13 10	1				
BANGUI	114.33	303.9	18 37	1				19 36 PP
CARACAS	116.23	40.3						19 45 PP
MAWSON	128.86	209.4	18 54A	-10				
HUANCAYO	130.06	63.8	19 9	3				
BYRD STATION	133.64	166.1	19 12	-1				22 43
LA PAZ	137.97	60.5	19 14	-7				

NOVEMBER 19 18.H 16.M 59.5 EPICENTRE -4.88 102.47 DEPTH= 0.KM

A=-0.21523 B= 0.97290 C=-0.08446 D= 0.9764 E= 0.2160
G= 0.0182 H=-0.0825 K=-0.9964 HT= 7.0

SE= 3.86

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
DJAKARTA	4.52	106.8	1 14A	2				
PORT BLAIR	19.09	329.5						5 1
PHU-LIEN	25.84	8.9	5 37	2				
MANILA	26.78	43.3	5 46	2				
BAGUIO CITY	27.72	39.9	5 53	1				

MADRAS	28.39	308.9	5	54	-4	10	44	-1		6	58 PP
DARWIN	28.99	106.7	6	3	-1						
CHITTAGONG	29.01	339.3	6	3	-1						
HONG KONG	29.33	22.5	6	9	2	10	55	-5			
MUNDARING	29.87	156.1	6	9	-3						
SHILLONG	31.97	341.7	6	29A	-1	11	37	-4			
BOKARO	32.84	331.0	6	37	-1	11	54	-1			
CHATRA	34.83	335.6	6	54A	-1						
NEW DELHI	41.21	325.3	7	57	9	14	8	5		13	57 PCS
DEHRA DUN	42.09	327.8	7	54A	-2	14	12	-4			
PORT MORESBY	44.53	98.4	8	15A	0	14	50	-1			
ADELAIDE	44.91	136.5	8	17K	-2					18	9
LAHORE	45.08	325.3	8	17	-3						
WARSAK DAM	48.46	325.2	8	45	-1						
QUETTA	48.70	318.0	8	45	-3	15	47	-4			
RABAUL	49.54	91.4	8	55	0						
ABUYAMA	50.33	35.7	9	0A	-1						
TOOLANGI	50.94	135.7	9	7	2	16	15	-7			
ESEN BULAK	51.35	354.5	9	8	-1	16	28	0			
CANBERRA	52.46	131.6	9	16	-1				9 27		
ULAN-BATOR	52.72	3.7	9	18	-1						
BRISBANE	52.81	120.8	9	19	-1	16	49	2			
DUZHANBE	53.32	327.2	9	28	5						
RIVERVIEW	53.52	129.0								17	1 PS
FRUNSE	53.78	334.8	9	25	-2						
TASHKENT	55.07	329.8	9	33	-3						
IRKUTSK	56.95	1.4	9	49	-1						
HONIARA	57.16	98.0	9	50	-1						
SHIRAZ	58.90	308.9	9	49	-14	18	2	-7			
ASHKABAD	59.09	320.1	10	6	1						
VANNOVSKAYA	59.25	320.0	10	4	-2						
MIRNY	61.92	184.3	10	36	12	19	1	14			
TEHERAN	62.61	314.5	10	39	10	18	52	-4			
Y.-SAKHLINSK	62.69	29.8	10	28	-1						
KIROVOBAD	68.43	317.2	11	3	-3						
YAKUTSK	69.92	13.3	11	12	-3						
TIFLIS	69.95	317.7	11	14	-1						
SVERDLOVSK	70.28	337.1	11	15	-2						
BAKURIANI	70.81	317.2	11	17	-4						
BROKEN HILL	73.32	256.4	11	31	-5						
JERUSALEM	73.51	305.0	11	47	10						
LWIRO	73.55	269.1	10	43	-54						
PETROPAVLOVK	74.47	31.4	11	42	0						
TIKSI	78.29	8.3	12	1	-3						
MOSCOW	80.21	328.7	12	2	-12						
ISTANBUL UN.	80.85	312.7	12	18	0						
ATHENS	84.16	308.8	12	45	10						
AFIAMALU	84.72	103.5	12	39	2						
APATITY	86.62	338.9	13	0A	13	23	15	-8			
UZHGOROD	87.16	319.1	12	56	7						
KAJAANI	87.75	334.9	12	50	-2					13	14
HELSINKI	88.01	330.8	12	55	1					13	16
KHEYS	88.08	353.4	12	53	-1						
NURMIJARVI	88.24	331.1	12	53	-2	23	38	-1		29	37 SS
SODANKYLA	89.06	338.0	12	57	-2						
KIRUNA	91.48	337.9	13	15	5					13	44
PRUHONICE	92.36	319.8	13	29	15						
COLLMBERG	93.44	321.0								17	26
SKALSTUGAN	94.42	333.3	13	37	14						
COLLEGE	102.70	24.3								18	15 PP
HUNGRY HORSE	126.67	29.7	19	5	-1						
BLUE MTS.	127.16	34.8	19	8	1					21	0 PP
EUREKA	131.11	39.7	19	17	3						
FLAMING GRGE	134.13	33.9								22	48 SKP
UINTA BASIN	134.44	34.6	19	20	-1					21	56 PP
TONTO FOREST	137.17	42.6	19	21	-5					21	56 PP
LUBBOCK	143.56	35.4	19	35	-2						
WICHITA MTS.	144.47	30.6	19	37	-2					23	19 PP
TULSA	144.83	26.2	19	38A	-1						
MORGANTOWN	145.34	3.3	19	41	1						
FAYETTEVILLE	145.36	24.1	19	39	-1						
WASHINGTON	146.13	359.4	19	27	-14						
CUMBERLAND	148.55	12.6	19	48	3					36	17 SPP
LA PAZ	156.82	203.4	20	12	15						
BOGOTA	176.55	265.9	20	3	-9					26	17 PP
CHINCHINA	178.10	272.9								26	23 PP

NOVEMBER 20 11.H 59.M 53.S EPICENTRE -21.99-175.97 DEPTH= 0.KM

A=-0.92586 B=-0.06517 C=-0.37221 D=-0.0702 E= 0.9975
G= 0.3713 H= 0.0261 K=-0.9281 HT= 4.2

SE= 3.08

	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	8.97	27.1	2	10	-4	3	36	-21					
GISBORNE	17.39	195.9	3	59	-7								
KARAPIRO	17.49	202.8	4	8	1								
WELLINGTON	20.76	200.0				8	12	-21					
MONOWAI	27.26	205.6	5	48	0								
BRISBANE	28.85	252.9	5	59	-3	11	27	35					
RIVERVIEW	31.23	240.6									12	13	
CANBERRA	33.30	238.7	6	45	3								
CHARTERS TS.	35.24	266.0	7	5	7	12	38	6					
RABAUL	35.58	295.2				12	47	9					
TOOLANGI	36.60	236.1	7	13	3								
PORT MORESBY	37.53	283.6	7	25A	7	13	41	34					
ADELAIDE	41.54	241.7	7	56	5								
SCOTT BASE	56.53	184.3	9	46	0	17	37	0					
BYRD STATION	62.87	170.6	10	32	2								
WILKES	63.46	205.6	10	33	-1								
SOUTH POLE	68.15	180.0	11	1	-3								
MIRNY	70.46	205.1	11	17	-1						21	26	
MATUSIRO	72.52	322.7	11	34	3								
PARAISO	76.99	41.8	12	0	4								
PETROPAVLOVK	77.88	344.6	12	4	3								
PRIEST	77.94	42.9	12	2K	0								
BERKELEY	78.04	40.7	12	3	1								
LICK	78.08	41.4	12	3K	1								
PASADENA	78.34	45.8	12	10	6								
CALISTOGA	78.35	39.9	12	4K	0								
SHASTA	79.80	38.4	12	12	0								
MINERAL	80.03	39.1	12	7K	-6								
MAWSON	80.81	199.4	12	16	-1						12	29	*SP
HONG KONG	81.05	298.3				22	39	12					
BOULDER CITY	81.63	45.9	12	22	1								
EUREKA	82.91	42.5	12	28	0								
TONTO FOREST	83.13	48.9	12	29	0				12	51	15	36	PP
SEATTLE	84.40	33.2	12	35	-1								
BLUE MTS.	85.31	37.6	12	40	0						24	10	PS
SALT LAKE C.	86.24	43.2	12	43	-2								
UINTA BASIN	87.47	44.5	12	50	-1	23	57	26			24	37	PS
FLAMING GRGE	87.90	44.1	12	52	-1								
BUTTE	88.71	38.6	12	57	0								
HUNGRY HORSE	89.20	36.1	12	59	0						13	39	
WICHITA MTS.	92.52	53.6	13	12	-2	24	27	10			13	58	SKS
RAPID CITY	93.44	43.6	13	20	1								
TULSA	95.10	53.4	13	24	-2								
CARACAS	111.42	87.0									19	7	PP
QUETTA	123.50	292.4	19	4	4								
SVERDLOVSK	126.28	325.3	19	7	2								
KAJAANI	135.06	345.5	19	23	1								
SHIRAZ	135.94	290.4	19	26	3								
NURMIJARVI	138.87	344.6	19	31	2						23	19	
HELSINKI	139.09	344.2	19	34	5								
KIROVOBAD	139.80	307.5	19	31	1								
BAKURIANI	141.53	310.1	19	33	0								
LWIRO	145.85	228.2	19	45	4								
SIMFEROPOL	146.34	320.0	19	47	5								
LWOW	148.05	335.2	19	52	8								
KRAKOW	149.31	339.7	19	54A	8						20	10	PKP2
KSARA	149.60	299.7	19	56	9								
UZHGOROD	149.68	335.7	19	55	8								
COLLMBERG	149.92	348.7	19	55	8								
JERUSALEM	150.61	296.0	19	59	11								
PRAGUE	150.80	346.2	19	55	6								
BENSBERG	150.98	355.9	19	58	9								
ISTANBUL UN.	151.64	317.8	19	59	9								
KASPERSKE H.	151.87	346.6	19	53A	3								
STUTTGART	152.95	352.3	19	55	3						20	15	
LJUBLJANA	154.52	342.9	19	56	2						20	24	
TRIESTE	155.09	343.7									20	24	PKP2
ATHENS	156.74	317.6									20	43	
TOLEDO	160.88	19.3									24	35	PP

NOVEMBER 21 21.H 1.M 35.S EPICENTRE 50.35 156.56 DEPTH= 76.KM

A=-0.58781 B= 0.25480 C= 0.76782 D= 0.3977 E= 0.9175
G=-0.7045 H= 0.3054 K=-0.6407 HT= -5.5

DEPTH OF FOCUS= 0.007R

SE= 1.97

	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	2.97	25.1	0	46	0								
KURILSK	7.78	232.1	1	54	1								
Y.-SAKHLINSK	9.74	255.3	2	22	2								
YAKUTSK	18.80	318.6	4	14	-2								
MATUSIRO	19.11	230.8	4	17	-3								
ABUYAMA	21.75	232.7	4	46A	-1								
TIKSI	24.76	339.4	5	15	-1								
COLLEGE	31.92	41.8	6	20	-1								
MOULD BAY	40.43	21.6	7	32K	-1								
HONG KONG	43.29	245.6				14	18	1			17	45	SS
COPPERMINE	44.16	33.0	8	2K	-1								
BAGUIO CITY	44.50	233.6	8	6	0								
ALERT	45.93	6.6	8	16	-1								
YELLOWKNIFE	46.68	39.7	8	23	0								
RESOLUTE	46.68	20.3	8	22	-1								
VICTORIA	49.66	59.2	8	46	0								
SEATTLE	50.77	59.6	9	1	6								
BANFF	52.31	52.7	9	5	-1								
SVERDLOVSK	52.77	316.6	9	8	-2								
SHILLONG	54.77	268.5	9	24K	0								
HUNGRY HORSE	54.80	54.7	9	23	-2				9	40			
BLUE MTS.	55.22	59.8	9	27	-1						11	39	PP
MINERAL	55.62	66.4	9	31K	0				9	47			
CALISTOGA	56.14	68.6	9	34A	0								
SODANKYLA	56.71	339.2	9	44	6								
BERKELEY	56.83	69.1	9	39K	0								
LICK	57.55	69.2	9	44K	0								
KIRUNA	57.65	341.9	9	59	14								
BOZEMAN	58.08	55.6	9	46	-2								
PRIEST	58.93	69.6	9	50A	-4								
KAJAANI	59.13	336.5	10	13	18								
EUREKA	59.46	63.9	9	59	1				10	15			
PORT MORESBY	60.06	190.7	10	1K	-1								
DUZHANBE	60.26	295.6	10	2	-1								
DUGWAY	60.77	61.4	10	7K	1								
FROBISHER	60.91	21.1	10	5A	-2								
SALT LAKE C.	60.92	60.3	10	8	0								
WARSAK DAM	61.73	290.0	10	11	-2								
PASADENA	61.78	69.7	10	14	1				10	30			
NEW DELHI	62.00	281.8	10	12K	-3								
FLAMING GRGE	62.17	58.7	10	16	0								
UINTA BASIN	62.49	59.3	10	19K	1						72	39	PP
BOULDER CITY	62.50	66.1	10	19K	1				10	33			
MOSCOW	62.75	326.2	10	22	2								
NURMIJARVI	62.90	335.6	10	31	10								
SKALSTUGAN	63.00	343.0	10	34	13								
RAPID CITY	63.24	52.6	10	24	1				10	41			
GLEN CANYON	63.69	63.3	10	26	0								
UPPSALA	65.23	338.6	10	50A	14						11	21	PCP
TONTO FOREST	65.76	65.1	10	40K	1				10	57	13	3	PP
VANNOVSKAYA	66.69	301.6	10	46	1								
QUETTA	67.18	290.0	10	46	-2								
SCHEFFERVLLE	69.11	25.2	10	59	-1								
CHARTERS TS.	70.71	190.3	11	9	-1								
TEHERAN	71.94	304.3	11	17	0								
WICHITA MTS.	72.54	56.6	11	21	0								
TULSA	73.10	54.0	11	24K	0				11	40			
COLLMBERG	74.09	337.2	11	29	-1						14	18	PP
BREBEUF	75.09	34.0	11	35	-1				11	50			
KASPERSKE H.	75.94	335.9	11	41	1						12	11	
SHIRAZ	75.96	299.5	11	41	0								
BRISBANE	77.46	183.4	11	49	0								
PENNSYLVANIA	77.47	39.2	11	48	-1								
MORGANTOWN	77.60	41.3	11	50	0						12	6	PP
CUMBERLAND	78.42	47.4	11	54K	0						13	47	
PARIS	78.74	342.9	11	56	0								
HALIFAX	79.17	28.0	11	59	1								
FOLINIÈRE	79.31	344.8	11	59	0								
GARCHY	80.10	342.0	12	3A	0								

ROSELEND	80.85	339.2	12	5	-2						
KSARA	81.19	313.6	12	10	1						
ISOLA	82.18	338.4	12	15	1						
JERUSALEM	83.19	312.9	12	20	1						
CANBERRA	85.56	186.2	12	33	2						
ADELAIDE	86.40	194.6	12	36K	1						
TOOLANGI	88.09	188.8	12	45	1				13	1	
TOLEDO	88.55	345.2	12	45A	-1				12	57	
MUNDARING	89.41	213.4	12	48	-2						
KARAPIRO	89.48	165.1	12	51	1						
LA PAZ	130.82	63.1	19	6	3						
SOUTH POLE	140.16	180.0	19	12	-8						

NOVEMBER 22 0.H 18.M 36.S EPICENTRE -5.93 108.00 DEPTH= 317.KM

A=-0.30743 B= 0.94602 C=-0.10263 D= 0.9510 E= 0.3091
G= 0.0317 H=-0.0976 K=-0.9947 HT= 7.0

DEPTH OF FOCUS= 0.045R

SE= 1.71

	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	
DJAKARTA	1.19	257.9	0	43A	0								
DARWIN	23.42	107.5	4	43	1								
MANILA	24.23	32.2	4	49	-1								
BAGUIO CITY	25.46	29.1	5	2	1								
PHU-LIEN	26.60	357.1	5	14	3								
MUNDARING	27.02	164.5	5	14	-1								
HONG KONG	28.70	12.0	5	31	1	9	57	2			6	44	PP
CHITTAGONG	32.27	331.1	6	2	1								
SHILLONG	35.02	334.1	6	27	3								
BOKARO	36.66	324.6	6	39	1								
CHATRA	38.31	329.2	6	52	0								
PORT MORESBY	38.94	97.6	6	57A	0								
CHARTERS TS.	39.72	114.4	7	4	1						12	38	
ADELAIDE	40.46	139.7	7	10K	1								
POONA	41.53	306.5	7	19A	1								
NEW DELHI	45.36	320.7	7	47A	-2	14	0	-5					
DEHRA DUN	46.08	323.2	7	54A	0								
TOOLANGI	46.41	138.1	7	58	1				9	4	12	50	SCP
BRISBANE	47.56	121.9	8	6	0	14	37	1					
CANBERRA	47.70	133.5	8	7A	0				9	10	9	32	PCP
ABUYAMA	48.19	30.7	8	10A	-1								
RIVERVIEW	48.62	130.7	8	14A	0								
MATUSIRO	50.84	31.5	8	29	-1								
WARSAK DAM	52.58	321.6	8	42	-1								
QUETTA	53.26	314.8	8	47	-1	16	3	10					
FRUNSE	57.21	331.2	9	16	0								
DUZHANBE	57.30	323.9	9	14	-3								
TASHKENT	58.86	326.6	9	25	-3								
TANANARIVE	60.17	251.7	9	40	4								
WILKES	60.33	178.8	9	36	-2	17	30	4					
MIRNY	61.41	186.8	9	44	-1	17	38	-1			18	48	*SS
VANNOVSKAYA	63.66	317.6	9	52	-7								
SHIRAZ	63.89	307.0	10	0	-1	19	8	58					
MONOWAI	64.82	138.2	10	3	-4								
TEHERAN	67.32	312.6	10	22	0								
MAWSON	68.67	197.0	10	30	-1	19	9	2	11	42			
CHATEAU	68.90	129.7	10	33	1				11	36			
YAKUTSK	69.80	10.7	9	59	-39								
CHILEKA	72.10	255.5	10	53K	2								
GORIS	72.53	314.4	10	36	-18								
SVERDLOVSK	73.47	335.0	10	59	0								
BULAWAYO	78.04	250.7	11	26K	1								
TIKSI	78.62	6.6	11	27	-1								
KSARA	78.62	306.1	11	29	1								
JERUSALEM	78.64	303.9	11	29	1								
AFIAMALU	79.13	103.0	11	32	1								
MOSCOW	84.01	327.6	11	58	2								
SOUTH POLE	84.11	180.0	11	57	1								
KAJAANI	91.06	334.3	12	29	0								
HELSINKI	91.64	330.2	12	34	2								
KIRUNA	94.53	337.6	12	45A	0								
COLLMBERG	97.72	320.9	13	9	9								

HUNGRY HORSE	124.70	32.9	18	24	2						
BLUE MTS.	124.73	38.0	18	22	0	19	46	20	14	PP	
EUREKA	128.25	43.2	18	32	3			21	21	SKP	
BOULDER CITY	130.67	46.6	18	37	4			21	29	SKP	
FLAMING GRGE	131.74	38.1						21	33	SKP	
UINTA BASIN	131.99	38.8	18	38	2			20	52	PP	
GLEN CANYON	132.48	43.8						21	36	SKP	
TONTO FOREST	134.04	46.8	18	42	3	20	9	20	38	*SPKP	
WICHITA MTS.	142.27	37.1	18	52	-3			22	3	SKP	
TULSA	143.02	33.0	18	54	-2						
FAYETTEVILLE	143.73	31.1	18	57	-1						
PALISADES	145.03	2.5	18	39	-21						
MORGANTOWN	145.69	10.9	19	4	3						
CUMBERLAND	147.95	21.1	19	6	2	20	30				
ANTOFAGASTA	150.51	182.9	19	17	9						
LA PAZ	157.39	189.7	19	23	6						
CARACAS	173.24	312.5	20	14	44			26	6	PP	
CHINCHINA	176.27	104.6	19	30	-1						
BOGOTA	177.56	122.1	19	28	-4			29	35	PPP	
FUQUENE	178.22	104.8						25	22	PP	

NOVEMBER 22 14.H 45.M 55.S EPICENTRE 44.62 149.29 DEPTH= 51.KM

A=-0.61398 B= 0.36465 C= 0.70004 D= 0.5106 E= 0.8598
G=-0.6019 H= 0.3575 K=-0.7141 HT= -3.4

DEPTH OF FOCUS= 0.003R

SE= 2.89

	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	1.18	301.4	0	22K	1							
NEMURO	2.98	245.5	0	42	-4	1	18	-3				
ABASHIRI	3.65	262.2	0	55K	-1	1	38	0				
KUSIRO	3.90	246.8	0	55	-4	1	39	-5				
OBIHIRO	4.73	251.0	1	9	-2	2	18	13				
HIROO	4.94	243.8	1	10	-4	2	7	-3				
ASAHIGAWA	5.05	262.8	1	15A	0	2	18	5				
URAKAWA	5.35	244.8	1	18K	-1	2	18	-3				
WAKKANAI	5.46	281.1	1	23	2	2	40	17				
RUMOE	5.55	265.7	1	23	1							
TOMAKOMAI	5.94	253.1	1	34	6							
SAPPORO	5.95	257.6	1	27K	-1	2	44	8				
MURORAN	6.47	252.1	1	33	-2							
UGLEGORSK	6.66	314.5	1	41	3	3	0	7				
SUTTSU	6.82	257.7	1	57	17	3	21	24				
HAKODATE	6.84	248.7	1	37K	-3	1	56	-62				
HATINOHE	7.04	237.2	1	38	-5	2	52	-11				
AOMORI	7.33	241.7	1	43	-4							
MIYAKO	7.37	230.1	1	51	3	2	57	-14				
MORIOKA	7.78	233.6	1	50	-3	3	11	-10				
MIZUSAWA	8.20	230.8	1	53	-6	3	20	-11				
AKITA	8.40	237.5				3	49	13			2	30
ISINOMAKI	8.60	226.8	1	55	-10	3	30	-11				
SAKATA	9.09	234.3	2	10	-1	4	1	8				
YAMAGATA	9.25	229.6	2	6	-8	3	44	-13				
HUKUSIMA	9.56	227.1	2	10	-8	3	50	-15				
OKHA	9.86	337.3	2	24	2	4	22	10				
ONAHAMA	9.96	222.6				4	11	-4			2	47
SHIRAKAWA	10.16	225.6	2	22	-4	4	4	-16				
NIIGATA	10.21	232.5									3	4
PETROPAVLOVK	10.42	32.9	2	28	-1	4	27	1			4	47
MITO	10.62	222.2	2	25	-7	4	14	-17				
UTUNOMIYA	10.78	224.8	2	32	-2	4	22	-13				
KAKIOKA	10.88	222.7	2	23	-13	4	17	-20				
MAEBASI	11.31	226.9	2	35	-7							
KUMAGAYA	11.34	225.1	2	36	-6	4	36	-12				
TOKYO C.M.O.	11.53	222.5				4	41	-12			7	0
NAGANO	11.57	230.5	2	40	-5							
TITIBU	11.62	225.5	2	42	-4	4	42	-13				
MATUSIRO	11.66	230.0	2	39	-7	4	53	-3				
YOKOHAMA	11.78	222.1				4	49	-10			3	22
MERA	12.11	220.1				4	51	-16				
TOYAMA	12.11	233.4	2	53	1							
KOHU	12.13	226.2	2	53	0	4	55	-12				
AJIRO	12.35	222.8	2	51	-5	4	57	-16				

MISIMA	12.37	223.4	3 10	14						
OSIMA	12.44	221.1			5	2	-13			
IIDA	12.63	227.9	2 57	-2					3	42
GIHU	13.29	230.4	3 7	-1						
HAMAMATU	13.30	225.9	3 16	8						
NAGOYA	13.35	229.2	3 4	-5						
HIKONE	13.67	231.4	3 10	-3						
KLYUCHI	13.81	27.9	3 35	20					7	37
KAMEYAMA	13.86	229.6	3 30	15	6	31	42			
KYOTO	14.15	232.0	3 13	-6						
TOYOOKA	14.31	235.6	3 18	-3						
NARA	14.34	230.8	3 16	-6						
ABUYAMA	14.35	231.9	3 16K	-6						
OSAKA	14.53	231.4	3 27	3						
MAGADAN	14.98	3.0	3 44	14					6	24
HAMADA	16.39	239.6	3 51	3	7	6	18			
OOITA	17.81	236.3	4 7	1	7	45	25			
HUKUOKA	18.31	239.4	4 13	1	7	42	11			
KUMAMOTO	18.64	237.1	4 19	3						
MIYAZAKI	18.86	233.8	4 17	-2	7	53	9			
NAGASAKI	19.20	238.4	4 19	-3	8	0	9		9	39 PCP
KAGOSIMA	19.62	234.8	4 27	0	8	1	1			
YAKUTSK	20.83	333.6	4 38A	-2	8	30	6		5	7 PP
TIKSI	28.82	346.7	5 51	-5					6	51 PP
ULAN-BATOR	29.22	291.7	5 58	-1						
HONG KONG	36.39	243.9	7 1A	0	12	37	-1		8	23 PP
ESEN BULAK	36.64	292.1	7 4							
BAGUIO CITY	37.09	229.9	7 5	-2						
MANILA	38.26	227.6	7 15	-2					9	5
COLLEGE	39.47	36.7	7 28	1						
PHU-LIEN	42.40	250.1	7 52	1					9	22 PP
SEMIPALATNSK	45.46	303.0	8 17	1						
KHEYS	46.53	346.9	8 20	-4					15	30 PS
MOULD BAY	47.50	19.0	8 32K	0						
RABAUL	48.67	176.2	8 39	-2	15	42	4			
KIPAPA	48.89	100.4	8 43	0					20	10
HONOLULU	48.91	100.6							15	59
SHILLONG	49.63	267.4	8 47	-1						
COPPERMINE	51.60	28.8	9 2A	-1						
CHITTAGONG	51.67	264.3	9 4	0						
ALERT	52.13	5.0	9 5A	-2						
FRUNSE	52.19	296.1	9 8A	0	16	31	4			
CHATRA	52.22	272.0	9 7A	-1						
SVERDLOVSK	53.56	316.9	9 17A	-1	16	48	2			
RESOLUTE	53.69	17.3	9 17A	-2						
PORT MORESBY	53.80	182.6	9 22	2	16	51	2			
YELLOWKNIFE	54.21	34.7	9 22	-1						
HONIARA	54.66	167.1	9 25	-1	17	3	3			
BOKARO	55.03	270.1	9 29	0						
TASHKENT	56.38	297.0	9 37A	-1	17	28	5		11	49 PP
DEHRA DUN	56.62	281.3	9 40A	0					18	7 PS
VICTORIA	56.95	52.4	9 43	0						
KHOROG	57.01	292.0	9 44A	1	17	38	6			
SEATTLE	58.05	52.8	9 56	6	18	1	16			
DUZHANBE	58.21	294.5	9 50A	-1	17	51	3			
APATITY	58.22	336.0	9 48	-3						
NEW DELHI	58.25	280.2	9 50A	-2	17	45	-3			
KEVO	58.43	339.8	9 51	-2					18	21 PS
WARSAK DAM	58.96	288.7	9 52	-5						
BANFF	59.77	46.5	10 1	-1						
SODANKYLA	60.24	338.0	10 3	-2						
TROMSOE	60.41	342.1	10 5	-2						
KIRUNA	61.47	340.3	10 12	-2						
SHASTA	61.92	59.5	10 16	-1						
HUNGRY HORSE	62.22	48.5	10 19	0				10	32	
KAJAANI	62.33	335.0	10 18	-1						
BLUE MTS.	62.49	53.2	10 20A	-1	18	50	8		12	42 PP
MINERAL	62.61	59.4	10 11A	-10				10	35	
CALISTOGA	63.02	61.4	10 24A	0						
TANGERANG	63.43	228.9	10 26K	-1						
BERKELEY	63.69	62.0	10 29A	1	19	3	6		23	17
QUETTA	64.37	287.9	10 32	-1	19	10	4			
LICK	64.40	62.1	10 33A	0						
BUTTE	64.43	49.9	10 33	0						
CHARTERS TS.	64.46	183.2	10 33	0	19	7	0			
PULKOVO	64.61	330.7	10 34	0						
MOSCOW	64.65	324.4	10 35	0					11	12 PCP
SCORESBY SD.	65.03	356.8	10 37	0						
KAP TOBIN	65.10	356.8	10 35	-3						

ASHKABAD	65.20	299.5				19	22	6						
BOZEMAN	65.47	49.4	10	39	-1						16	1		
PRIEST	65.76	62.6	10	42A	0									
NURMIJARVI	65.95	333.5	10	41	-2						19	53	PS	
HELSINKI	66.11	333.2	10	43	-1									
MADRAS	66.13	264.8	10	41	-3	19	30	3			19	51	PS	
EUREKA	66.57	57.2	10	47A	0				11	2	13	18	PP	
SKALSTUGAN	66.90	340.6	10	46	-3						11	32		
POONA	66.96	273.7	10	48A	-1									
BOMBAY	67.45	274.7	10	55	3									
FROBISHER	67.93	17.1	10	54A	-2									
DUGWAY	67.98	54.9	10	56A	0									
AFIAMALU	68.15	138.9				20	1	9						
SALT LAKE C.	68.17	53.9	10	58	1									
PASADENA	68.60	62.9	11	1	1	19	56	-1	11	13				
UPPSALA	68.61	336.1	10	58	-2									
FLAMING GRGE	69.47	52.5	11	5	0				11	20	11	47		
BOULDER CITY	69.50	59.5	11	5	0				11	20				
UINTA BASIN	69.77	53.1	11	7	0	20	18	7			11	21	PCP	
RAPID CITY	70.70	46.7	11	14	1				11	28				
TIFLIS	70.71	309.8	11	14	1	20	29	7						
GLEN CANYON	70.82	56.9	11	13	0				11	28				
TEHERAN	70.90	301.5	11	0	-14	20	31	7						
GORIS	71.36	307.3	11	17A	1	20	39	10			11	30	PCP	
GOTEBORG	72.02	337.5	11	20A	0									
TONTO FOREST	72.80	58.8	11	25	0						14	14	PP	
COPENHAGEN	73.63	336.2	11	30	0									
SIMFEROPOL	73.91	318.0	11	32A	1						11	44	PCP	
SHIRAZ	74.26	296.1	11	33	-1	21	4	2						
KRAKOW	75.93	329.1	11	43	0						11	58	PCP	
SCHEFFERVLLE	76.30	20.5	11	45A	0									
RACIBORZ	76.53	330.0	11	47	1						11	54	PCP	
COLLMBERG	77.24	333.6	11	50	0						11	57	PP	
HALLE	77.40	334.3	11	47	-4									
PRAGUE	77.84	332.1	11	59	5									
JENA	78.01	334.2	11	56	1									
RIVERVIEW	78.10	178.4	11	57	2	21	55	11			22	35	PS	
MUNSTER	78.26	336.9	11	54	-2									
SROBAROVA	78.38	328.7	11	58	1									
BRATISLAVA	78.52	329.6	11	59A	1						22	11		
VIENNA-H.	78.72	330.1	12	0	1									
KASPERSKE H.	78.93	332.1	12	0A	0									
BENSBERG	79.29	336.7	12	2	0				12	16				
ISTANBUL UN.	79.32	318.3	12	4	2	22	4	7						
CANBERRA	79.57	180.2	12	3A	0									
ADELAIDE	79.80	188.8	12	4	0	22	5	3						
WICHITA MTS.	79.90	50.8	12	5	0	22	13	10			15	8	PP	
BELGRADE	80.04	325.8	12	7K	1	22	8	3			12	20	PCP	
UCCLE	80.21	338.3	12	9	2	22	10	4						
HEIDELBERG	80.23	335.1	12	9K	2									
TULSA	80.53	48.3	12	8A	0	22	10	0	12	23				
STUTTGART	80.62	334.5	12	9	0									
KEW	80.74	341.3	12	11	2									
DOURBES	80.78	337.8	12	9	-1									
ZAGREB	80.92	329.0	12	17	7									
FAYETTEVILLE	81.24	47.2	12	12	0									
STRASBOURG	81.25	335.3	12	15	3						31	53		
LJUBLJANA	81.25	330.0	12	12	0									
KSARA	81.28	309.4	12	13	1									
LONDON ONT.	81.79	34.8	12	14	-1									
WELSCHBRUCH	81.82	336.1	12	16	1									
TRIESTE	81.87	330.2	12	15	0	22	24	1			28	31	SS	
TOOLANGI	81.89	183.1	12	15	0									
OTTAWA	81.89	30.2	12	14A	-1									
MUNDARING	81.97	207.9	12	14	-2	22	28	3						
MELBOURNE	82.17	183.5	12	15	-2									
BREBEUF	82.54	28.9	12	19K	0	22	31	1						
BESANCON	82.97	335.8	12	23	2									
JERUSALEM	83.18	308.5	12	23	1									
FOLINIERE	83.30	340.4	12	23	0									
GARCHY	83.77	337.6	12	26	1									
PAVIA	83.84	332.9									46	51		
PRATO	84.34	331.0	12	37	9									
AQUILA	84.85	328.8	12	32	2	23	3	10			29	8	SS	
PENNSYLVANIA	85.01	34.0	12	31	0									
CLERMONT-FD.	85.14	337.0	12	34	2									
MORGANTOWN	85.14	36.0	12	34	2									
ISOLA	85.41	333.8	12	35	2									

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.

ROME	85.58	329.2	12	37A	3	23	6	6		29	12 SS
MONACO	85.70	333.3	12	35	0						
CUMBERLAND	85.95	41.9	12	36	0	23	7	3			
PALISADES	86.35	31.3	12	40	2	23	28	20			
HALIFAX	86.46	22.9	12	39	1						
BAGNERES	88.45	337.9	13	50	62					14	13
WELLINGTON	88.52	161.1				23	35	7			
ROXBURGH	91.46	166.1				24	11	16			
TOLEDO	92.52	339.8	13	8K	1	23	47	-17		16	56 PP
CARACAS	116.09	40.3								19	33 PP
NANA	128.95	65.1	19	3	1						
MAWSON	129.01	209.5	19	2	-1						
HUANCAYO	129.97	63.7	19	7	3						
BYRD STATION	133.78	166.0	19	11	0						
SOUTH POLE	134.43	180.0	19	13	0					22	44
LA PAZ	137.87	60.4	19	23	4						
N-LAZARVSKYA	146.60	204.0	19	35	1						

NOVEMBER 22 17.H 3.M 35.S EPICENTRE -17.73-172.76 DEPTH= 0.KM

A=-0.94551 B=-0.12017 C=-0.30261 D=-0.1261 E= 0.9920
G= 0.3002 H= 0.0382 K=-0.9531 HT= 5.2

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
AFIAMALU	3.91	14.1	0	59	-3	1	35	-15				
LUGANVILLE	19.40	273.5	4	29	-1							
NOUMEA	20.06	253.5	4	33	-4							
KOUMAC	21.87	258.9	4	59	3							
GISBORNE	22.35	199.3	5	2	1							
KARAPIRO	22.59	204.7	5	3K	0							
HONIARA	27.75	283.7	5	56	4							
MOMOWAI	32.39	206.0	6	39	6							
CANBERRA	38.16	235.0	7	31	9							
CHARTERS TS.	38.78	259.8	7	26	-2							
PORT MORESBY	39.77	276.6	7	11	-25							
TOOLANGI	41.52	233.0	7	50	0							
MUNDARING	64.99	242.5	10	41	-3							
BYRD STATION	66.58	171.2	10	51	-3							
WILKES	68.58	205.0	11	3	-3							
MATUSIRO	71.10	320.0	11	22	0							
PARAISO	71.81	40.9	11	30	4							
SOUTH POLE	72.39	180.0	11	28	-2							
PRIEST	72.77	42.0	11	31A	-1							
BERKELEY	72.85	39.7	11	33K	1							
LICK	72.90	40.5	11	33K	0							
CALISTOGA	73.15	38.9	11	36A	2							
PASADENA	73.21	44.9	11	33	-1				11	46		
BAGUIO CITY	73.90	293.5	11	39	1							
SHASTA	74.59	37.4	11	43K	1							
MINERAL	74.83	38.1	11	43A	-1							
MIRNY	75.58	204.3	11	47	-1						12	7
EUREKA	77.74	41.5	12	0	0							
TONTO FOREST	78.05	48.0	12	3	1						12	30
GLEN CANYON	79.23	45.6	12	10	2							
TANGERANG	79.23	266.9	12	8A	0							
BLUE MTS.	80.11	36.5	12	13	0						12	44
SALT LAKE C.	81.08	42.2	12	20	2							
HONG KONG	81.79	296.5				22	41	6				
UINTA BASIN	82.32	43.5	12	26	1						12	57
FLAMING GRGE	82.75	43.1	12	28	1							
BUTTE	83.50	37.5	12	27	-4						13	42
HUNGRY HORSE	83.99	35.0	12	32	-1							
BOZEMAN	84.20	38.4	12	34	0							
COLLEGE	84.52	10.4	12	36	0							
BANFF	84.85	32.1	12	37A	0							
MAWSON	85.80	198.5	12	39	-3							
WICHITA MTS.	87.56	52.5	12	51	0						25	23
COPPERMINE	94.96	18.8	13	26	1							
CUMBERLAND	97.89	55.3	13	39	0							
QUETTA	124.59	294.7	19	4	3							
MUNSTER	145.83	359.6	19	42	2							
HALLE	146.10	354.7	19	43	2							
CHORZOW	146.17	346.4	19	45	4						20	16
KRAKOW	146.18	345.3	19	45	4							

COLLMBERG	146.19	353.5	19	44	3							
RACIBORZ	146.54	347.2	19	46	4						20	8
NIEDZIKA	146.66	344.4	19	45	3						20	17
JENA	146.69	355.0	19	45	3							
BENSBERG	146.84	0.1	19	46	4							
BANDEIRA	147.03	190.8	19	46K	4			19	55			
PRAGUE	147.22	351.4	19	55	12							
PRUHONICE	147.29	351.3	19	47	4							
DOURBES	147.63	3.2	19	47	4							
ADDIS ABABA	148.18	258.4	19	59	15							
KASPERSKE H.	148.26	352.1	19	51	7							
FOLINIERE	148.40	9.8	19	50	5							
BRATISLAVA	148.59	347.3	19	47	2						20	31
SROBAROVA	148.65	345.6	19	53	8							
VIENNA-H.	148.66	348.2	19	55	10							
STUTTGART	148.99	357.4	19	51	5							
STRASBOURG	149.22	359.3	19	59	13							
WELSCHBRUCH	149.39	1.2	19	54	8							
KSARA	149.78	307.6	19	55	8							
GARCHY	150.33	5.7	19	51	3							
BESANCON	150.54	1.7	20	4	16						20	32
LWIRO	150.92	229.1	19	59	10							
JERUSALEM	151.10	304.2	19	58	9							
LJUBLJANA	151.12	349.5	19	57	8						20	25
CLERMONT-FD.	151.83	6.1	19	46	-4							
ISOLA	153.63	0.3	20	16	24							
TOLEDO	155.85	21.6	19	59	4						24	47 PP

NOVEMBER 23 7.H 50.M 44.S EPICENTRE 29.89-114.06 DEPTH= 0.KM

A=-0.35401 B=-0.79303 C= 0.49576 D=-0.9131 E= 0.4076
G=-0.2021 H=-0.4527 K=-0.8685 HT= 1.9

SE= 2.39

	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
BARRETT	3.57	321.9	0	54	-3							
TUCSON	4.43	38.8	0	56	-14							
TONTO FOREST	4.99	27.6	1	15A	-3	2	42	25			7	53
PASADENA	5.50	321.6	1	20	-5							
BOULDER CITY	6.11	354.1	1	32A	-1							
SOCORRO	7.34	53.6	1	48	-3							
GLEN CANYON	7.36	15.6	1	51	0							
ALBUQUERQUE	8.17	49.9	1	59	-3							
PRIEST	8.34	320.1	2	2A	-2							
PARAISO	9.48	314.8	2	8	-12							
EUREKA	9.70	351.2	2	23	0							
LICK	9.76	321.6	2	21K	-3							
PRICE	10.06	14.5	2	31	3							
DUGWAY	10.34	5.3	2	33K	1							
BERKELEY	10.48	321.6	2	33A	-1	4	32	-2				
SALT LAKE C.	11.01	8.8	2	43	2							
LUBBOCK	11.02	67.4	2	40	-2							
UINTA BASIN	11.04	18.2	2	43	1						3	48
CALISTOGA	11.22	323.4	2	42K	-2							
FLAMING GRGE	11.65	17.8	2	51	1							
UKIAH	11.91	323.1	3	1	7							
GOLDEN	12.11	33.7	3	0	4							
MINERAL	12.12	331.5	2	58K	1							
SHASTA	12.75	330.0	3	6	1							
WICHITA MTS.	13.94	65.8	3	19	-2						6	11
BLUE MTS.	15.16	351.1	3	36	-1							
BOZEMAN	15.93	7.7	3	49	2							
BUTTE	16.15	3.7	3	50	0							
RAPID CITY	16.59	28.4	3	58	3						7	9
FAYETTEVILLE	17.76	64.4	4	8	-2						9	32
LAWRENCE	17.94	54.7	4	10	-2							
HUNGRY HORSE	18.44	0.1	4	18	0	7	34	-8				
SEATTLE	18.85	342.5	4	13	-10	7	42	-9				
VICTORIA	19.94	341.5	4	34	-2							
BANFF	21.29	357.4	4	50	0							
CUMBERLAND	24.58	69.2	5	22	0	9	42	1				
LONDON ONT.	29.32	54.4	6	8	2							
MORGANTOWN	29.51	61.5	6	8	0							
YELLOWKNIFE	32.61	359.5	6	34	-1							
OTTAWA	33.72	51.9	6	45A	0							

PALISADES	34.26	60.1	6	47	-2	12	21	5		
BREBEUF	35.18	52.3	6	58	1	12	28	-3	8	21 PP
COPPERMINE	37.98	359.4	7	22	1					
BALBOA HTS.	38.39	115.7				13	20	0		
KIPAPA	40.32	268.5	7	39	-1	14	1	12		
HONOLULU	40.43	268.3	7	44	3	14	1	10		
COLLEGE	40.84	338.7	7	42	-3					
SCHEFFERVLLE	41.81	39.6	7	52	-1					
HALIFAX	42.11	55.2	7	56	1					
CHINCHINA	43.91	116.7	8	12	2				9	59 PP
FUQUENE	45.08	114.5	8	19	0	15	0	1		
BOGOTA	45.34	115.8	8	18A	-3	15	4	2	18	39 SS
RESOLUTE	45.89	7.0	8	25	-1					
MOULD BAY	46.49	358.3	8	30K	0					
CARACAS	47.86	103.6	8	40	-1	15	38	0		
ST. CLAUDE	49.75	94.0							16	6
FORT FRANCE	50.80	95.2	9	10	6					
TRINIDAD	52.49	99.9	9	13	-4					
ALERT	55.78	7.2	9	42	1					
HUANCAYO	55.95	132.4	9	42	0					
AREQUIPA	61.70	132.5	10	23	1					
SCORESBY SD.	62.86	22.2	10	30	0					
KAP TOBIN	62.87	22.2	10	28	-2					
LA PAZ	63.92	129.9	10	34	-3	19	14	2		
PETROPAVLOVK	65.18	318.3	10	46	1					
ANTOFAGASTA	67.79	136.9	11	0	-1	20	4	5	24	22 SS
KHEYS	69.64	1.4	11	14	1					
TIKSI	69.83	342.5	11	11	-3					
AFIAMALU	70.62	240.5				20	42	10		
YAKUTSK	75.16	334.0	11	46	0					
SANTA LUCIA	75.19	143.5				21	22	-2		
KEVO	76.72	13.0				21	38	-3		
KIRUNA	76.84	16.1	11	55	0					
APATITY	79.84	12.1	13	1	50				16	21 PP
KEW	80.32	35.5				22	20	1		
KAJAANI	81.63	16.0	12	23	2					
FOLINIERE	81.84	37.8	12	24	2					
UPPSALA	82.16	22.4				22	39	1		
UCCLE	83.05	34.2							22	59
DOURBES	83.62	34.7	12	30	-1	23	0	7		
NURMIJARVI	83.80	19.2	12	32	0	22	56	1	28	21 SS
HELSINKI	84.17	19.2	12	35	1					
TUKUBASAN	84.27	308.6	12	36A	2	23	2	2	28	40 SS
BENSBERG	84.30	32.9	12	35A	0					
GARCHY	84.64	37.5	12	34	-2					
TOLEDO	84.95	46.5	12	41A	3	23	10	4	24	6 PS
MATUSIRO	85.36	309.7	12	38	-2					
WELSCHBRUCH	85.59	35.2	12	45	4					
BAGNERES	85.62	42.1	13	42	61					
STRASBOURG	86.19	34.4	12	44	0				25	7
JENA	86.35	31.0	12	46	1	23	26	6		
AVERROES	86.41	53.5	12	45	0					
COLLMBERG	86.71	30.1	12	48	1					
STUTTGART	86.79	33.6	12	49	2	23	28	4		
GRANADA	86.80	48.5							23	33
PRUHONICE	88.35	30.3	12	56	1					
PAVIA	89.20	36.3							37	49
TRIESTE	91.15	33.7				23	42	-22	37	4
MOSCOW	91.36	15.6	13	9	0					
ROME	93.22	36.9							24	14 SKKS
AQUILA	93.37	36.1							34	16
ULAN-BATOR	94.26	333.8	13	23	1					
BELGRADE	94.88	30.6							36	30
RABAUL	95.34	268.2							31	12
WELLINGTON	96.58	225.9							26	40 SP
MESSINA	97.52	37.8							37	55
ESEN BULAK	99.27	339.3	13	49	4					
RIVERVIEW	109.58	241.7							29	52 PPS
BAGUIO CITY	110.07	303.6							19	24 PP
SHILLONG	119.51	333.0	18	53	2					
SOUTH POLE	119.72	180.0	18	52	0					
NEW DELHI	120.88	348.5	18	56	2					
MIRNY	139.81	196.4	19	32	2					
MAWSON	142.21	178.1	19	29	-5					
CHILEKA	148.26	70.4	19	48	4					

NOVEMBER 23 19.H 30.M 20.S EPICENTRE -20.17-178.09 DEPTH= 514.KM

A=-0.93890 B=-0.03137 C=-0.34276 D=-0.0334 E= 0.9994
G= 0.3426 H= 0.0114 K=-0.9394 HT= 4.6

DEPTH OF FOCUS= 0.076R

SE= 1.31

	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	8.67	45.1	2	4	0	3	39	-5					
KOUMAC	16.54	265.6	3	30	5								
KARAPIRO	18.54	196.0	3	46	2								
GISBORNE	18.72	189.5	3	46	0								
BRISBANE	27.57	249.3	5	6	0								
MONOWAI	28.13	201.5	5	11K	0								
CHARTERS TS.	33.44	263.9	5	57	0								
PORT MORESBY	35.20	282.6	6	12K	1								
SOUTH POLE	69.95	180.0	10	20	0						12	16	
PARAISO	76.99	43.2	11	6	6								
PRIEST	77.99	44.2	11	6K	0								
BERKELEY	77.99	42.0	11	6A	0								
LICK	78.06	42.8	11	6K	0								
CALISTOGA	78.26	41.2	11	7K	0								
PASADENA	78.52	47.1	11	8	0								
SHASTA	79.64	39.7	11	14	0								
MINERAL	79.90	40.3	11	16K	0								
BOULDER CITY	81.81	47.0	11	25K	0								
EUREKA	82.94	43.6	11	31K	0								
TONTO FOREST	83.45	50.0	11	34	0						29	47	PKKP
VICTORIA	83.96	33.1	11	35	-1								
GLEN CANYON	84.56	47.5	11	40	1								
BLUE MTS.	85.10	38.5	11	41	-1						29	44	PKKP
UINTA BASIN	87.58	45.4	11	53	-1								
COLLEGE	87.91	12.4	11	53	-2								
BUTTE	88.54	39.4	11	58	0								
HUNGRY HORSE	88.92	36.9	11	59	-1								
BOZEMAN	89.28	40.2	12	1	0								
WICHITA MTS.	93.05	54.2	12	18	-1				14	23	29	26	PKKP
NEW DELHI	111.90	293.5	17	35A	-1								
QUETTA	120.98	293.7	17	53	0								
KAJAANI	132.81	344.9	18	16	0								
SHIRAZ	133.45	292.1	18	5	-12								
LWIRO	145.47	232.9	18	42	3								
KSARA	146.98	301.4	17	38	-63								
NIEDZIKA	147.32	337.6	18	45	3								
COLLMBERG	147.73	346.9	18	46	4								
JERUSALEM	148.03	298.0	18	49	6								
JENA	148.37	348.3	18	43	0						19	30	
ISTANBUL UN.	148.97	318.1	18	48	4								
BENSBERG	149.00	353.5	18	49	5								
UCCLE	149.37	357.0	18	52	7								
KASPERSKE H.	149.63	344.8	18	45	0								
VIENNA-H.	149.65	340.7	18	48	3								
DOURBES	150.06	356.5	18	51	5								
STUTTGART	150.86	350.0	18	47	0								
FOLINIERE	151.40	3.3	18	55	7								
LJUBLJANA	152.18	341.0	18	54	5								
ISOLA	155.68	351.0	19	24	30								
TOLEDO	159.70	13.3	19	43A	44								

NOVEMBER 23 22.H 33.M 51.S EPICENTRE 80.07 1.94 DEPTH= 0.KM

A= 0.17342 B= 0.00587 C= 0.98483 D= 0.0338 E=-0.9994
G= 0.9843 H= 0.0333 K=-0.1735 HT=-13.6

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
KHEYS	9.12	59.2	2	15	-1							
ALERT	9.55	314.3	2	20	-2							
SCORESBY SD.	11.23	224.3	2	43K	-2							
KAP TOBIN	11.29	224.3	2	43	-3							
KEVO	12.05	135.1	2	54	-2	4	56	-16				
KIRUNA	13.20	148.2	3	11	0							
SODANKYLA	14.28	139.0	3	23	-3	5	49	-17				

APATITY	14.96	129.0	3 29A	-5			5 4
SKALSTUGAN	16.83	163.9	3 59	0			
KAJAANI	17.58	140.8	4 5	-3	7 10	-13	
RESOLUTE	19.28	306.9	4 27	-2			
BERGEN	19.80	175.1	4 39	4			
KONGSBERG	20.66	168.9	4 52	8			
NURMIJARVI	20.77	147.4	4 43	-2	8 29	-4	
MOULD BAY	20.84	324.9	4 48	2			
UPPSALA	20.86	157.5	4 47	1			
HELSINKI	21.13	147.1	4 47	-2			
PULKOVO	22.08	140.2					4 57 PP
GOTEBORG	22.70	166.0	5 8	4			
FROBISHER	24.79	271.2	5 25	0			
COLLMBERG	29.14	165.7	6 30	25			
SVERDLOVSK	29.28	106.2	6 6	0			
PRUHONICE	30.52	163.9					6 42
COLLEGE	34.26	337.5	6 52	2			
ISOLA	36.07	173.7	7 5	0			
KIROVOBAD	42.83	128.5	8 1	0			
FRUNSE	45.16	98.0	8 22	2			
VANNOVSKAYA	47.20	116.5	8 38	2			
ASHKABAD	47.24	116.2	8 37	0			
BLUE MTS.	50.81	306.8	9 5	1			
UINTA BASIN	54.12	298.6	9 24	-5			
SHIRAZ	54.51	124.3	9 31	-1			
CUMBERLAND	54.78	274.6	9 33	-1			
LAHORE	56.11	101.4	9 43	0			
QUETTA	56.22	109.2	9 44K	0			
WICHITA MTS.	57.84	286.9	9 57	1			
NEW DELHI	59.50	99.2	10 7A	0			
TONTO FOREST	60.29	298.8	10 14	1			10 42
CHATRA	62.93	89.7	10 33A	3			
SHILLONG	64.98	85.4	10 44A	0			

NOVEMBER 24 11.H 6.M 1.S EPICENTRE 28.28 140.31 DEPTH= 299.KM

A=-0.67867 B= 0.56329 C= 0.47129 D= 0.6387 E= 0.7695
G=-0.3626 H= 0.3010 K=-0.8820 HT= 2.4

DEPTH OF FOCUS= 0.042R

SE= 1.80

	DELTA DEG.	AZ. DEG.	P M	S	O-C S		S	O-C	*PP M	S	SUPP. M	S
TORISIMA	2.19	359.8	0	47K	-2	1	22	-5				
HATIDYOZIMA	4.83	354.8	1	15	-1	2	12	-4				
SIOMISAKI	6.46	324.0									2	52
OSIMA	6.52	353.3	1	34	-2	2	45	-7				
OMAESAKI	6.55	344.7	1	27	-10							
MERA	6.63	356.6	1	37	-1	2	50	-4				
HAMAMATU	6.79	341.7	1	39A	-1	2	58	0				
AJIRO	6.83	351.6	1	38	-2	2	55	-3				
MISIMA	6.92	350.7	1	41	0	2	57	-3				
YOKOHAMA	7.15	355.7				3	1	-5			2	38
HUNATU	7.32	350.1				3	6	-3			2	16
KAMEYAMA	7.32	334.4	2	52	66	4	13	64				
TOKYO C.M.O.	7.39	356.5	1	46	-1	3	4	-7				
TYOSI	7.43	3.4	1	51	4	3	7	-5				
NAGOYA	7.43	338.4	1	46	-1	3	12	0				
NARA	7.44	330.2	1	49	2							
KOHU	7.52	349.1	1	48	0	3	11	-3				
IIDA	7.52	344.4	1	49	1	3	13	-1				
OSAKA	7.55	328.5	1	55	6	3	20	6				
SUMOTO	7.60	324.0	1	51K	2	3	16	1				
GIHU	7.71	337.9	1	53	2							
ABUYAMA	7.71	329.6	1	51K	0							
TITIBU	7.75	352.6	1	48	-3	3	15	-4				
HIKONE	7.78	334.7	1	55	3	3	23	4				
KOTI	7.84	313.7	1	57	5	3	37	16				
KUMAGAYA	7.89	354.5	1	52	-1	3	16	-6				
KAKIOKA	7.93	359.3	1	51	-2	3	18	-5				
MITO	8.08	0.9	1	53K	-2	3	19	-7				
OIWAKE	8.16	350.0	2	57	61	3	28	0				
MAEBASI	8.16	353.0	1	54	-2	3	20	-8				
MATUMOTO	8.19	346.6	2	0	3	3	27	-1				
UTUNOMIYA	8.26	357.5	1	55	-3	3	21	-9				

MATUSIRO	8.43	348.4	1	57	-3	3	24	-10					
HUKUI	8.48	337.0	2	2	2								
NAGANO	8.55	348.5	2	2	1	3	34	-2					
ONAHAMA	8.66	3.2	2	3	1	3	32	-7					
SHIRAKAWA	8.82	359.5	2	2	-2	3	38	-4					
TAKADA	8.97	349.4	2	34	28	3	42	-4					
KUMAMOTO	9.44	301.0	2	15	3								
HUKUSIMA	9.45	0.8	2	11	-1	3	50	-6					
UNZENDAKE	9.74	299.6	2	16	0								
YAMAGATA	9.94	0.2	2	17	-1	4	0	-7					
NAGASAKI	10.03	298.8	2	21K	2	4	13	4					
HUKUOKA	10.03	304.2	2	21	2	4	17	8					
ISINOMAKI	10.16	4.5	2	18	-3	4	7	-5					
MIZUSAWA	10.84	3.4	2	28	-1	4	24	-3					
AKITA	11.41	359.2				4	50	10			3	45	
MORIOKA	11.41	3.4	2	35	-1	4	36	-4					
MIYAKO	11.43	6.5									4	35	
HATINOHE	12.26	4.4	2	45	-2	4	56	-3					
AOMORI	12.52	1.7									5	0	
HAKODATE	13.51	1.4	3	2K	0	5	27	1					
MORI	13.79	0.8	2	11	-54								
URAKAWA	13.99	7.6	3	9K	1	5	46	9					
HIROO	14.18	9.2									5	42	
SUTTSU	14.49	359.8									5	46	
SAPPORO	14.78	3.0	3	17	0	6	4	10			5	3	
OBIHIRO	14.80	8.3	3	18	1	5	57	3					
KUSIRO	15.04	11.6	3	19	-1								
GUAM	15.31	163.5	3	22	-1								
ASAHIGAWA	15.56	5.6									5	59	
NEMURO	15.61	14.4	3	28	2								
ABASHIRI	16.03	10.4	3	32A	1	6	25	5					
Y.-SAKHLINSK	18.80	5.1	4	0	0								
BAGUIO CITY	21.69	241.2	4	27	-1	8	11	7					
MANILA	22.39	236.8	4	34	-1	8	19	3					
HONG KONG	24.35	261.8	4	53	0	8	50	2			10	18	*SS
PETROPAVLOVK	28.20	23.7	5	29	1								
YAKUTSK	34.47	351.2	6	20	-2								
SHILLONG	43.05	278.1	7	33K	1	13	37	2					
TIKSI	43.86	354.8	7	38	-1								
CHATRA	46.82	281.3	8	3K	1						9	31	PP
CHARTERS TS.	48.43	172.5	8	13	-1								
BOKARO	48.83	277.9	8	17	0								
LUGANVILLE	50.70	145.8	8	32	1								
DEHRA DUN	53.72	288.3	8	54K	0								
FRUNSE	54.10	304.1	8	35	-21								
NEW DELHI	54.89	286.5	9	0K	-2								
BRISBANE	56.63	166.7	9	13	-1								
COLLEGE	57.09	28.9	9	17	0								
GARM	57.97	300.3	9	23	-1								
WARSAK DAM	58.14	294.3	9	38	13								
TASHKENT	58.27	303.1	9	25	-1								
DUZHANBE	59.23	300.1	9	30	-2								
SVERDLOVSK	61.28	321.9	9	44	-2								
RIVERVIEW	62.62	169.8	9	54A	-1						10	40	
ADELAIDE	62.92	181.5	9	55	-2						11	3	
QUETTA	62.97	291.3	9	57	0								
CANBERRA	63.79	172.1	10	1	-1								
MUNDARING	64.15	202.7	10	4	-1								
MOULD BAY	65.19	15.0	10	11K	0								
ASHKABAD	67.28	301.9	10	24	0								
VANNOVSKAYA	67.47	302.0	10	29	3								
KIZYL-ARVAT	68.42	303.8	10	32	1								
ALERT	68.90	3.1	10	35K	1								
COPPERMINE	69.42	23.1	10	37K	-1								
APATITY	70.32	337.0	10	42K	-1								
RESOLUTE	71.31	13.3	10	48	-1								
KEVO	71.31	340.3	10	48K	-1						11	16	
YELLOWKNIFE	71.89	28.1	10	53K	1								
SODANKYLA	72.69	338.2	10	55	-2								
VICTORIA	73.26	43.6	11	1K	0								
TEHERAN	73.28	301.9	11	1	0								
KARAPIRO	73.67	151.6	11	2	-1				12	1	11	37	
TROMSOE	73.70	341.9	11	2	-1								
KAJAANI	74.08	335.0	11	3K	-2								
SEATTLE	74.31	44.1	11	11	4								
KIRUNA	74.38	340.0	11	6K	-1								
CHATEAU	74.74	152.3	11	8	-1				12	13			
SHIRAZ	74.84	295.7	11	9	-1	20	20	0					

KIROVOBAD	74.97	308.2	11	10	0							
GORIS	75.45	307.1	11	12	-1							
BAKURIANI	76.44	310.1	11	19	0							
BANFF	76.68	38.9	11	18	-2							
UMEA	76.92	336.8	11	20K	-1							
SHASTA	77.24	50.6	11	24	1							
NURMIJARVI	77.25	332.8	11	22K	-1						14	19 PP
HELSINKI	77.32	332.4	11	23K	0						14	21 PP
MONOWAI	77.77	160.8	11	24	-2							
MINERAL	77.93	50.7	11	27K	0							
CALISTOGA	78.02	52.6	11	28K	1							
BERKELEY	78.59	53.2	11	31K	1							
BLUE MTS.	78.65	45.1	11	32K	1						30	23 PKKP
HUNGRY HORSE	78.91	40.9	11	34	2						12	30
LICK	79.27	53.4	11	35K	1							
SKALSTUGAN	79.72	339.0	11	35K	-1						14	38 PP
PARAISO	79.92	54.2	11	39	2							
UPPSALA	80.42	334.5	11	39K	-1							
PRIEST	80.52	54.1	11	42K	2							
SCORESBY SD.	80.71	354.0	11	42K	1							
KAP TOBIN	80.77	354.0	11	43K	1							
BUTTE	80.96	42.4	11	44	1				12	48		
EUREKA	82.15	49.4	11	50K	1				12	53		
KISHINEV	82.95	320.1	11	52	-1							
PASADENA	83.27	54.9	11	55	1				13	3		
KONGSBERG	83.45	337.2	11	55	0						15	10 PP
KARLSKRONA	83.71	332.4	11	56K	-1							
DUGWAY	83.87	47.5	11	59K	1							
GOTEBORG	84.04	334.9	11	57K	-1							
SALT LAKE C.	84.18	46.6	12	1	2							
BERGEN	84.29	339.3	12	0	0							
BOULDER CITY	84.71	51.9	12	3K	1				13	7		
PRICE	85.48	47.2	12	7	1							
KSARA	85.52	306.0	12	5K	-1							
FROBISHER	85.52	12.4	12	6K	0							
UZHGOROD	85.53	324.0	12	6	0							
FLAMING GRGE	85.66	45.5	12	8	2							
KRAKOW	85.83	326.1	12	7	0							
UINTA BASIN	85.88	46.0	12	9K	2	22	17	4	13	15	30	6 PKKP
NIEDZIKA	86.04	325.5	12	8	0						12	34
GLEN CANYON	86.40	49.7	12	11	1							
JERUSALEM	87.05	304.6	12	12	-1							
RAPID CITY	87.53	40.2	12	18	3							
LARAMIE	87.79	43.5	12	19	2							
TONTO FOREST	88.08	51.8	12	20	2				13	29	29	59 PKKP
SROBAROVA	88.10	325.1	12	18K	0							
COLLMBERG	88.21	330.0	12	17	-2						15	48 PP
PRUHONICE	88.44	328.4	12	19	-1							
BRATISLAVA	88.47	325.9	12	19K	-1							
HALLE	88.53	330.6	12	16	-4							
VIENNA-H.	88.77	326.3	12	21	0							
GOLDEN	88.88	44.7	12	24	2							
JENA	89.10	330.4	12	21	-2						15	44
KASPERSKE H.	89.49	328.2	12	24	-1						15	56
BENSBERG	90.93	332.5	12	30K	-1						16	10
LJUBLJANA	91.20	325.6	12	31	-1							
STUTTGART	91.70	330.0	12	34K	-1							
TRIESTE	91.87	325.7	12	34	-2							
FOLINIERE	95.66	335.1	12	52	-1							
ISOLA	96.17	328.2	12	53	-2						16	52 PP
WICHITA MTS.	96.21	45.2	12	56	1				14	5	30	13 PKKP
CUMBERLAND	103.14	36.9	13	26	-1						17	45 PP
SOUTH POLE	118.12	180.0	18	11	0						28	32
TRINIDAD	135.97	31.5	18	39	-7							
NANA	141.73	72.6	18	52	-5							
HUANCAYO	143.03	71.4	18	59	0							
AREQUIPA	148.43	74.9	19	11	4							
LA PAZ	151.29	72.0	19	15	3							

NOVEMBER 25 10.H 2.M 18.S EPICENTRE 44.73 149.80 DEPTH= 0.KM

A=-0.61608 B= 0.35852 C= 0.70136 D= 0.5030 E= 0.8643
G=-0.6062 H= 0.3528 K=-0.7128 HT= -3.4

SE= 2.30

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.

	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	1.46	290.7	0	31	3							
Y.-SAKHLINSK	5.45	297.3	1	26	1							
UGLEGORSK	6.85	312.1	1	41	-3							
MATUSIRO	12.01	231.1	2	47	-9							
ABUYAMA	14.70	232.8	3	31A	0							
YAKUTSK	20.90	333.0	4	47	0							
TIKSI	28.80	346.4	6	0	-2							
HONG KONG	36.76	244.4				12	53	-3				
BAGUIO CITY	37.43	230.4	7	10	-7							
MOULD BAY	47.28	19.0	8	38	1							
SHILLONG	50.00	267.7	8	56A	-2							
COPPERMINE	51.34	29.0	9	9	1							
ALERT	51.99	5.1	9	13	0							
RESOLUTE	53.48	17.4	9	24	0							
SVERDLOVSK	53.73	317.0	9	26	0							
TASHKENT	56.65	297.2	9	47	0							
DEHRA DUN	56.96	281.6	9	49A	-1							
KHOROG	57.30	292.2	9	51	-1							
APATITY	58.27	336.1	9	58	-1							
KEVO	58.46	339.9	10	0	0							
DUZHANBE	58.50	294.7	9	59	-1							
NEW DELHI	58.59	280.5	9	58A	-3							
WARSAK DAM	59.27	288.9	10	4	-2							
SODANKYLA	60.28	338.1	10	12	-1							
KIRUNA	61.49	340.5	10	20K	-1							
HUNGRY HORSE	61.87	48.8	10	24	0							
BLUE MTS.	62.13	53.5	10	25	0	19	4	14			10	58
KAJAANI	62.38	335.2	10	23	-4							
CHARTERS TS.	64.58	183.7	10	52	11							
QUETTA	64.68	288.1	10	40	-2							
PULKOVO	64.70	330.8	10	42	0							
UMEA	64.71	337.8	10	42	0							
KAP TOBIN	65.01	356.9	10	45	1							
BOZEMAN	65.13	49.7	10	44	-1							
ASHKABAD	65.47	299.7	10	48	1							
VANNOVSKAYA	65.62	299.8	10	48	0							
KIZYL-ARVAT	65.96	301.9	10	51	1							
NURMIJARVI	66.02	333.7	10	50K	-1							
HELSINKI	66.18	333.3	10	51	-1							
EUREKA	66.20	57.5	10	53	1							
WOODY	66.80	62.3	10	54	-2							
SKALSTUGAN	66.92	340.8	10	57	1							
FROBISHER	67.72	17.3	11	1	-1							
UPPSALA	68.66	336.3	11	7	0				11	19		
UINTA BASIN	69.42	53.4	11	12	0	20	24	5			11	46
RAPID CITY	70.36	47.0	11	19	1							
KIROVOBAD	70.81	308.4	11	20	0							
TEHERAN	71.16	301.7	11	24	1							
GORIS	71.59	307.5	11	40	15							
BAKURIANI	71.61	310.8	11	27	2							
GOTEBORG	72.06	337.7	11	28K	0							
TONTO FOREST	72.44	59.1	11	29	-1						11	48 PCP
COPENHAGEN	73.68	336.4	11	35A	-2							
SHIRAZ	74.54	296.4	11	42	0	21	20	2				
LWOW	74.67	327.0	11	45	2							
KRAKOW	76.02	329.3	11	51	0						12	4 PCP
UZHGOROD	76.30	327.2	11	54	1							
RACIBORZ	76.62	330.3	11	57	3							
COLLMBERG	77.31	333.9	11	58	0						12	10 PP
HALLE	77.46	334.6	11	58	-1							
JENA	78.07	334.5	12	2	0						12	23
VIENNA-H.	78.81	330.3	12	8	2							
KASPERSKE H.	79.00	332.4	12	8A	1							
WICHITA MTS.	79.55	51.1	12	10	0							
CANBERRA	79.68	180.7	12	11	0							
STUTTGART	80.68	334.8	12	18	2							
DOURBES	80.82	338.1	12	2	-15							
FAYETTEVILLE	80.90	47.5	12	17	-1							
LJUBLJANA	81.34	330.3	12	20	0							
TRIESTE	81.96	330.6	12	23	0							
FOLINIERE	83.32	340.7	12	32	2							
GARCHY	83.81	337.9	13	34	61							
ATHENS	84.38	320.1									22	42
AQUILA	84.95	329.1	12	40	2							
ISOLA	85.48	334.1	12	44	3							
CUMBERLAND	85.63	42.3	12	42	0	23	16	2			13	12

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.

MONACO 85.76 333.7 12 47 5

NOVEMBER 26 22.H 50.M 4.S EPICENTRE -16.58 175.18 DEPTH= 0.KM

A=-0.95555 B= 0.08064 C=-0.28358 D= 0.0841 E= 0.9965
G= 0.2826 H=-0.0238 K=-0.9589 HT= 5.4

SE= 1.52

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
LUGANVILLE	7.81	276.6	2	0A	2								
NOUMEA	10.01	234.0	2	29	0								
KOUMAC	11.06	247.4	2	44	1								
AFIAMALU	12.86	79.9	3	6	-1	5	30	-2					
KARAPIRO	21.27	179.2	4	51	0								
GISBORNE	22.13	174.1	4	59	0								
BRISBANE	23.35	238.7	5	13	2	10	24	63					
WELLINGTON	24.62	180.7	5	23	-1	9	44	1			10	26	SS
RABAUL	25.71	296.1	5	32	-2								
RIVERVIEW	27.60	227.0	5	52A	1	10	38	6			8	24	
PORT MORESBY	28.20	281.2	5	57A	0	10	47	5					
ROXBURGH	29.23	188.5	6	6	0	11	0	2			12	8	SS
CANBERRA	29.89	226.4	6	12	0	11	17	8	6	20	9	6	
TOOLANGI	33.47	225.5	6	44A	1	12	58	53			7	58	PP
MOORLANDS	35.16	217.1	6	44	-14								
TARRALEAH	35.50	217.9	7	0	-1								
ADELAIDE	37.32	233.6	7	16K	0	13	4	0			15	52	
HONOLULU	45.87	35.8				15	20	9			19	3	
KIPAPA	46.01	35.7				15	24	11			19	17	
MUNDARING	55.28	242.4	9	38	0	17	22	1					
SCOTT BASE	61.44	182.0	10	20	-1	18	46	5					
BAGUIO CITY	63.03	298.6	10	30	-2	19	8	6					
MATUSIRO	63.32	327.2	10	32	-1								
BYRD STATION	69.57	170.3	11	13	0						13	21	
HONG KONG	71.13	301.1	11	22	-1	20	38	-1					
MIRNY	71.81	204.7	11	31	4								
SOUTH POLE	73.53	180.0	11	35	-2								
PARAISO	79.00	46.8	12	12	4								
PASADENA	80.98	50.4	12	18	0	22	36	9					
SHASTA	81.19	43.0	12	19	0								
MAWSON	82.96	200.9	12	27	-2	22	50	3					
BOULDER CITY	84.25	50.0	12	36	1								
EUREKA	84.54	46.4	12	40	1								
COLLEGE	85.95	14.9	12	41	-3								
YAKUTSK	86.15	340.3	12	44	-1								
PORT BLAIR	86.20	283.3									13	39	
TONTO FOREST	86.23	52.7	12	46	1				12	59	12	48	PCP
BLUE MTS.	86.47	41.2	12	46	0	23	18	-4			29	4	SS
GLEN CANYON	87.03	50.2	12	51	2								
ULAN-BATOR	88.34	321.3	12	55	0								
SALT LAKE C.	88.35	46.6	12	56	1								
UINTA BASIN	89.78	47.7	13	3	1	24	3	10			16	9	PP
FLAMING GRGE	90.13	47.2	13	4	0								
SHILLONG	91.19	296.2	13	9A	0								
TIKSI	93.38	346.7	13	17	-2								
WICHITA MTS.	96.25	55.8	13	32	0	24	12	4			31	36	SS
COPPERMINE	97.84	21.1	13	39A	0								
MADRAS	98.32	281.1									17	42	
TULSA	98.77	55.2	13	33	-10						32	6	SS
MOULD BAY	100.37	12.8	13	49	-2								
CUMBERLAND	106.86	57.2	19	0	777	25	4	5			34	8	SS
LA PAZ	109.46	114.6	18	49	777								
BOGOTA	111.19	91.4									28	59	PS
FUQUENE	111.74	90.7									29	2	PS
PALISADES	116.39	52.1									20	3	PP
SVERDLOVSK	117.12	325.8	18	43	-5								
CARACAS	119.51	87.2									20	16	PP
SHIRAZ	126.16	294.8	19	5	0						28	4	
KAJAANI	127.59	342.6	19	8	0								
NURMIJARVI	131.26	341.1	19	16	1						39	8	SS
HELSINKI	131.43	340.7	19	16	1								
KSARA	139.67	303.0	19	25	-5								
UZHGOROD	141.12	331.2	19	32	-1								
ISTANBUL UN.	142.01	316.8	19	31	-3						22	32	PP
COLLMBERG	142.55	341.6	19	29	-6								

JENA	143.30	342.6	19 41	4	20 10	
VIENNA-H.	143.95	335.8	19 34	-4		
BANDEIRA	143.96	210.8	19 36K	-2		
KASPERSKE H.	144.24	339.2	19 37	-1	20 11	
SOFIA	144.58	323.1	19 36	-3		
BELGRADE	144.72	328.3	19 39K	0	20 16	
HEIDELBERG	145.46	344.3	19 41	1		
DOURBES	145.71	349.2	19 43	2		
STUTTGART	145.89	343.3	19 44	3		
STRASBOURG	146.46	344.8	19 45A	3		
LJUBLJANA	146.48	335.3	19 44	2		
WELSCHBRUCH	146.96	346.3	19 46	3		
ATHENS	147.09	316.0	19 46K	3		
TRIESTE	147.11	335.7	19 47	4	42 20 SS	
PARIS	147.30	351.0	19 46	2		
FOLINIERE	147.70	354.6	19 43	-1		
BESANCON	148.14	346.0	19 52	7		
GARCHY	148.70	349.6	20 51A	65		
ROSELEND	149.43	344.1	19 53	6		
AQUILA	149.95	332.4	19 56	8	42 54 SS	
CLERMONT-FD.	150.15	348.8	19 27	-21		
ROME	150.71	333.0	19 47	-2	43 42 SS	

NOVEMBER 28 15.H 13.M 7.S EPICENTRE 52.42 174.02 DEPTH= 0.KM

A=-0.60907 B= 0.06381 C= 0.79054 D= 0.1042 E= 0.9946
G=-0.7862 H= 0.0824 K=-0.6124 HT= -6.3

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	
PETROPAVLOVK	9.35	279.7	2	18	-1								
Y.-SAKHLINSK	20.84	267.5	4	46	1								
COLLEGE	23.01	42.5	5	7	0								
YAKUTSK	25.34	309.7	5	29	0								
TIKSI	27.54	330.9	5	50	0								
MATUSIRO	29.70	252.0	6	9	0								
MOULD BAY	34.34	22.9	6	51	1								
COPPERMINE	36.15	37.4	7	6	1								
KIPAPA	37.72	134.4	7	19	0								
YELLOWKNIFE	37.72	46.0	7	20K	1								
VICTORIA	38.91	70.0	7	29	0								
SEATTLE	40.00	70.5	7	41	3								
RESOLUTE	40.62	24.1	7	43A	0								
ULAN-BATOR	41.83	291.7	6	47	-66								
BANFF	41.99	62.5	7	53	-1								
EDMONTON	42.04	58.6	7	56	2								
ALERT	42.35	9.4	7	58A	1								
KHEYS	42.62	347.4	8	0	1								
HUNGRY HORSE	44.31	65.2	8	13	0								
BLUE MTS.	44.43	71.2	8	14	0	15	7	18			10	9	PCP
BUTTE	46.46	67.1	8	29	-1								
BOZEMAN	47.52	66.6	8	36	-2								
EUREKA	48.50	76.2	8	46A	0						10	23	
DUGWAY	49.90	73.4	8	57K	0								
PASADENA	50.69	83.0	9	1	-2								
FLAMING GRGE	51.43	70.5	9	8	0								
UINTA BASIN	51.72	71.2	9	11	0						18	53	SCS
RAPID CITY	52.88	63.7	9	21	2								
FROBISHER	54.40	29.0	9	29A	-2								
TONTO FOREST	54.76	77.9	9	33	0						11	50	
KEVO	55.78	346.8	9	40	-1						10	1	
APATITY	56.76	343.0	9	47K	-1								
SODANKYLA	58.04	345.8	9	56	-1						10	18	
SVERDLOVSK	58.21	323.6	9	58	0								
KIRUNA	58.45	348.6	9	59A	0								
KAJAANI	60.91	343.8	10	16	0						10	59	PCP
WICHITA MTS.	61.89	68.9	10	23	0						30	30	
UMEA	62.30	347.2	10	25	-1								
FRUNSE	62.49	305.1	10	27	0								
TULSA	62.62	66.1	10	28K	0								
SKALSTUGAN	63.46	351.0	10	33	0								
NURMIJARVI	64.77	343.8	10	41K	-1								
LONDON ONT.	64.98	51.5	10	44	1								
HELSINKI	65.03	343.5	10	43K	-1						11	15	
SHILLONG	65.49	280.5	10	46A	-1								

OTTAWA	65.69	46.5	10 46	-2	
TASHKENT	66.26	307.3	10 51	-1	
UPPSALA	66.47	347.3	10 52	-1	
BREBEUF	66.54	45.2	10 52K	-1	
CHATRA	67.36	284.8	10 59A	0	
GARM	67.52	305.0	10 59	-1	
KONGSBERG	67.57	351.5	11 0	0	
CHITTAGONG	67.92	278.2	11 3	1	
PENNSYLVANIA	68.28	51.0	11 3	-1	
CUMBERLAND	68.42	59.6	11 4	-1	
GOTEBORG	69.26	349.8	11 10A	0	
DEHRA DUN	70.00	293.8	11 15	0	
KARLSKRONA	70.33	347.4	11 16A	-1	
WARSAK DAM	70.72	300.8	11 17	-2	
COPENHAGEN	71.19	349.1	11 22	0	
NEW DELHI	71.80	293.2	11 24	-2	
ASHKABAD	74.07	312.2	11 40	1	
VANNOVSKAYA	74.19	312.4	11 41	1	
COLLMBERG	75.42	347.8	11 46	-1	
JENA	75.96	348.6	11 51	1	12 14
QUETTA	76.13	301.5	11 52	1	
BENSBERG	76.39	351.5	11 52	0	
UZHGOROD	76.48	341.1	11 53	0	
PRUHONICE	76.50	346.5	11 53	0	
KIROVOBAD	76.81	321.8	11 55	0	
BAKURIANI	76.91	324.2	11 57	2	
DOURBES	77.46	353.0	11 58	0	
KASPERSKE H.	77.47	347.0	12 0A	2	12 32
BRATISLAVA	77.87	344.4	12 2K	1	
SROBAROVA	78.01	343.5	12 4K	3	
STUTTGART	78.35	349.8	12 3	0	
FOLINIERE	79.08	356.3	12 8	1	
ROSELEND	81.67	351.1			15 23
ISOLA	83.12	350.6	12 30	1	
ATHENS	86.34	336.9			25 12
KSARA	86.66	326.2	12 48	2	
MAWSON	144.57	218.1	19 33A	-5	
KIMBERLEY	147.18	304.0	20 46	64	

NOVEMBER 30 9.H 47.M 51.S EPICENTRE 1.55 128.29 DEPTH= 0.KM

A=-0.61938 B= 0.78464 C= 0.02684 D= 0.7849 E= 0.6196
G=-0.0166 H= 0.0211 K=-0.9996 HT= 7.2

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	
MANILA	14.85	331.7	3	18	-15	5	23	-57					
BAGUIO CITY	16.61	333.2	3	59	3	7	14	13					
GUAM	20.13	53.2	4	42	3								
PORT MORESBY	21.71	120.4	4	54	-1	8	55	4					
DJAKARTA	22.76	250.1	5	6A	1								
TANGERANG	22.94	250.3	5	8	1								
RABAUL	24.54	103.5	5	24K	1	9	43	2					
HONG KONG	24.78	327.4	5	27	2	9	46	1	5	42	5	49	*SP
PHU-LIEN	28.51	313.7	6	1	2	11	2	15					
MUNDARING	35.25	197.9	6	58	0	12	25	-7					
MATUSIRO	36.01	13.7	7	3	-2								
ADELAIDE	37.62	165.9	7	19K	1	13	1	-8	7	39	15	39	SS
CHITTAGONG	41.03	303.1	7	48	1								
RIVERVIEW	41.25	150.6	7	50A	1	14	0	-3	8	6	9	31	PP
CANBERRA	41.48	154.1	7	51K	1				8	5	9	27	PP
KOUMAC	41.54	123.8	7	51K	0								
TOOLANGI	42.06	159.5	7	57	2	14	13	-2	8	25	9	34	PP
SHILLONG	42.43	307.4	8	0A	2	14	17	-4					
NOUMEA	44.13	124.7	8	12	0								
TARRALEAH	46.64	161.4	8	33	1								
BOKARO	46.70	301.8	8	49A	16								
CHATRA	46.76	306.2	8	49A	16								
MOORLANDS	47.00	160.9	8	37	2								
MADRAS	48.96	285.8	8	51A	1	15	51	-3			10	47	PP
ULAN-BATOR	49.76	341.3	8	56	0								
ESEN BULAK	52.71	332.5	9	19	0								
IRKUTSK	54.37	342.1	9	30	-1								
DEHRA DUN	55.50	306.2	9	40A	1	17	22	-2					
NEW DELHI	55.60	304.0	9	38A	-2	17	18	-7					

POONA	55.94	291.3	9	42K	0							
MONOWAI	58.54	148.7	9	59	-2				10	19		
KARAPIRO	58.66	137.2	10	1	-1							
WELLINGTON	59.92	140.8	10	7	-3	18	9	-13			23	3 SS
YAKUTSK	60.33	0.8	10	13	0							
GISBORNE	60.71	136.8	10	15	-1							
WARSAK DAM	61.94	308.1	10	24	0							
FRUNSE	63.01	318.3	10	31	0							
KHOROG	63.11	311.8	10	33	1							
SEMIPALATNSK	63.36	327.8	10	32	-2							
QUETTA	64.62	302.8	10	41	-1	19	17	-4				
DUZHANBE	65.53	312.1	10	47	-1							
TASHKENT	66.08	315.1	10	50	-1							
WILKES	68.92	187.6									20	7
TIKSI	69.98	0.2	11	13	-2							
MIRNY	72.42	194.0	11	46	16	20	47	-7	11	53		
VANNOVSKAYA	73.48	309.1	11	37	1							
HONOLULU	74.18	68.4	11	44	4						21	47 PS
KIPAPA	74.26	68.3	11	42	1							
KIZYL-ARVAT	75.13	310.1	11	46	0							
SVERDLOVSK	76.63	328.5	11	52	-2							
SHIRAZ	76.87	300.0	11	55	-1	21	35	-8				
TEHERAN	78.46	306.0	12	3	-2	21	53	-7				
TANANARIVE	81.74	250.8	12	23	1							
SCOTT BASE	81.98	172.4	12	23	0							
MAWSON	82.26	200.6	12	23	-2							
GORIS	82.81	309.4	12	27	-1							
KIROVOBAD	82.89	310.6	12	27	-1							
TIFLIS	84.11	311.6	12	45	11							
BAKURIANI	85.06	311.6	12	40	1							
COLLEGE	86.00	25.2	12	41	-3							
SOUTH POLE	91.54	180.0	13	9	-1							
SODANKYLA	93.06	337.7	13	16	-1							
KAJAANI	93.24	334.4	13	16	-2						13	37
MOULD BAY	93.73	12.8	13	19K	-1							
BYRD STATION	95.30	170.7	13	28	1							
NURMIJARVI	95.35	331.1	13	27	-1	24	2	-1			16	53 PP
UMEA	96.51	334.9	13	32	-1							
COPPERMINE	98.35	20.1	13	40	-1							
UZHGOROD	99.36	319.7	13	44	-2							
RESOLUTE	99.67	10.6	13	46	-1							
COLLMBERG	104.31	324.1									18	25 PP
KASPERSKE H.	104.73	321.9									18	26 PP
BLUE MTS.	105.96	42.4	14	16	777						29	52 PKKP
WOODY	107.48	51.8	14	30	777						29	55 PKKP
EUREKA	108.60	47.4	14	34	777				14	53	19	10 PP
ROSELEND	110.40	320.5									19	15
UINTA BASIN	112.91	44.7	18	40	1				19	1	19	31 PP
TONTO FOREST	113.85	51.3	18	43	2				19	4	19	50 PP
WICHITA MTS.	123.21	45.9	18	59	0						20	39 PP
TULSA	124.56	43.3	19	3	1							
CUMBERLAND	131.38	37.2	19	16	1						19	40
ANTOFAGASTA	151.48	142.0	19	59	9						43	27 SS
CHINCHINA	155.25	74.7	19	54	-1							
BOGOTA	156.84	74.6	20	1	4						24	23 PP
FUQUENE	156.93	72.3									24	22 PP
LA PAZ	158.04	133.5	20	2	3							
CARACAS	160.70	51.3	20	46K	44							

DECEMBER 1 4.H 26.M 7.S EPICENTRE 56.10 112.02 DEPTH= 0.KM

A=-0.21007 B= 0.51940 C= 0.82831 D= 0.9270 E= 0.3749
G=-0.3106 H= 0.7679 K=-0.5603 HT= -7.6

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	
IRKUTSK	5.93	232.8	1	30	-2	2	35	-6			1	51	PG
KYAKHTA	6.65	212.5	1	41	-1						2	7	PG
YAKUTSK	10.85	49.6	2	37	-3								
TIKSI	17.14	18.2	3	59	-4								
SEMIPALATNSK	19.73	266.6	4	33	-1								
Y.-SAKHLINSK	20.98	102.7	4	48K	1						13	52	
ALMATA-2	25.53	254.5	5	34K	2								
MATUSIRO	26.37	126.9	5	36	-4	10	13	1					

PETROPAVLOVK	26.81	76.8	5 43	-1		
FRUNSE	27.32	256.8	5 49K	0		
SVERDLOVSK	27.86	293.2	5 53K	0		
KHEYS	29.41	344.3	6 12	5		12 41 SS
TASHKENT	31.27	260.0	6 24	0		16 51 SCS
SHILLONG	33.84	214.0	6 46K	0		
APATITY	36.16	320.4	7 6A	0	12 43 -3	
NEW DELHI	36.99	236.6	7 12K	-1		
SODANKYLA	38.63	321.8	7 26K	-1		9 0 PP
ASHKABAD	39.68	266.0	7 37	1		
KAJAANI	39.79	316.9	7 37K	0		9 15 PP
MOSCOW	39.80	301.7	7 36	-1		
KIRUNA	40.50	324.3	7 42K	0		
QUETTA	40.81	249.7	7 46K	1		
PULKOVO	40.94	310.2	7 46	0		
ALERT	41.61	358.9	7 52K	0		
NURMIJARVI	42.90	313.4	8 2	0		9 49 PP
MOULD BAY	43.91	15.6	8 9K	-1		
TIFLIS	44.64	280.8	8 18	2		
COLLEGE	45.03	36.5	8 19	0		
GORIS	45.32	277.4	8 25	3		
SKALSTUGAN	45.70	322.0	8 24K	-1		
UPPSALA	46.10	315.7	8 27K	-1		
RESOLUTE	48.27	9.3	8 46	1		
KONGSBERG	49.27	319.1	8 11	-42		
KARLSKRONA	49.35	312.9	8 52	-1		
COPPERMINE	51.57	20.8	9 8A	-2		
KRAKOW	51.68	304.8	9 10	-1		
COLLMBERG	53.87	309.9	9 26	-1		12 40
JENA	54.75	310.4	9 32	-2		10 26
KASPERSKE H.	55.21	307.7	9 37K	0		
YELLOWKNIFE	56.29	23.9	9 43	-2		
STUTTGART	57.36	310.0	9 52	-1		
FOLINIERE	61.36	315.9	10 19	-1		
ISOLA	61.89	308.0	10 23	-1		
EDMONTON	64.69	28.2	10 42K	0		
VICTORIA	65.96	36.8	10 50	0		
SEATTLE	67.09	36.6	11 4	6		
HUNGRY HORSE	69.04	31.0	11 20	10		
SCHEFFERVLLE	69.43	359.3	11 11K	-1		
BLUE MTS.	71.19	34.7	11 23K	0		39 18 PKPPKP
MINERAL	73.73	39.9	11 38K	0		
CALISTOGA	74.88	41.4	11 45K	0		
BERKELEY	75.67	41.5	11 39K	-10		
LICK	76.37	41.3	11 54K	1		
EUREKA	76.45	36.3	11 55K	2		13 11
DUGWAY	76.81	33.7	11 57A	1		
PARAISO	76.99	42.4	11 59	2		
FLAMING GRGE	77.16	30.9	11 58	1		
UINTA BASIN	77.67	31.3	12 1	1		
PRIEST	77.80	41.2	12 2K	1		
OTTAWA	78.66	5.6	12 5	-1		
GOLDEN	79.42	28.5	12 10	0		
BOULDER CITY	80.00	36.9	12 15	2		
GLEN CANYON	80.15	34.1	12 14	0		
PASADENA	80.48	40.2	12 16	0		
CHARTERS TS.	81.23	147.6	12 19	0		
TONTO FOREST	82.71	34.9	12 29	2		12 35 PCP
TUCSON	84.73	35.4	12 38	1		
TULSA	85.33	22.3	12 41K	1		
FAYETTEVILLE	85.49	21.0	12 41	0		
WICHITA MTS.	85.85	24.9	12 44	1		
CUMBERLAND	87.44	14.3	12 50	-1		13 28
LWIRO	88.06	263.1	12 55	1		13 36
BANGUI	88.30	275.3	12 55	0		14 38
AREQUIPA	140.34	5.3	19 34	3		
LA PAZ	140.47	0.2	19 35	3		
N-LAZARVSKYA	144.52	214.2	19 37K	-2		
ANTOFAGASTA	147.58	4.2	19 48	4		

DECEMBER 2 6.H 49.M 5.S EPICENTRE 48.03 16.20 DEPTH= 0.KM

A= 0.64452 B= 0.18731 C= 0.74129 D= 0.2791 E=-0.9603
G= 0.7118 H= 0.2069 K=-0.6712 HT= -4.7

SE= 2.37

	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	
VIENNA-H.	0.24	27.0									0	11	PG
BRATISLAVA	0.62	76.9	0	13K	-3								
SROBAROVA	1.43	98.2	0	27K	0								
BUDAPEST	1.98	105.2	0	32	-3								
KASPERSKE H.	2.06	303.2	0	40	4								
ZAGREB	2.22	184.1	0	39A	0						1	11	SG
PRUHONICE	2.23	331.4	0	42	3	1	10	2					
LJUBLJANA	2.29	210.8	0	39A	-1	1	7	-2			1	13	SG
PRAGUE	2.35	330.9	0	45	4	1	13	3			1	23	SG
RACIBORZ	2.43	31.9	0	45	3	1	23	10			0	51	P*
TRIESTE	2.92	216.1	0	48	-1	1	20	-5			0	55	PG
DABROWA	3.03	39.6	0	51	1								
NIEDZIKA	3.06	61.5	0	51	0						1	10	PPP
KRAKOW	3.17	49.1	0	53	1	1	30	-1			1	8	PG
SZEGED	3.22	122.2	0	57	4								
CHEB	3.24	310.6	0	51	-2	1	29	-4			1	2	PG
COLLMBERG	3.88	328.7	1	6	4	1	53	4					
PADOVA	3.97	230.2	1	16	12	2	3	11			2	25	S*
UZHGOROD	4.11	79.4	1	5	-1								
TIMISOARA	4.13	121.7	1	4	-2	1	48	-8			1	8	P*
JENA	4.18	315.6	1	10	3	1	43	-14			1	23	PG
BELGRADE	4.35	136.0	1	6	-3	2	19	18			2	19	SG
RAVENSBURG	4.44	269.2	1	10A	0	2	1	-2			1	30	PG
STUTTGART	4.67	281.6	1	15	1	2	8	-1			1	36	PG
CHUR	4.68	257.8	1	14	0						2	34	SG
TUBINGEN	4.79	278.6	1	16	1	2	11	-1			1	38	PG
HEIDELBERG	5.14	288.2	1	21A	1						1	43	PG
WARSAW	5.22	34.6	1	25	4	2	27	4			1	30	PP
KARLSRUHE	5.27	283.6	1	25K	3						3	0	SG
LWOW	5.46	68.0	1	25	0	2	28	-1					
PRATO	5.47	222.5	1	32	7	2	55	26					
FELDBERG	5.51	271.4	1	25A	0	2	27	-3			1	49	PG
PAVIA	5.62	242.1									1	46	P*
STRASBOURG	5.65	278.7	1	28A	1	2	30	-4			1	50	P*
AQUILA	6.02	200.2	1	36	3						3	30	S*
ROME	6.68	204.7									3	38	S*
MUNSTER	6.79	308.7	1	46	3								
BESANCON	6.95	267.3	1	44	-2	3	18	11			2	20	PG
ROSELEND	6.97	253.9	1	45	-1	3	1	-6					
SKOPJE	7.11	146.6									2	31	
SOFIA	7.32	134.1				3	17	2			4	18	
BACAU	7.42	97.4				2	45	-33			4	32	
ISOLA	7.44	242.2	1	53	0						4	13	
TARANTO	7.60	174.0	2	22	27	3	55	32					
IASI	7.73	92.0				2	39	-47			3	54	
BUCHAREST	7.75	114.1				3	35	8			7	34	
DOURBES	7.90	289.5	1	59K	0						4	15	SG
COPENHAGEN	8.00	344.5	2	15	15								
KARLSKRONA	8.15	357.6	2	2	0								
UCCLE	8.21	294.1	2	24	21						2	42	P*
GARCHY	8.90	270.0	2	13A	0	4	56	61					
CLERMONT-FD.	9.24	260.7	2	15	-3								
MESSINA	9.84	183.0				4	9	-9					
GOTEBORG	10.01	346.8				4	15	-8			3	57	
FOLINIÉRE	11.12	280.0	2	44	1								
KEW	11.23	294.0	2	47A	2						6	20	SG
UPPSALA	11.87	3.5	2	54A	0	5	22	14					
KONGSBERG	12.26	344.1	3	3	4	5	35	17					
BAGNERES	12.29	252.1									5	28	
NURMIJARVI	13.42	18.3	3	13	-1	5	51	5			5	30	
PULKOVO	14.36	29.8	3	25	-2								
VIBORG	14.64	25.1	3	28K	-2								
MOSCOW	15.26	51.7	3	38	-1								
SKALSTUGAN	15.73	353.5	3	44	-1						8	55	PCP
UMEA	15.98	6.5	3	47	-1						7	13	
KAJAANI	17.27	17.2	4	2	-2	7	16	0					
KIRUNA	19.97	4.7	4	36	-1	8	27	10					
SODANKYLA	20.12	11.7	4	36	-2								
BAKURIANI	20.29	97.9	4	39	-1								
TIFLIS	21.15	96.7	4	52	3								
APATITY	21.46	18.1	4	58	6	8	54	8			11	19	
TROMSOE	21.70	2.6	4	55	0								
KEVO	22.42	9.8	5	2	0						9	30	
SVERDLOVSK	28.03	55.0	5	55A	0								
ALMATA-2	42.04	72.9	6	54K	-61								
TIKSI	51.61	21.9	9	11	1								

YAKUTSK	58.17	30.6	9	58A	0									
BLUE MTS.	78.91	328.3	12	7	0									
WICHITA MTS.	79.14	310.4	12	13	5									
UINTA BASIN	79.76	320.9	12	13	1								12	35
EUREKA	83.07	324.7	12	32	3								13	1
TONTO FOREST	85.55	318.8	12	44	3								15	8

DECEMBER 2 20.H 55.M 54.S EPICENTRE 80.35 0.25 DEPTH= 0.KM

A= 0.16869 B= 0.00074 C= 0.98567 D= 0.0044 E=-1.0000
G= 0.9857 H= 0.0043 K=-0.1687 HT=-13.7

SE= 3.24

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
ALERT	9.15	312.6	2	11K	-5							
KHEYS	9.23	60.0	2	16K	-1							
TROMSOE	11.70	146.4	2	48	-3	4	50	-14				
KEVO	12.45	133.4	2	59	-2	5	8	-14			3	37
KIRUNA	13.59	146.1	3	15	-2	5	43	-6				
SODANKYLA	14.68	137.3	3	28	-3	6	0	-15				
APATITY	15.36	127.5	3	29A	-11	6	14	-17			3	45 PP
GODHAVN	16.97	260.1	3	49	-11	6	42	-27				
SKALSTUGAN	17.19	161.6	4	2	-1							
UMEA	17.50	149.7	4	5	-2	7	16	-5				
KAJAANI	17.98	139.0	4	10A	-3	7	18	-14				
RESOLUTE	18.89	305.1	4	17	-7							
BERGEN	20.11	172.7	4	35	-3							
MOULD BAY	20.44	323.4	4	42K	0							
KONGSBERG	20.99	166.6	4	34	-13	8	41	4			5	14 PP
NURMIJARVI	21.16	145.5	4	47A	-2	8	39	-2			6	32
UPPSALA	21.23	155.4	4	47	-3	8	40	-2				
PULKOVO	22.48	138.5	5	2A	0	9	3	-2			5	35 PP
GOTEBORG	23.04	163.8	5	6	-2							
ABERDEEN	23.31	183.2	5	13K	3	9	22	2			5	54 PPP
KARLSKRONA	24.77	159.3	5	23	-2							
COPENHAGEN	25.08	163.6	5	26	-2	9	56	6				
TIKSI	25.65	34.9	5	35A	2	10	9	9			5	56
DURHAM	25.71	182.4	5	32	-2	9	40	-21				
MOSCOW	27.30	131.5	5	48	0	10	28	1			6	43 PP
WITTEVEEN	27.73	171.6	5	56	4							
COPPERMINE	27.81	312.7	5	52	-1							
MUNSTER	28.61	170.5	6	59	59							
KEW	29.01	180.7				10	47	-8				
WARSAW	29.05	153.3	6	11	7						6	56 PP
COLLMBERG	29.48	163.6	6	6	-2						7	2 PP
BENSBERG	29.61	171.1	6	15A	6						6	36
SVERDLOVSK	29.63	104.9	6	9K	0	11	9	5				
JENA	29.79	165.5	6	8	-3	11	9	2			6	48 PP
DOURBES	30.41	174.5	6	16	0	11	14	-3				
CHEB	30.67	164.6	6	10	-9						7	7
PRAGUE	30.78	162.0	6	18	-1							
CHORZOW	30.84	156.3	6	20	0						7	38
PRUHONICE	30.88	161.9	6	19	-1							
RACIBORZ	30.99	157.3	6	20	-1						7	27 PP
KRAKOW	31.14	155.2	6	22K	-1	11	25	-3				
KASPERSKE H.	31.68	163.2	6	26	-1							
PARIS	31.68	177.2	6	21	-6							
LWOW	31.69	150.2	6	26	-1	11	38	1				
STUTTGART	31.86	168.7	6	28	-1	11	36	-4				
STRASBOURG	32.00	170.6	6	39	9	11	45	3				
VIENNA-H.	32.70	159.9	6	35	-1							
FELDBERG	32.71	170.3	6	36K	0							
BRATISLAVA	32.83	159.0	6	37A	0	11	54	-1			12	14
GARCHY	33.22	176.5	6	46A	5							
SROBAROVA	33.26	157.6	6	41	0							
BUDAPEST	33.64	156.8	6	47	3							
COLLEGE	33.89	336.1	6	48	1							
LJUBLJANA	34.80	162.5	6	54A	0						8	18 PP
YAKUTSK	35.06	39.3	6	57A	0							
ZAGREB	35.10	160.8	7	2	5							
TRIESTE	35.16	163.5	6	58	0	12	28	-3			15	38
BACAU	35.16	147.5				12	20	-11			7	37
PADOVA	35.31	165.8	7	6	7							
CAMPULUNG	36.29	150.0	7	10	3						8	28

BELGRADE	36.38	155.5	7	10K	2						8	37	PP
ISOLA	36.38	171.7	7	12	4								
PRATO	36.81	166.9	6	52	-20						9	13	
BUCHAREST	37.22	148.9									7	56	
SIMFEROPOL	37.49	139.4	7	16	-1	13	9	2			8	48	PP
AQUILA	38.43	164.3	7	26	1	13	26	5			8	49	PP
ROME	38.84	165.4	7	27	-2	13	21	-6	7	35	8	56	PP
SEMIPALATNSK	39.09	88.2	7	31A	0								
IRKUTSK	41.20	64.8	7	49A	1	14	4	2					
TIFLIS	41.97	128.3	7	51	-3						9	23	PP
MESSINA	42.68	162.1	8	3	3						17	15	SS
BREBEUF	42.81	263.9	8	2	1								
ATHENS	43.43	152.8	8	6K	0								
GORIS	44.36	127.1	8	14A	0						9	54	PP
FRUNSE	45.49	96.5	8	25A	2	15	14	9			10	19	PP
ESEN BULAK	45.63	74.3	8	27A	3								
ULAN-BATOR	45.83	64.0	8	28A	2								
TASHKENT	46.07	102.4	8	28A	1	15	17	4					
HUNGRY HORSE	46.53	303.1	8	31	0								
PALISADES	47.22	262.7	8	43	6	15	30	0					
ASHKABAD	47.62	114.7	8	40	0						10	30	PP
VICTORIA	47.62	311.5	8	39	-1								
PENNSYLVANIA	48.09	266.6	8	40	-3								
SEATTLE	48.33	310.3	8	51	6	15	46	1					
BUTTE	48.60	301.1	8	48	1								
KSARA	48.68	139.8	8	48	0	15	43	-7			10	41	PP
TEHERAN	48.75	122.6	8	50	1	15	58	7			10	44	PP
MORGANTOWN	49.58	268.3	8	57	2								
KHOROG	50.19	101.2	9	2A	2						11	1	PP
JERUSALEM	50.63	140.8	9	3	0								
BLACKSBURG	52.02	268.1	9	11	-2								
LAWRENCE	52.79	283.0	9	18	-1								
CHAPEL HILL	53.05	266.4	9	22	1								
FLAMING GRGE	53.11	296.8	9	21	-1								
WARSAK DAM	53.59	102.1	9	23	-2								
GOLDEN	53.70	292.8	9	25	-1	17	0	1					
DUGWAY	54.33	299.8	9	30K	-1								
SHASTA	55.17	308.7	9	36A	-1								
COLUMBIA	55.26	267.9	9	43	6								
EUREKA	55.49	302.6	9	38	-1								
TULSA	55.87	282.8	9	39	-3								
LAHORE	56.45	99.9	9	46	0	17	40	4					
QUETTA	56.58	107.7	9	47A	0	17	44	6					
CALISTOGA	57.23	308.5	9	52K	1								
GLEN CANYON	57.32	298.0	9	51	-1								
BERKELEY	57.94	308.1	9	58K	2	17	56	0			21	54	SS
LICK	58.38	307.4	9	59K	-1								
BOULDER CITY	58.77	300.8	9	59	-3								
PRIEST	59.43	306.2	10	8A	1								
PARAISO	59.47	307.9	10	6	-1								
NEW DELHI	59.83	97.7	10	10K	0								
PASADENA	61.04	303.5	10	18	0	18	38	2					
MATUSIRO	61.09	38.0	10	18	0	18	39	2					
TUCSON	61.83	296.3	10	22	-1								
SHILLONG	65.24	83.8	10	45A	-1	19	32	3			13	11	PP
BOMBAY	68.58	104.0	11	4	-3	20	12	3			13	31	
HONG KONG	72.03	62.9				21	0	11					
ADDIS ABABA	73.50	140.1	11	37	1								
CARACAS	75.95	249.1	11	46	-5	21	32	-1			26	38	SS
BANGUI	76.44	161.1	11	50	-3	21	35	-4					
BAGUIO CITY	78.75	57.6	12	7	1	22	8	5					
FUQUENE	81.97	255.1	12	27	4								
BOGOTA	82.86	255.3	12	37	9	22	47	1			28	16	SS
LWIRO	83.71	151.3	12	32A	0								
N-LAZARVSKYA	151.07	172.1	19	53	4								

DECEMBER 3 5.H 9.M 25.S EPICENTRE 46.65 153.17 DEPTH= 50.KM

A=-0.61470 B= 0.31092 C= 0.72490 D= 0.4514 E= 0.8923
G=-0.6469 H= 0.3272 K=-0.6889 HT= -4.2

DEPTH OF FOCUS= 0.003R

SE= 2.05

	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

Y.-SAKHLINSK	7.18	276.7	1	46A	1	3	11	5						
PETROPAVLOVK	7.29	27.0	1	45	-2	3	8	-1						
MIZUSAWA	11.59	233.9	3	4A	18	4	34	-21						
MAGADAN	13.00	354.6	3	7	3									
MATUSIRO	15.05	233.2	3	22K	-9	6	3	-14						
YAKUTSK	20.40	327.4	4	32K	-4									
TIKSI	27.56	343.6	5	44	-1									
ULAN-BATOR	31.05	289.6	6	17	1									
COLLEGE	36.20	38.3	7	2	2									
MOULD BAY	44.68	19.9	8	12A	2									
KHEYS	45.17	346.7	8	14	0									
SEMIPALATNSK	46.65	302.7	8	23	-3									
COPPERMINE	48.50	30.4	8	40	0									
ALERT	49.85	5.8	8	51A	1									
RESOLUTE	50.92	18.5	8	59	0									
YELLOWKNIFE	50.98	36.7	9	0	1									
SHILLONG	52.41	268.6	9	10A	0									
VICTORIA	53.56	55.2	9	18	0									
FRUNSE	53.73	296.6	9	18	-2									
SVERDLOVSK	53.93	317.2	9	20	-1									
BANFF	56.40	49.1	9	38	-1									
KEVO	57.44	340.5	9	44	-2									
APATITY	57.45	336.7	9	45	-1									
TASHKENT	57.86	297.8	9	49	0									
SHASTA	58.56	62.5	9	54	0									
KHOROG	58.74	293.0	9	55	0									
HUNGRY HORSE	58.83	51.1	9	57	1									
BLUE MTS.	59.10	56.0	9	58A	0	18	9	9					10	26
MINERAL	59.25	62.4	9	59K	0					10	11			
SODANKYLA	59.36	338.8	9	59	-1									
CALISTOGA	59.68	64.5	10	2K	0									
DUZHANBE	59.82	295.5	10	2A	-1									
KIRUNA	60.45	341.3	10	6	-1									
NEW DELHI	60.54	281.5	10	6K	-2									
WARSAK DAM	60.86	289.8	10	10	0									
BUTTE	61.04	52.6	10	6	-5									
LICK	61.06	65.2	10	11K	0									
KAJAANI	61.61	336.0	10	15	0									
BOZEMAN	62.08	52.1	10	17	-1									
PRIEST	62.43	65.7	10	21K	1									
KAP TOBIN	63.19	358.2	10	26K	0									
EUREKA	63.19	60.1	10	26	0					10	38			
UMEA	63.80	338.8	10	28A	-2									
MOSCOW	64.55	325.6	10	36	2									
DUGWAY	64.59	57.8	10	35A	0									
FROBISHER	65.16	19.0	10	38	0									
PASADENA	65.27	65.9	10	39	0									
NURMIJARVI	65.31	334.8	10	38	-1									
SKALSTUGAN	65.85	342.0	10	50	7									
FLAMING GRGE	66.08	55.3	10	45	1									
BOULDER CITY	66.14	62.4	10	46	1					10	57			
QUETTA	66.30	289.3	10	45	-1									
UINTA BASIN	66.38	55.9	10	46A	0	19	38	7					13	27 PP
ASHKABAD	66.54	300.8	10	47	0									
VANNOVSKAYA	66.68	301.0	10	49	1									
KIZYL-ARVAT	66.92	303.0	10	51A	1									
GLEN CANYON	67.44	59.7	10	53	0									
UPPSALA	67.82	337.6	10	54A	-1									
TONTO FOREST	69.44	61.7	11	5	0					11	17		12	3
KONGSBERG	69.93	341.3	11	10	2									
BERGEN	70.14	343.7	11	9	0									
TUCSON	71.10	63.0	11	16	1									
KIROVOBAD	71.42	309.8	11	17	0									
TIFLIS	71.45	311.5	11	17	0									
BAKURIANI	72.10	312.2	11	23	2									
GORIS	72.25	309.0	11	27A	5	20	54	14						
LWOW	74.30	328.5	11	35	1									
KRAKOW	75.53	331.0	11	41	0									
UZHGOROD	75.91	328.9	11	44	1									
WICHITA MTS.	76.50	53.6	11	47	0								14	43 PP
COLLMBERG	76.58	335.6	11	47	0								13	12
TULSA	77.14	51.0	11	50	0									
PRUHONICE	77.30	334.1	11	52	1									
JENA	77.31	336.2	11	51	0								12	18
FAYETTEVILLE	77.86	49.9	11	53	-1									
BRATISLAVA	78.09	331.7	11	43	-12									
KASPERSKE H.	78.34	334.2	11	58A	1								12	40
STUTTGART	79.90	336.7	12	6	1									
PARIS	81.55	340.9	12	7	-7									

CUMBERLAND	82.61	44.6	12	19	-1	22	35	4			13	3
GARCHY	82.86	340.0	12	23K	2							
ISOLA	84.72	336.2	12	32	2							
LA PAZ	134.51	62.6	19	17	4							
N-LAZARVSKYA	149.56	204.1	19	42	2							

DECEMBER 3 23.H 3.M 50.S EPICENTRE -22.40 -69.89 DEPTH= 76.KM

A= 0.31821 B=-0.86902 C=-0.37887 D=-0.9390 E=-0.3438
G=-0.1303 H= 0.3558 K=-0.9254 HT= 4.1

DEPTH OF FOCUS= 0.007R

SE= 2.24

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	#PP M	S	SUPP. M-	S	
LA PAZ	6.10	16.1	1	30	0	2	45	6					
SANTA LUCIA	11.02	183.3	2	38	1	4	47	8					
HUANCAYO	11.53	332.3	2	44	0								
NANA	12.29	326.2	2	51	-3	5	29	19					
BOGOTA	27.16	350.8	5	40A	1	10	19	9					
CHINCHINA	27.77	347.7	5	47	3	10	44	24					
FUQUENE	27.95	351.8	5	48K	2								
BALBOA HTS.	32.57	342.0	6	28	1	11	53	18					
CARACAS	32.82	5.4	6	26K	-3	11	44	5			7	54	PPP
GALERAZAMBA	33.39	350.4	6	44	10	12	25	37					
TRINIDAD	33.88	15.1	6	38	0								
FORT FRANCE	37.88	13.9	7	12	0	13	16	19					
ST. CLAUDE	39.02	12.6									8	57	
SANTIAGO MA.	40.05	331.2	7	42	12								
SAN SALVADOR	40.55	330.4	7	35	1						9	20	PP
SAN JUAN	40.70	5.5	7	31	-4	13	35	-4			8	35	PP
COLUMBIA	57.08	349.0	9	41	0								
CUMBERLAND	59.56	345.2	9	55	-3	18	13	13			12	18	PP
WASHINGTON	61.35	353.6	10	10	0								
BYRD STATION	61.47	188.7	10	9	-2						39	24	
MORGANTOWN	62.42	351.2	10	17A	-1								
FAYETTEVILLE	62.55	337.9	10	17	-2								
TULSA	62.96	336.5	10	20K	-1	18	46	2					
WICHITA MTS.	63.01	333.6	10	19	-3	18	42	-2			12	31	PP
PALISADES	63.19	356.6	10	22A	-1	18	52	5			10	38	PCP
PENNSYLVANIA	63.31	353.2	10	21	-3								
M.BOUR	63.43	59.8	10	24	0	18	59	9					
LONDON ONT.	65.94	351.0	10	38K	-3								
N-LAZARVSKYA	66.32	159.0	10	40	-3	19	30	5			19	44	PS
ALBUQUERQUE	66.77	327.8	10	45	-1						11	39	PCP
HALIFAX	66.94	4.9	10	47	0								
TUCSON	66.97	322.9	10	46	-1						12	39	
BREBEUF	67.66	357.2	10	51K	0	19	52	11			21	4	SCS
OTTAWA	67.68	355.6	10	51	0								
SOUTH POLE	67.74	180.0	10	49	-3						19	13	
TONTO FOREST	68.75	324.0	10	58	0	20	18	24	11	13	13	31	PP
BOULDER CITY	71.96	322.9	11	18	0						13	51	PP
UINTA BASIN	72.52	329.2	11	21	0	20	47	9			14	10	PP
PRICE	72.57	328.0	11	22A	1								
PASADENA	72.60	319.6	11	23	2	20	23	-16	11	37			
FLAMING GRGE	72.91	329.7	11	24	1								
SALT LAKE C.	73.97	328.1	11	31K	2								
DUGWAY	74.01	327.1	11	30A	0								
LOGAN	74.69	328.8	11	34A	1								
SCOTT BASE	74.78	190.6	11	33	-1								
EUREKA	75.11	324.8	11	36	0						11	49	PP
PRIEST	75.45	319.6	11	38A	0								
LICK	76.83	320.0	11	46A	0								
SCHEFFERVLLE	76.95	1.8	11	46A	0								
HERMANUS	77.00	122.0				21	34	7					
CAPE HALLETT	77.31	195.8	11	46	-2								
BOZEMAN	77.38	331.8	11	50	1								
BERKELEY	77.55	320.1	11	52K	2	21	40	7			26	46	SS
CALISTOGA	78.25	320.5	11	53K	0								
BANDEIRA	78.30	101.4	11	53	-1								
BUTTE	78.33	331.2	11	54	0								
MINERAL	78.82	322.3	11	56K	-1				11	58			
SHASTA	79.50	322.2	12	0	0								
BLUE MTS.	79.68	327.8	12	1A	0	22	19	23			14	50	PP
MOKA	80.71	82.5	12	6A	-1						12	17	PCP

AVERROES	81.30	48.7	11	50K	-20									
KIMBERLEY	83.39	118.2	12	20	-1									
BANFF	83.52	333.1	12	19	-2									
MAWSON	83.74	163.6	12	23	1									
SEATTLE	84.11	327.4	12	20	-4									
EDMONTON	84.32	335.5	12	23A	-2									
MALAGA	85.24	47.2	12	28	-2							23	0	
FROBISHER	85.85	0.6	12	33	0									
GRANADA	86.03	47.1	12	37A	3	23	25	25				16	19	PP
ALMERIA	86.63	47.9	12	35	-2	22	49	-17				16	2	PP
TOLEDO	87.16	44.7	12	40A	1	23	22	11				18	18	PPP
BANGUI	90.27	85.4	12	58	4	23	46	7						
MIRNY	90.39	173.2	12	57	3									
WILKES	91.54	180.2	12	59	-1				13	9		14	3	PP
BROKEN HILL	92.08	106.4										13	6	PCP
GISBORNE	92.11	226.6	13	9	7									
FOLINIERE	93.94	38.4	13	13	2									
KARAPIRO	94.15	226.1	13	14	2									
GARCHY	95.33	40.8	13	18A	1									
COPPERMINE	95.91	344.3	13	19A	-1									
ISOLA	96.47	44.9	13	27	5									
LWIRO	97.18	95.4	13	27A	1							17	23	
CHILEKA	97.30	110.2										13	30	PCP
DOURBES	97.50	38.7	13	28	1									
RESOLUTE	98.18	353.5	13	30	0									
BENSBERG	99.35	38.7	13	37	2									
STUTTGART	99.73	41.2	13	37	0									
MUNSTER	100.01	37.8	13	40	2									
AQUILA	100.03	48.4										13	41	PP
TRIESTE	101.43	45.3				25	31	75				32	32	SS
COLLMBERG	102.88	39.7	13	53	2							18	4	PP
MOULD BAY	102.93	349.2	13	51	0									
PRUHONICE	103.38	41.3	13	53	0									
KONGSBERG	103.94	31.0	18	14	258							28	18	PPS
BRATISLAVA	104.41	43.6	13	50	-8							18	12	PP
SROBAROVA	105.08	44.2	18	12	777									
UMEA	109.91	28.1										34	19	SS
KIRUNA	110.64	23.9										28	36	PS
NURMIJARVI	111.44	32.0	18	30	4	24	54	-6				19	18	PP
RIVERVIEW	111.78	216.1										28	46	PS
SODANKYLA	112.96	24.7	18	30	1									
KEVO	113.20	22.1										19	30	PP
KAJAANI	113.21	28.3	18	36	7									
PULKOVO	114.19	33.1										19	24	PP
KSARA	114.79	61.9										19	32	PP
APATITY	115.58	24.5	18	35	1							29	21	PS
MOSCOW	118.04	37.7	18	41	3									
GORIS	123.81	56.7	18	51	1							20	39	PP
CHARTERS TS.	124.96	222.6	18	55	3									
MUNDARING	125.62	186.4	18	54	1									
TIKSI	129.58	352.4	19	0	-1							21	11	PP
SVERDLOVSK	130.32	33.2	19	3	1							21	16	PP
PORT MORESBY	131.87	233.0	19	8	3							22	36	
ASHKABAD	133.22	58.4	19	9	1							22	39	PKS
YAKUTSK	138.18	346.3	19	8	-9									
QUETTA	140.72	69.3	19	15	-6							22	22	PP
TASHKENT	140.95	51.4	19	16	-6							23	3	
SEMIPALATNSK	143.59	32.5	19	26	0									
KHOROG	143.62	56.8	19	28	2							22	32	PP
Y.-SAKHLINSK	144.07	321.1	19	27	0							22	51	PKS
FRUNSE	144.19	46.9	19	27	0									
WARSAK DAM	144.30	62.6	19	36	8									
LAHORE	146.96	66.3	19	34	2									
NEW DELHI	149.72	71.4	19	38A	1							23	14	PP
IRKUTSK	149.85	7.1	19	39	2							23	16	PP
DEHRA DUN	150.28	67.8	19	42	5									
TUKUBASAN	150.58	304.6	19	45A	7							43	1	SS
TANGERANG	151.40	172.8	19	44K	5									
MATUSIRO	151.89	306.4	19	43K	3							23	30	PP
ESEN BULAK	153.55	21.9							23	35				
ULAN-BATOR	154.41	5.0	19	45	2									
ABUYAMA	154.51	304.8	20	9K	26									
CHATRA	158.69	73.4	19	52	3									
SHILLONG	163.03	75.7	19	57K	4							24	33	PP
BAGUIO CITY	168.47	240.8	20	1	3									
HONG KONG	176.24	269.3										25	21	PP

DECEMBER 4 1.H 27.M 32.S EPICENTRE 46.31 153.12 DEPTH= 0.KM

A=-0.61829 B= 0.31335 C= 0.72079 D= 0.4521 E= 0.8920
G=-0.6429 H= 0.3258 K=-0.6932 HT= -4.0

SE= 2.56

	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	
Y.-SAKHLINSK	7.19	279.4	1	52A	3						3	24	
PETROPAVLOVK	7.61	26.1	1	54	-1	3	16	-7			3	34	
OKHA	9.77	321.5	2	29	4						4	40	
MIZUSAWA	11.37	235.1	3	0	13	4	39	-17					
TUKUBASAN	14.04	228.7	3	20	-3	6	4	4					
MATUSIRO	14.83	234.1	3	30K	-3	6	14	-5					
ABUYAMA	17.52	235.5	4	5A	-2								
YAKUTSK	20.67	328.0	4	45A	1						8	48	PCP
TIKSI	27.87	343.8	5	52K	-2						10	54	
ULAN-BATOR	31.14	290.1	6	21	-2								
IRKUTSK	31.88	298.9	6	28	-1						7	30	PP
COLLEGE	36.49	38.0	7	10	1								
ESEN BULAK	38.52	291.5	7	26	0								
HONG KONG	39.54	246.1	7	37	2	13	43	5			9	13	PP
MANILA	41.41	230.9	7	50	0								
MOULD BAY	45.02	19.8	8	19	0								
KHEYS	45.50	346.8	8	22K	-1						10	15	PP
KIPAPA	46.64	105.2				15	30	9					
HONOLULU	46.66	105.4				15	31	9					
SEMIPALATNSK	46.81	303.0	8	31	-2								
ALERT	50.19	5.7	8	58A	-2								
RABAUL	50.30	181.2	9	1	1								
RESOLUTE	51.25	18.4	9	6	-2								
YELLOWKNIFE	51.27	36.5	9	7	-1								
ALMATA-2	51.91	295.9	9	16	3								
SHILLONG	52.38	268.9	9	16A	0								
VICTORIA	53.78	55.0	9	29	2								
FRUNSE	53.85	296.8	9	26A	-1								
SVERDLOVSK	54.16	317.4	9	28	-1								
CHITTAGONG	54.50	265.9	9	32	0								
EDMONTON	56.51	45.8	9	45	-2								
BANFF	56.64	48.9	9	45	-2								
BOKARO	57.70	271.6	9	56	1								
APATITY	57.75	336.8	9	54A	-1	17	46	-8			18	5	PS
KEVO	57.75	340.6	9	56	1	17	54	0					
TASHKENT	57.99	298.0	9	56A	-1						18	2	PS
SHASTA	58.75	62.3	10	1A	-1								
KHOROG	58.85	293.1	10	2	-1						13	33	PPP
DEHRA DUN	58.91	282.7	10	6	3								
BLUE MTS.	59.31	55.8	10	5	-1	18	18	4			15	3	SCP
MINERAL	59.44	62.2	10	10K	3								
TROMSOE	59.60	343.1	10	6	-2								
SODANKYLA	59.66	338.9	10	7	-2								
CALISTOGA	59.86	64.3	10	14K	4								
BERKELEY	60.52	64.8	10	18K	4	18	20	-9					
NEW DELHI	60.57	281.6	10	13A	-2								
KIRUNA	60.76	341.4	10	14	-2								
WARSAK DAM	60.95	289.9	10	14	-3								
LICK	61.24	65.0	10	17A	-2								
KAJAANI	61.91	336.0	10	23	-1								
BOZEMAN	62.32	52.0	10	23	-4								
PRIEST	62.60	65.5	10	27A	-1								
EUREKA	63.39	59.9	10	33	-1				10	38			
KAP TOBIN	63.53	358.2	10	36	1								
UMEA	64.10	338.8	10	36	-2	19	8	-7	10	49	23	34	SS
PULKOVO	64.43	331.9	10	38K	-2	19	11	-7			19	34	PS
CHINA LAKE	64.72	64.0									18	29	
DUGWAY	64.80	57.6	10	42A	-1								
MOSCOW	64.81	325.6	10	42	-1								
PASADENA	65.43	65.7	10	51	4	19	32	1					
FROBISHER	65.49	18.9	10	46	-1								
NURMIJARVI	65.60	334.8	10	46	-2	19	22	-11			23	40	SS
FLAMING GRGE	66.30	55.1	10	52	-1								
BOULDER CITY	66.33	62.3	10	52	-1								
CHARTERS TS.	66.38	187.0				19	38	-5					
QUETTA	66.39	289.4	10	52A	-1	19	44	1					
UINTA BASIN	66.60	55.7	10	53	-1	19	44	-1			13	33	PP
ASHKABAD	66.68	300.9	10	54	-1	19	49	3					
GLEN CANYON	67.64	59.6	11	0	-1								
AFIAMALU	67.76	142.9				19	58	-1					

UPPSALA	68.12	337.6	11	2	-2				11	15			
POONA	69.51	275.6	11	13K	0								
TONTO FOREST	69.63	61.5	11	13	0	20	24	3	11	18	13	52	PP
BOMBAY	69.97	276.6	11	8	-7								
KONGSBERG	70.25	341.3	11	17	0								
BERGEN	70.46	343.7	11	20	2								
TUCSON	71.28	62.8	11	22	-1								
GOTEBORG	71.44	339.2	11	23	-1				11	36			
TIFLIS	71.66	311.5	11	26	0	21	20	35			21	13	PS
KARLSKRONA	71.86	336.6	11	25	-2				11	38			
ALBUQUERQUE	72.06	58.1	11	28	0								
TEHERAN	72.27	303.3	11	31	2	20	59	7					
GORIS	72.44	309.0	11	30A	0	20	48	-6			21	30	SCS
WARSAW	73.59	331.6	11	37	0						11	48	PCP
SIMFEROPOL	74.40	319.9	11	42	0	21	18	2			11	52	PCP
KRAKOW	75.81	331.0	11	49	-1						12	2	PCP
RACIBORZ	76.36	332.0	11	54	1						12	22	
WICHITA MTS.	76.73	53.5	11	54	-1	21	40	-2			26	48	SS
COLLMBERG	76.88	335.6	11	55	-1				11	59			
TULSA	77.38	50.9	11	50	-9	21	46	-3			26	56	SS
PRUHONICE	77.59	334.1	12	0	0	21	56	5					
JENA	77.61	336.2	11	58	-2	21	46	-5			12	43	
FAYETTEVILLE	78.10	49.8	12	0	-3								
SROBAROVA	78.28	330.8	12	5	1								
BUDAPEST	78.32	330.2	12	3	-1								
BRATISLAVA	78.37	331.7	12	4A	0								
VIENNA-H.	78.54	332.1	12	6	1								
KASPERSKE H.	78.64	334.2	12	6	0								
BENSBERG	78.75	338.8	12	10	4								
BREBEUF	79.73	31.4	12	10	-1								
ISTANBUL UN.	79.79	320.5	12	12A	0.	22	19	4					
KEW	79.95	343.5	12	17	4	22	23	7					
BELGRADE	80.10	327.9	12	12A	-1						12	26	PCP
DOURBES	80.17	340.0	12	18	4								
STUTTGART	80.20	336.7	12	14	0								
STRASBOURG	80.78	337.5	12	16	-1								
SOFIA	80.79	325.0	11	45	-32								
LJUBLJANA	81.08	332.2	12	21	2								
TRIESTE	81.68	332.5	12	26	4						32	52	SSS
PARIS	81.87	340.9	12	19	-4								
MORGANTOWN	82.17	38.5	12	28K	4								
KSARA	82.23	311.7	12	26					13	5			
BESANCON	82.48	338.1	12	29	3								
FOLINIERE	82.55	342.7	12	29	3								
CUMBERLAND	82.87	44.6	12	27	-1	22	36	-10			28	50	SS
GARCHY	83.17	340.0	12	35	6								
PALISADES	83.48	33.9				22	50	-2					
ROSELEND	83.75	337.1	12	39	7								
TOOLANGI	83.78	186.1	12	43	10								
ATHENS	84.62	322.2	12	36A	-1	23	6	2					
AQUILA	84.74	331.2	12	42	5						24	4	PS
ISOLA	85.02	336.2	12	41	2								
ROME	85.44	331.6	12	41A	0	23	10	-2					
GRANADA	94.29	341.5				24	32	0					
BROKEN H'LL	124.09	285.8	19	7	6								
LA PAZ	134.70	62.9	19	28	7								
N-LAZARVSKYA	149.24	203.9	19	48	2								

DECEMBER 4 8.H 24.M 13.S EPICENTRE 46.31 153.07 DEPTH= 0.KM

A=-0.61795 B= 0.31396 C= 0.72081 D= 0.4530 E= 0.8915
G=-0.6426 H= 0.3265 K=-0.6931 HT= -4.0

SE= 1.68

	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
Y.-SAKHLINSK	7.16	279.4	1	51A	3	3	19	8				
PETROPAVLOVK	7.62	26.3	1	48	-7							
MIZUSAWA	11.33	234.9	3	5	19	4	40	-15				
MATUSIRO	14.79	234.0	3	28A	-4	6	13	-5				
ABUYAMA	17.49	235.4	4	4K	-3							
YAKUTSK	20.65	328.0	4	44K	0							
TIKSI	27.86	343.9	5	52	-1							
ULAN-BATOR	31.10	290.1	6	20	-2							
COLLEGE	36.51	38.0	7	10	1							
HONG KONG	39.51	246.1				13	6	-31				

MOULD BAY	45.03	19.8	8	20A	1					
KHEYS	45.48	346.8	8	21K	-1					
HONOLULU	46.70	105.3				15	35	13		
SEMIPALATNSK	46.77	303.0	8	33	0					
COPPERMINE	48.82	30.3	8	49	0					
ALERT	50.20	5.7	8	59	0					
RABAUL	50.30	181.2	8	58	-2					
RESOLUTE	51.26	18.4	9	7	0					
YELLOWKNIFE	51.29	36.5	9	8	0					
ALMATA-2	51.87	295.9	9	12	0					
SHILLONG	52.34	268.8	9	16A	1					
FRUNSE	53.82	296.8	9	26A	0					
CHITTAGONG	54.46	265.9	9	32	1					
CHATRA	54.79	273.4	9	39	5					
EDMONTON	56.54	45.8	9	47	1					
APATITY	57.73	336.7	9	53K	-2					
KEVO	57.74	340.6	9	53	-2					
TASHKENT	57.95	297.9	9	56A	0					
SHASTA	58.78	62.3	10	3A	1					
KHOROG	58.81	293.1	10	3	1					
DEHRA DUN	58.87	282.6	10	5A	2					
HUNGRY HORSE	59.10	50.9	10	4	0					
BLUE MTS.	59.34	55.8	10	6	0	18	19	5		
MINERAL	59.47	62.2	10	7A	0					
TROMSOE	59.59	343.1	10	7	-1					
SODANKYLA	59.65	338.9	10	7	-1					
CALISTOGA	59.89	64.3	10	13A	3					
DUZHANBE	59.90	295.6	10	9A	-1	18	17	-4		
NEW DELHI	60.54	281.6	10	13A	-1					
BERKELEY	60.56	64.8	10	27K	13					
KIRUNA	60.75	341.3	10	15A	-1					
WARSAK DAM	60.91	289.9	10	17	0					
LICK	61.27	64.9	10	18K	-1					
BUTTE	61.30	52.4	10	20	1					
KAJAANI	61.89	336.0	10	23	0				11	4
BOZEMAN	62.35	51.9	10	19	-7					
PRIEST	62.63	65.4	10	28A	0					
VIBORG	64.16	333.2	10	36A	-2					
MOSCOW	64.79	325.6	10	43	1					
DUGWAY	64.83	57.6	10	44A	1					
PASADENA	65.47	65.7	10	48	1	19	33	2	11	0
FROBISHER	65.50	18.9	10	46	-1					
NURMIJARVI	65.59	334.8	10	47K	-1				23	49 SS
FLAMING GRGE	66.33	55.1	10	53	1					
QUETTA	66.35	289.4	10	53	1	19	40	-2		
BOULDER CITY	66.36	62.2	10	55	3				11	4
UINTA BASIN	66.63	55.7	10	55	1	19	51	6		
ASHKABAD	66.65	300.9	10	54	0				24	21 SS
VANNOVSKAYA	66.80	301.0	10	57	2					
KIZYL-ARVAT	67.05	303.1	10	58A	1					
GLEN CANYON	67.67	59.5	11	0	-1					
UPPSALA	68.10	337.6	11	2	-1					
POONA	69.47	275.6	11	10A	-2					
TONTO FOREST	69.66	61.5	11	15	2				11	27
KONGSBERG	70.23	341.2	11	16	-1				11	40 PCP
BERGEN	70.45	343.7	11	18	0					
TUCSON	71.32	62.8	11	24	1					
GOTEBORG	71.43	339.2	11	23	-1					
KIROVOBAD	71.59	309.8	11	25	0					
TIFLIS	71.62	311.5	11	25	0					
KARLSKRONA	71.84	336.5	11	25A	-1					
ALBUQUERQUE	72.09	58.1	11	28	0					
TEHERAN	72.24	303.2	11	31	2					
GORIS	72.41	309.0	11	30A	0	20	55	2		
COPENHAGEN	73.11	337.9	11	34K	0					
SIMFEROPOL	74.38	319.8	11	40A	-1					
LWOW	74.55	328.5	11	42	0					
KISHINEV	75.00	324.2	11	44	-1					
UZHGOROD	76.17	328.8	11	51	0					
RACIBORZ	76.33	332.0	11	54	2					
WICHITA MTS.	76.76	53.4	11	55	0					
COLLMBERG	76.86	335.6	11	55	0				12	7
TULSA	77.41	50.9	11	57	-1					
PRUHONICE	77.57	334.0	12	0A	1					
JENA	77.59	336.2	11	59	0				12	40
FAYETTEVILLE	78.13	49.8	12	2	0					
BUDAPEST	78.30	330.1	12	1	-2					
BRATISLAVA	78.35	331.6	12	3A	0				12	24
VIENNA-H.	78.52	332.1	12	6	2					

KASPERSKE H.	78.62	334.2	12	5A	0										
BENSBERG	78.73	338.8	12	5	-1										
BREBEUF	79.75	31.3	12	11	0										
KEW	79.93	343.5	12	14	2										
DOURBES	80.16	340.0	12	13	0										
STUTTGART	80.18	336.6	12	13	0										
TRIESTE	81.66	332.5	12	23	2										
FOLINIERE	82.53	342.7	12	26	0										
CUMBERLAND	82.90	44.5	12	27	-1										
PALISADES	83.50	33.8				23	1	9							
ROSELEND	83.73	337.1	12	34	2										
ATHENS	84.59	322.1	12	36	0										
ISOLA	85.00	336.2	12	40	2										
MONACO	85.31	335.8	12	41	1										
BAGNERES	87.81	340.5	12	27	-25										
BANGUI	115.42	308.0	18	50	6									19	54 PP
LA PAZ	134.73	62.8	19	24	3										
N-LAZARVSKYA	149.22	203.9	19	49	3										

DECEMBER 4 15.H 59.M 37.S EPICENTRE -35.64-102.88 DEPTH= 0.KM

A=-0.18154 B=-0.79406 C=-0.58009 D=-0.9748 E= 0.2229
G= 0.1293 H= 0.5655 K=-0.8145 HT= -0.1

SE= 3.19

	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	
CONCEPCION	24.85	101.9	5	23	-3	9	44	-3					
ANTOFAGASTA	30.47	75.9	6	13A	-4	11	17	-1			7	13	PP
NANA	33.30	51.5	6	42	0								
AREQUIPA	33.84	63.8	6	45	-1	12	15	4					
HUANCAYO	34.23	53.5	6	53	3								
LA PAZ	36.31	67.4	7	7	-1	12	36	-13					
BYRD STATION	44.98	184.1	8	15	-4						9	6	
CHINCHINA	47.82	38.0	8	40	-1	15	36	-2			19	14	SS
BOGOTA	48.31	40.0	8	45	0	15	45	0			10	42	PP
FUQUENE	49.21	39.8	8	55	3	16	6	8			19	48	SS
GALERAZAMBA	53.03	34.7				17	5	14					
SOUTH POLE	54.54	180.0	9	30	-2						15	30	
SCOTT BASE	55.54	194.9	9	41	1	17	25	1					
CARACAS	57.08	43.5	9	50	-1	17	47	2			12	7	PP
TRINIDAD	60.44	48.5	10	16	2	18	35	6					
AFIAMALU	64.96	270.5				19	29	4			23	57	SS
TUCSON	67.94	352.7	11	1	-2								
TONTO FOREST	70.01	352.6	11	13	-3				11	23	11	36	PCP
WICHITA MTS.	70.11	3.8	11	12	-4	20	33	6			24	39	SS
ALBUQUERQUE	70.31	356.9	11	15	-3								
PASADENA	70.88	346.6	11	16	-5	20	44	8					
TULSA	71.49	6.1	11	26	1	20	43	0			11	50	
FAYETTEVILLE	71.82	7.4									12	24	
BOULDER CITY	72.12	349.8	11	28	-1								
COLUMBIA	72.23	18.9	11	29	0								
CUMBERLAND	72.68	14.7	11	28	-4	20	57	0			26	29	SS
GLEN CANYON	72.69	352.7	11	34	2								
PRIEST	73.31	345.0	11	36A	0								
PARAISO	73.86	343.7	11	39	0								
LICK	74.67	344.6	11	46A	3								
WILKES	75.15	193.3	11	48	2	21	23	-2					
BERKELEY	75.32	344.2	11	50A	3								
BLACKSBURG	75.42	18.4	11	54	6	21	42	14					
EUREKA	75.72	349.6	11	48	-1								
UINTA BASIN	75.84	354.7	11	48	-2	21	39	7			26	47	SS
DUGWAY	76.02	352.2	11	49	-2								
CALISTOGA	76.12	344.2	11	52A	0								
FLAMING GRGE	76.43	354.9	11	52	-1								
LARAMIE	76.62	357.9	11	28	-26								
HONOLULU	77.07	308.2				22	0	14			26	13	SS
KIPAPA	77.11	308.3				22	54	68			33	5	
MIRNY	77.41	186.4	12	0	1	21	42	-7					
SHASTA	78.06	345.0	12	3K	1								
PALISADES	80.79	21.8	12	25	8	22	27	2					
BLUE MTS.	81.18	349.7	12	19	0	22	33	4			15	25	PP
BOZEMAN	81.27	354.2	12	17	-3								
BUTTE	81.75	353.2	12	23	1								
RIVERVIEW	82.25	233.9	12	32	7	22	35	-5			23	30	PS

CANBERRA	82.72	231.6	12	26	-1	22	59	14			
TOOLANGI	83.48	228.0	12	26	-5	22	59	6	12	50	23 53 PPS
HUNGRY HORSE	84.21	352.5	12	34	-1						
SEATTLE	84.72	347.0	12	33	-4						35 14
BREBEUF	84.98	20.2	12	49	10						21 3
BRISBANE	85.06	239.8	13	8	29	23	10	2			
BANFF	87.15	352.1	12	51	2						
ADELAIDE	89.27	226.3									23 59
PONTA DELGDA	102.14	52.3									33 3 SSS
GRANADA	117.00	62.2									22 15 PP
DURHAM	124.42	43.5				25	40	-24			20 34 PP
CLERMONT-FD.	124.85	55.1	18	21	-41						
ROSELEND	127.18	56.0	19	13	6						
STRASBOURG	128.64	52.7									21 20 PP
PAVIA	128.78	57.2									38 53
TUKUBASAN	129.83	290.3									38 57
AQUILA	131.05	61.8									21 31 PP
MESSINA	131.51	67.7									32 42
TRIESTE	132.03	57.6									21 46 PP
COLLMBERG	132.43	49.9									17 20
KASPERSKE H.	132.51	52.9	19	25	8						
KARLSKRONA	134.27	43.4	19	41	21						
UMEA	135.83	32.2	19	50	27						39 48 SS
KEVO	136.52	22.8									40 5 SS
SODANKYLA	137.34	26.1	19	18	-8						
NURMIJARVI	138.56	36.4	19	26	-2						
KAJAANI	138.94	30.5	19	33	4						
JERUSALEM	145.12	84.1	19	42A	2						
HONG KONG	145.18	257.7	19	45	5						
KSARA	146.23	80.9	19	44	2	26	53	4			23 15 PP
QUETTA	169.87	119.6	20	12	3						
NEW DELHI	172.96	180.6	20	18	7						
WARSAK DAM	175.13	108.0	20	18	6						

DECEMBER 5 11.H 29.M 46.S EPICENTRE 7.25 -77.39 DEPTH= 0.KM

A= 0.21667 B=-0.96817 C= 0.12530 D=-0.9759 E=-0.2184
G= 0.0274 H=-0.1223 K=-0.9921 HT= 6.8

SE= 3.41

	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
BALBOA HTS.	2.74	308.5	0	45	-1	1	23	3				
CHINCHINA	2.86	142.1	0	47	0	1	33	10				
FUQUENE	4.04	115.7	1	5A	1	2	0	7				
GALERAZAMBA	4.09	30.6	1	5	0	2	0	6				
BOGOTA	4.21	128.2	1	9A	3	2	12	15				
CARACAS	10.82	71.9	2	36	-3	4	34	-8			5	10 SS
SAN SALVADOR	13.26	299.8	3	20	8							
SAN JUAN	15.58	43.7	3	38	-4						6	24
TRINIDAD	16.15	76.7	3	45	-4							
MANA	19.12	178.4	4	25	-1	8	3	6				
HUANCAYO	19.28	173.9	4	28	0							
LA PAZ	25.31	158.8	5	29	0	9	56	2				
COLUMBIA	26.84	353.3	5	48	5	9	54	-25				
CUMBERLAND	29.19	346.2	6	4	-1	11	2	5			6	29
BLACKSBURG	29.95	355.1	6	14	2	11	25	16				
ANTOFAGASTA	31.50	167.7	6	25K	0	11	36	3				
MORGANTOWN	32.32	356.3	6	38	6							
FAYETTEVILLE	32.57	334.2	6	33	-2							
TULSA	33.13	332.0	6	38A	-2	12	2	3				
ST. LOUIS 1	33.34	341.5	6	40	-1							
WICHITA MTS.	33.60	327.4	6	41	-3	12	17	11			8	8 PP
PALISADES	33.76	4.7	6	56	11	12	12	3				
LAWRENCE	35.45	335.7	6	59	-1							
LONDON ONT.	35.81	355.2	7	6	3							
BREBEUF	38.25	4.3	7	24A	1							
ALBUQUERQUE	38.40	320.0	7	24	0							
TUCSON	39.82	313.2	7	36	0							
GOLDEN	40.92	326.4	7	46	1	14	2	4				
SANTA LUCIA	40.97	171.4				14	2	4				
TONTO FOREST	41.22	315.5	7	48	0				7	58	9	30 PP
GLEN CANYON	42.93	318.6	8	3	1							
UINTA BASIN	43.72	323.9	8	8	0	14	42	3			9	58 PP
FLAMING GRGE	44.01	324.7	8	10	0							

BOULDER CITY	44.59	315.4	8 15	0						
SALT LAKE C.	45.35	322.8	8 21	0						
DUGWAY	45.59	321.6	8 24K	1						
PASADENA	46.13	311.3	8 25	-2	15 25	11				
EUREKA	47.19	318.9	8 36	0						
BOZEMAN	48.06	328.5	8 44	1						
SCHEFFERVLLE	48.20	8.2	8 44K	0						
PRIEST	48.83	312.5	8 26A	-23						
BUTTE	49.09	327.9	8 40	-11						
LICK	50.06	313.5	8 58A	0						
BERKELEY	50.73	313.8			16 14	-4				
BLUE MTS.	51.00	324.0	9 3	-2	16 37	15			11 19	PP
HUNGRY HORSE	51.36	329.4	9 5	-3						
MINERAL	51.37	317.0	9 13A	5						
EDMONTON	54.46	334.4	9 28	-3						
VICTORIA	56.53	325.0	9 44	-2						
FROBISHER	56.74	4.7	9 46	-2						
YELLOWKNIFE	61.46	341.4	10 17	-3						
COPPERMINE	65.55	345.2	10 44	-3						
RESOLUTE	68.14	355.1	11 2	-2						
MALAGA	72.07	53.9	11 28	1						
MOULD BAY	72.64	350.3	11 29	-2						
COLLEGE	75.22	335.4	11 44	-2						
ALERT	75.49	2.0	11 46	-1						
FOLINIERE	75.96	41.6	11 57	7						
ISOLA	81.01	46.5	12 19	1						
STUTTGART	82.41	41.8	12 30	5						
JENA	83.78	39.5	12 29	-3						
COLLMBERG	84.64	39.1	12 36	0			12 47			
KASPERSKE H.	85.21	41.2	12 38	-1						
PRUHONICE	85.75	40.3	12 42	0						
KIRUNA	86.29	22.1	12 49	5						
UMEA	86.91	26.1	12 48	0					13 17	
NURMIJARVI	89.63	28.9	13 0	-1					24 56	PS
KAJAANI	90.06	25.1	13 13	10						
BANGUI	95.39	84.9	13 1	-26					24 18	
SOUTH POLE	97.20	180.0	13 35	0					20 20	
QUETTA	129.44	40.8	19 13	2						
WARSAK DAM	129.52	33.8	19 12	1						
SHILLONG	145.75	17.4	19 42K	2						
MUNDARING	152.33	205.5	19 59	9						

DECEMBER 7 4.H 7.M 54.S EPICENTRE -22.11-179.46 DEPTH= 564.KM

A=-0.92734 B=-0.00868 C=-0.37413 D=-0.0094 E= 1.0000
G= 0.3741 H= 0.0035 K=-0.9274 HT= 4.1

DEPTH OF FOCUS= 0.084R

SE= 1.36

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
AFIAMALU	10.94	43.1	2	26	-2	4	23	-4					
PORT VILA	12.28	288.6	2	43K	1	5	3	11					
LUGANVILLE	14.28	295.0	3	1	-1								
KOUMAC	15.23	272.8	3	14K	3	5	59	14					
KARAPIRO	16.35	194.2	3	24K	2	6	23	18					
GISBORNE	16.63	186.9	3	25	0	6	8	-2					
WELLINGTON	19.73	193.0	3	52	-2	6	56	-6			6	22	
HONIARA	23.44	299.3	4	26	-2								
BRISBANE	25.72	252.6	4	48	0	8	38	0					
MONOWAI	25.86	201.0	4	49K	0								
RIVERVIEW	28.36	239.3	5	12A	1	9	19	-1			14	51	SCS
CANBERRA	30.49	237.5	5	30A	1	9	57	4	6	57	7	5	PP
CHARTERS TS.	32.00	267.2	5	42	0	10	11	-5					
RABAUL	32.75	298.8	5	49	1								
TOOLANGI	33.86	235.0	5	58A	0	10	41	-3	6	52	8	22	PCP
MOORLANDS	34.41	226.1	6	3	1								
PORT MORESBY	34.43	286.2	6	2K	0	10	52	-1	7	42	8	43	PCP
ADELAIDE	38.64	241.3	6	37A	0								
KIPAPA	48.05	27.3	7	50	-1								
MUNDARING	57.41	245.4	8	56	-1	16	10	-1					
BYRD STATION	63.29	170.3	9	36	0								
SOUTH POLE	68.03	180.0	10	5	0								
MIRNY	68.97	205.4	10	10	-1	18	28	-3	10	56			
MATUSIRO	70.71	324.9	10	20K	-1	18	50	-1					

PETROPAVLOVK	77.19	346.6	10	56	-1					
HONG KONG	78.28	299.9	11	4	1	20	16	3	20	31 SCS
PARAISO	79.27	43.6	11	13	4					
MAWSON	79.60	200.2	11	8	-2					
ARGENTINE I.	80.03	157.2	11	12	0					
PRIEST	80.26	44.6	11	15K	1					
BERKELEY	80.28	42.5	11	15A	1					
LICK	80.35	43.2	11	16A	2					
CALISTOGA	80.55	41.7	11	16K	1					
PASADENA	80.77	47.5	11	16	0				13	23
SHASTA	81.94	40.1	11	21	-1					
MINERAL	82.20	40.8	11	23A	-1					
BOULDER CITY	84.06	47.5	11	34	1				13	41 37 54 PKPPKP
TUCSON	84.97	52.4	11	39	2				13	47
EUREKA	85.22	44.0	11	39	1				13	48 29 37 PKKP
TONTO FOREST	85.67	50.4	11	41	0	21	15	-10	13	50 29 27 PKKP
VICTORIA	86.28	33.5	11	43	-1					
SEATTLE	86.31	34.7	11	42	-2					
GLEN CANYON	86.81	48.0	11	48	2				13	58
N-LAZARVSKYA	87.04	183.7	11	46A	-1	21	35	-3		
BLUE MTS.	87.41	39.0	11	48	-1	21	49	8	13	55 29 35 PKKP
DUGWAY	87.65	44.7	11	51A	1					
SALT LAKE C.	88.57	44.6	11	54	0					
SOCORRO	88.71	52.4	11	56	1					
UINTA BASIN	89.85	45.9	12	0	0	22	12	9	14	10 15 44 PP
COLLEGE	90.07	12.9	12	0	-1					
FLAMING GRGE	90.27	45.4	12	3	1					
BOZEMAN	91.58	40.7	12	6	-2				14	19
BANFF	91.95	34.5	12	8	-2					
WICHITA MTS.	95.22	54.8	12	24	-1	22	8	2	14	32 29 15 PKKP
ULAN-BATOR	95.80	319.6	12	27	0					
YELLOWKNIFE	98.53	25.2	12	39	-1					
LA PAZ	102.60	113.7	13	6	8	22	36	-7		
ST. LOUIS 1	102.88	53.4	11	55	-64					
CUMBERLAND	105.55	57.6								17 43 PP
NEW DELHI	111.48	293.1	17	30K	0					
ALERT	115.24	7.5	17	36	-2					
BREBEUF	116.36	49.0	17	40K	0					
SAN JUAN	117.79	80.2	17	43	0					
FROBISHER	118.87	28.3	17	43	-2					
QUETTA	120.56	292.8	17	49	1					
SCHEFFERVLLE	120.80	38.4	17	48	-1					
SVERDLOVSK	124.52	324.7	17	55	-1					
ASHKABAD	128.29	301.5	18	3	0					
CHILEKA	129.51	224.9	18	7	2					
KEVO	129.76	348.4	18	6	0					20 35 SKP
APATITY	130.13	344.2	18	6K	0				20	36 20 50 PP
TROMSOE	131.19	351.6	18	9	0					20 40 SKP
SODANKYLA	131.86	346.8	18	9	-1					20 42 SKP
KIRUNA	132.62	349.9	18	10	-1					20 47 SKP
KAJAANI	134.32	343.7	18	9	-5					20 50 SKP
BROKEN HILL	134.50	219.5	18	4	-11					18 19
UMEA	136.27	347.5	18	11	-7					20 56 SKP
VIBORG	136.66	340.2	18	14	-5					
KIROVOBAD	137.29	306.5	18	13	-7					
SKALSTUGAN	137.80	352.2	18	15	-6					
NURMIJARVI	138.07	342.4	18	14	-7					21 1 SKP
BAKURIANI	139.10	308.8	18	17	-6					
UPPSALA	140.39	346.5	18	18	-8					21 7 SKP
BANDEIRA	141.15	199.9	18	25A	-3					
KONGSBERG	141.94	352.5	18	25	-4					21 12 SKP
LWIRO	143.28	232.3	18	32	1					
GOTEBORG	143.48	349.7	18	28	-4					
KARLSKRONA	144.21	345.6	18	31A	-2					
COPENHAGEN	145.31	348.1	18	36K	2					
KISHINEV	146.26	324.3	18	38	2					
KSARA	146.83	298.3	18	42A	6					
DURHAM	147.34	2.3	18	41	4					
KRAKOW	148.20	336.0	18	38	-1					18 44 PKP2
UZHGOROD	148.36	332.0	18	47	8					
RACIBORZ	148.81	337.8	18	43	4					18 56 PKP2
WITTEVEEN	148.98	352.8	18	41	1					
VALENTIA	149.08	13.0	18	45	5					
COLLMBERG	149.28	344.6	18	41	1					21 28 PP
HALLE	149.35	346.0	18	45	5					18 53 PKP2
ISTANBUL UN.	149.48	314.8	18	46	6					
MUNSTER	149.69	351.3	18	42	1					
JENA	149.96	346.0	18	42	1	21	6		22	15 PP

PRUHONICE	150.07	341.7	18	47	6					21	1			
SROBAROVA	150.65	335.2	18	50K	8									
KEW	150.68	1.1	18	49	7			21	5					
BENSBERG	150.74	351.4	18	49	7			21	3					
BRATISLAVA	150.81	337.0	18	44K	2					21	12			
VIENNA-H.	151.00	337.9	18	44	1									
KASPERSKE H.	151.11	342.1	18	46	3			21	3					
DOURBES	151.88	354.4	18	52	8			21	8					
STUTTGART	152.49	347.4	18	45	0					21	12			
STRASBOURG	152.96	349.4	18	44	-2			21	5					
PARIS	153.31	357.1	18	51	5									
FOLINIERE	153.38	1.5	18	46	0					18	55	PKP2		
ATHENS	154.55	313.6	18	59K	11									
GARCHY	154.80	355.9	18	50K	2					19	16	PKP2		
BANGUI	155.15	227.4	19	1	12					23	14	PP		
ISOLA	157.33	347.8	18	55	4					19	32			

DECEMBER 8 7.H 53.M 20.S EPICENTRE 46.57 153.06 DEPTH= 52.KM

A=-0.61500 B= 0.31256 C= 0.72394 D= 0.4531 E= 0.8915
G=-0.6454 H= 0.3280 K=-0.6899 HT= -4.1

DEPTH OF FOCUS= 0.003R

SE= 1.92

	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
KURILSK	3.86	251.5	0	56A	-3	1	41	-2				
Y.-SAKHLINSK	7.11	277.3	1	47	3							
PETROPAVLOVK	7.40	27.2	1	45	-3	3	8	-3				
MIZUSAWA	11.48	233.9				5	20	28			4	38
MAGADAN	13.07	354.9	3	8	3							
MATUSIRO	14.94	233.2	3	24K	-6	6	15	1				
ABUYAMA	17.63	234.7	4	0	-3							
YAKUTSK	20.43	327.6	4	35K	0	8	12	-4				
TIKSI	27.61	343.7	5	44	-1							
ULAN-BATOR	31.01	289.6	6	12	-3							
BAGUIO CITY	40.37	232.7	7	28	-6	13	37	-1				
MOULD BAY	44.79	19.9	8	11	1							
SEMIPALATNSK	46.63	302.7	8	24	-1							
COPPERMINE	48.60	30.4	8	40K	0							
ALERT	49.94	5.7	8	50	-1							
RESOLUTE	51.02	18.5	8	58	-1							
YELLOWKNIFE	51.09	36.6	9	0	1							
ALMATA-2	51.76	295.7	9	4	0							
SHILLONG	52.34	268.6	9	8A	-1							
FRUNSE	53.70	296.6	9	18	-1							
SVERDLOVSK	53.94	317.2	9	19	-2							
EDMONTON	56.37	45.9	9	39A	1							
BANFF	56.51	49.0	9	36	-3							
APATITY	57.49	336.7	9	45	-1							
TASHKENT	57.83	297.8	9	48A	-1							
SHASTA	58.66	62.4	9	55K	1							
KHOROG	58.70	292.9	9	55	0							
DEHRA DUN	58.81	282.5	9	56	1							
BLUE MTS.	59.20	55.9	9	58	0	18	16	16			20	26
MINERAL	59.36	62.3	9	58K	-1							
SODANKYLA	59.40	338.8	9	58	-2							
DUZHANBE	59.78	295.5	10	2	0							
CALISTOGA	59.78	64.4	10	2K	0							
BERKELEY	60.45	64.9	10	7K	0	18	20	4				
NEW DELHI	60.48	281.5	10	5A	-2							
KIRUNA	60.50	341.3	10	6K	-1							
WARSAK DAM	60.82	289.8	10	8	-1							
LICK	61.17	65.1	10	13K	1							
PARAISO	61.33	66.4	10	17	4							
KAJAANI	61.65	336.0	10	13	-2							
PRIEST	62.53	65.6	10	18A	-3							
LUGANVILLE	63.09	164.8	10	21	-3							
KAP TOBIN	63.27	358.1	10	26	0							
EUREKA	63.30	60.0	10	26	0							
UMEA	63.84	338.7	10	28K	-1							
MOSCOW	64.57	325.5	10	33	-1							
SALT LAKE C.	64.89	56.7	10	37	1							
FROBISHER	65.26	19.0	10	37	-2							
NURMIJARVI	65.35	334.7	10	36	-3							

PASADENA	65.37	65.8			19	23	5	10	40			
SKALSTUGAN	65.90	341.9	10	41	-2							
FLAMING GRGE	66.19	55.2	10	45	1							
BOULDER CITY	66.25	62.3	10	46	1							
QUETTA	66.26	289.3	10	45	0							
UINTA BASIN	66.49	55.8	10	46	0	19	40	9	10	51	11 6	PCP
CHARTERS TS.	66.63	187.0	10	45	-2							
VANNOVSKAYA	66.66	300.9	10	49	2							
KIZYL-ARVAT	66.90	303.0	10	52	3							
GLEN CANYON	67.54	59.6	10	53	0							
UPPSALA	67.86	337.5	10	54K	-1							
TONTO FOREST	69.54	61.6	11	6	1				11	10	11 22	PCP
KONGSBERG	69.98	341.2	11	7	-1							
BERGEN	70.20	343.7	11	10	1							
GOTEBORG	71.18	339.1	11	15K	0							
TUCSON	71.20	62.9	11	16	1							
KIROVOBAD	71.42	309.8	11	17K	0							
BAKURIANI	72.10	312.2	11	21	0							
GORIS	72.24	308.9	11	23A	1							
COPENHAGEN	72.86	337.9	11	27	2							
UZHGOROD	75.94	328.8	11	45	2							
WICHITA MTS.	76.61	53.5	11	47	0	21	34	6			26 46	SS
COLLMBERG	76.62	335.5	11	46	-1				11	53		
TULSA	77.25	50.9	11	50K	0	21	35	0			26 50	SS
PRUHONICE	77.34	334.0	11	51	0							
JENA	77.35	336.2	11	50	-1	21	46	10				
FAYETTEVILLE	77.97	49.8	11	53	-1							
BRATISLAVA	78.12	331.6	11	54K	-1						12 20	
VIENNA-H.	78.29	332.1	11	57	1						12 7	PCP
KASPERSKE H.	78.38	334.2	11	57	0						12 45	
BENSBERG	78.49	338.8	11	58	1						12 34	
BREBEUF	79.53	31.4	12	2	-1							
ISTANBUL UN.	79.56	320.4	12	3	0							
BELGRADE	79.85	327.9	12	6K	1						12 13	PCP
STUTTGART	79.94	336.6	12	6	1							
STRASBOURG	80.52	337.5	12	9	1							
LJUBLJANA	80.83	332.2	12	12	2							
TRIESTE	81.43	332.5	12	13	0						41 4	
MORGANTOWN	81.99	38.5	12	22	6							
CUMBERLAND	82.72	44.6	12	19	-1						12 40	PCP
PALISADES	83.28	33.8			22	47	10					
ATHENS	84.38	322.1	12	24K	-4							
AQUILA	84.49	331.2	12	30	1							
ISOLA	84.77	336.2	12	33	3						12 37	PCP
MONACO	85.07	335.7	12	34	3							
ROME	85.19	331.6	12	34K	2							
LA PAZ	134.62	62.6	19	16	3							
BYRD STATION	135.03	165.7	19	13	-1							
SOUTH POLE	136.38	180.0	19	14	-2							
N-LAZARVSKYA	149.46	204.1	19	43A	4							

DECEMBER 9 10.H 53.M 40.S EPICENTRE -21.21-177.88 DEPTH= 439.KM

A=-0.93243 B=-0.03444 C=-0.35970 D=-0.0369 E= 0.9993
G= 0.3595 H= 0.0133 K=-0.9331 HT= 4.4

DEPTH OF FOCUS= 0.064R

SE= 1.51

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
AFIAMALU	9.30	39.7	2	7	-4	3	45	-10					
PORT VILA	13.46	282.5	2	58A	1								
NOUMEA	14.60	262.9	3	11A	2	5	46	5					
LUGANVILLE	15.31	289.2	3	17K	1	5	28	-26					
KOUMAC	16.68	269.0	3	34K	4	6	31	11					
KARAPIRO	17.61	197.4	3	40	1								
GISBORNE	17.73	190.6	3	39	-1	6	26	-13					
WELLINGTON	20.95	195.6	4	14	3	7	36	2			6	8	*SP
HONIARA	24.34	295.4	4	43	0								
MONOWAI	27.23	202.5	5	9	1								
BRISBANE	27.40	251.2	5	10	0	9	21	3					
RIVERVIEW	30.08	238.7	5	33A	0	10	0	0			7	49	
CANBERRA	32.21	237.0	5	51K	0	10	34	1	7	7	7	21	PP
CHARTERS TS.	33.53	265.4	6	1	-2	10	48	-5					
TOOLANGI	35.57	234.6	6	19K	-1	11	23	-1	7	51	8	6	PP

PORT MORESBY	35.62	283.9	6	19K	-1	11	24	-1			7	57 PP
MOORLANDS	36.09	226.0	6	23	-1						7	55
ADELAIDE	40.36	240.6	6	58K	-1	12	28	-7			16	8 SS
KIPAPA	46.60	25.8	7	50	2							
DARWIN	49.70	271.6	8	12	0	14	40	-7				
SCOTT BASE	57.17	183.8	9	7	2	16	36	10				
MUNDARING	59.12	244.7	9	17	-2	16	45	-6				
WILKES	63.38	205.4	9	46	-1	17	43	-1			12	8 PP
BYRD STATION	63.92	170.5	9	50	0						10	21
SOUTH POLE	68.92	180.0	10	20	-1							
MANILA	69.71	295.5	10	25	-1							
MIRNY	70.40	205.1	10	28	-2	19	9	2	11	23		
MATUSIRO	70.84	323.8	10	31A	-2	18	40	-32				
BAGUIO CITY	70.99	296.8	10	32	-1							
PARAISO	77.62	43.0	11	14	3							
PRIEST	78.60	44.0	11	17K	1							
BERKELEY	78.64	41.8	11	16K	0							
LICK	78.70	42.5	11	17K	0							
CALISTOGA	78.92	41.0	11	18K	0							
PASADENA	79.09	46.8	11	20	1	20	47	6	12	58		
SHASTA	80.32	39.5	11	26K	1							
MINERAL	80.57	40.1	11	27A	1							
BOULDER CITY	82.38	46.8	11	38	2				13	16	12	18
TUCSON	83.27	51.8	11	42K	2				13	22	29	57 PKKP
EUREKA	83.56	43.4	11	42	0						29	59 PKKP
TONTO FOREST	83.98	49.8	11	45	1	21	38	8	13	26	11	47 PCP
TUMWATER	84.03	34.3	11	45	1							
VICTORIA	84.73	32.9	11	48	1							
SEATTLE	84.75	34.1	11	45	-2							
GLEN CANYON	85.12	47.4	11	50	1							
BLUE MTS.	85.80	38.4	11	52	-1	22	48	61	13	32	19	50 PKKP
DUGWAY	85.99	44.1	11	54K	1							
UINTA BASIN	88.18	45.3	12	4	0				13	47	29	46 PKKP
FLAMING GRGE	88.60	44.8	12	7	1							
COLLEGE	88.88	12.4	12	5	-2							
BUTTE	89.22	39.3	11	9	-60							
HUNGRY HORSE	89.64	36.8	12	11	0							
BOZEMAN	89.95	40.1	11	11	-61						13	55
BANFF	90.39	33.9	12	12	-2							
GOLDEN	90.72	47.4	12	16	0							
EDMONTON	92.72	32.8	12	24	-1							
YAKUTSK	92.79	338.0	12	23	-2							
WICHITA MTS.	93.51	54.2	12	28	0	23	4	8	14	11	29	34 PKKP
TULSA	96.08	54.0	12	41	1	22	36	3				
YELLOWKNIFE	97.11	24.7	12	43	-2							
TIKSI	99.45	345.1	12	54	-1							
CARACAS	113.16	87.4									27	46
QUETTA	121.57	293.1	18	3	0						19	43 PP
ASHKABAD	129.07	302.2	18	18	1							
KEVO	129.18	349.1	18	16	-1							
VANNOVSKAYA	129.27	302.2	18	20	3							
APATITY	129.66	345.0	18	16A	-2						18	50
TROMSOE	130.52	352.3	18	19	-1							
CHILEKA	131.17	224.0	18	19	-2							
SODANKYLA	131.32	347.7	18	20	-1						21	5 SKP
KIRUNA	131.99	350.8	18	22	-1						21	6 SKP
KAJAANI	133.86	344.7	18	21	-5						21	22 SKP
UMEA	135.70	348.6	18	23	-6						21	19 SKP
VIBORG	136.31	341.4	18	25	-6							
PULKOVO	136.58	339.6	18	31	0							
SKALSTUGAN	137.10	353.3	18	27	-5						21	24 SKP
NURMIJARVI	137.64	343.6	18	24	-9						21	25 PP
KIROVOBAD	137.92	307.6	18	34	0							
UPPSALA	139.85	347.9	18	29	-8							
KONGSBERG	141.23	353.9	18	35	-6						21	37 SKP
ADDIS ABABA	142.70	256.7	18	40	-3							
GOTEBORG	142.85	351.2	18	39A	-4							
KARLSKRONA	143.69	347.3	18	41	-3							
SIMFEROPOL	144.60	319.5	18	48	2							
COPENHAGEN	144.72	349.9	18	47	1							
LWIRO	144.99	231.5	18	48A	2						19	35
KISHINEV	146.37	326.3	18	49	0							
DURHAM	146.38	3.9	18	51A	2							
LWOW	146.59	334.0	18	50	1						20	30
IASI	146.89	327.6	18	46	-3						19	48
UZHGOROD	148.23	334.2	18	57	6							
RACIBORZ	148.51	340.0									18	58 PKP2
COLLMBERG	148.78	346.8	18	57	5							
HALLE	148.81	348.1	18	46	-6						19	0 PKP2

MUNSTER	149.00	353.4	18	51	-1							
JENA	149.42	348.2	18	53	0			20	45	22	41	PP
BUCHAREST	149.52	325.0	18	42	-11					20	36	
PRAGUE	149.60	344.2	19	0	7					20	52	
PRUHONICE	149.65	344.0	18	54	1					20	50	
KEW	149.74	3.0	18	55	2					18	59	PKP2
ISTANBUL UN.	149.87	317.1	19	1A	7							
BUDAPEST	150.44	336.4	19	5	10							
BRATISLAVA	150.53	339.4	19	0	5			20	32			
KASPERSKE H.	150.68	344.5	19	1	6			20	49			
VIENNA-H.	150.69	340.4	18	55	0							
DOURBES	151.10	356.7	18	55	-1					19	49	
STUTTGART	151.91	349.9	18	57	0					20	52	
STRASBOURG	152.32	351.9	19	1	4			20	48	19	19	PKP2
FOLINIERE	152.42	3.7	18	59	2							
LJUBLJANA	153.23	340.6	19	6	7			20	54	19	24	PKP2
GARCHY	153.98	358.5	19	9	9					19	24	PKP2
ISOLA	156.73	351.0	19	37	34					30	44	
BANGUI	156.83	226.0	19	4	1					21	53	
MALAGA	163.54	18.8	19	12	1							

DECEMBER 10 3.H 31.M 22.S EPICENTRE -6.19 128.08 DEPTH= 363.KM

A=-0.61325 B= 0.78258 C=-0.10719 D= 0.7871 E= 0.6168
G= 0.0661 H=-0.0844 K=-0.9942 HT= 6.9

DEPTH OF FOCUS= 0.052R

SE= 1.17

	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	
DARWIN	6.72	156.4	1	40	0								
PORT MORESBY	19.16	100.8	3	56	-2	7	18	7					
DJAKARTA	21.13	268.9	4	16K	-2								
TANGERANG	21.33	268.9	4	16	-3								
CHARTERS TS.	22.41	129.7	4	30	0	8	8	1					
BAGUIO CITY	23.66	341.8	4	40	-1	8	27	-1					
RABAUL	24.07	86.4	4	45	0						5	29	
GUAM	25.59	40.2	5	0	1	9	0	1			6	8	*SP
NHATRANG	26.21	314.3	5	4	0								
MUNDARING	27.94	201.9	5	18	-2						6	20	
ADELAIDE	30.27	162.5	5	40A	0	10	10	-3			6	48	PP
HONG KONG	31.43	334.7	5	50K	0	10	28	-3	7	9	7	32	PP
BRISBANE	31.55	134.8	5	49A	-2	10	26	-7					
HONIARA	31.73	97.9	5	52A	-1						7	2	
PHU-LIEN	34.11	322.4	6	13	0								
CANBERRA	34.80	149.2	6	19	0	11	22	-1	7	26	7	50	PP
RIVERVIEW	34.83	145.2	6	20A	1	11	25	2	7	28	7	49	PP
TOOLANGI	35.02	155.5	6	21	0						7	40	
PORT BLAIR	39.40	296.7									8	9	
TARRALEAH	39.48	158.4	6	58	1						8	8	
MOORLANDS	39.87	157.8	7	1	0						8	15	
PORT VILA	40.90	109.9	7	9K	0								
ABUYAMA	41.45	9.3	7	14K	1						8	57	
MATUSIRO	43.56	11.9	7	29K	-1	13	49	17					
CHITTAGONG	45.45	309.8	7	46	1	13	57	-2					
MIZUSAWA	46.69	14.0	7	56	1						9	49	
SHILLONG	47.27	313.4	7	59K	0	14	22	-2					
CALCUTTA	48.22	307.6	8	7	0	14	35	-2			9	58	PCP
BOKARO	50.91	307.5	8	26	-1	15	11	-3			9	54	PCP
MADRAS	51.27	292.0	8	30K	1	15	27	8			18	31	SS
CHATRA	51.45	311.6	8	31K	0	15	20	-1					
ROXBURGH	52.97	144.5	8	42	0						17	56	SCS
KARAPIRO	53.33	133.4	8	45A	0				9	47			
MACQUARIE I.	54.21	158.3									9	50	
WELLINGTON	54.23	137.5	8	50	-1				10	7	18	26	SCS
HYDERABAD	54.35	296.5							10	9	18	4	
GISBORNE	55.41	133.3	8	59	0								
POONA	58.83	295.9	9	22	-1	16	51	-8					
ESEN BULAK	59.52	334.9	9	29K	1								
AFIAMALU	59.58	102.4	9	30	2	17	11	3					
BOMBAY	59.88	295.9	9	29	-1	17	7	-5			11	30	PP
NEW DELHI	59.96	308.0	9	29K	-2	17	7	-6			21	14	SS
DEHRA DUN	60.11	310.1	9	32K	0	17	12	-3			21	21	SS
WILKES	61.27	188.0				17	27	-3	10	53	11	36	
IRKUTSK	61.67	343.7	9	42K	0	17	34	0					

LAHORE	63.51	309.7	9	53	-1	17	54	-3				
PETROPAVLOVK	64.42	19.9	10	0	0							
MIRNY	64.92	194.7	10	2	-1	18	12	-2	11	22		
WARSAK DAM	66.68	311.0	10	14	0	18	35	-1				
ALMATA-2	67.25	322.2	10	18K	1							
YAKUTSK	68.02	0.8	10	22K	0							
KHOROG	68.22	314.4	10	24	1	18	54	0				
FRUNSE	68.73	320.6	10	27K	1	18	40	-20				
QUETTA	68.78	305.6	10	27K	0	18	57	-3				
SEMIPALATNSK	69.83	329.6	10	33K	0							
DUZHANBE	70.66	314.4	10	39K	1	19	19	-3				
CAPE HALLETT	70.88	167.5									11	48
TASHKENT	71.49	317.2	10	44K	1	19	31	0				
SCOTT BASE	74.38	172.1	10	59	-1	20	4	1				
HONOLULU	77.31	66.6				20	38	3			32	14
TIKSI	77.67	0.3	11	17K	-1	20	36	-3				
ASHKABAD	78.08	310.7	11	21	1	20	45	2				
KIZYL-ARVAT	80.00	311.4	11	32K	1							
TEHERAN	82.89	307.1	11	46	1	21	33	1	13	9		
SVERDLOVSK	83.11	329.2	11	46A	0	21	28	-6				
SOUTH POLE	83.85	180.0	11	47	-3						21	38
BYRD STATION	87.74	170.7	12	9	0						13	31
KIROVOBAD	87.77	311.1	12	9	0	22	17	-2				
GROZNY	88.65	313.7	12	10	-3	22	9	-18				
BAKURIANI	90.03	311.8	12	21	1							
CHILEKA	91.32	254.2	12	27	1							
N-LAZARVSKYA	92.56	197.3	12	32A	1							
COLLEGE	93.05	25.2	12	31	-3						26	39
MOSCOW	95.33	325.4	12	43A	-1							
APATITY	97.47	337.3	12	54K	0	22	54	-1			16	57 PP
LWIRO	98.98	266.7									14	24
KEVO	99.61	339.7	13	2	-2	23	4	-1			17	14 PP
KAJAANI	100.08	334.0	13	4	-2						13	28
SODANKYLA	100.09	337.3	13	5	-1							
ISTANBUL UN.	100.89	310.5									15	13
MOULD BAY	101.28	13.0	13	10K	-1							
IASI	101.66	316.8				23	3	-12			18	42
NURMIJARVI	101.97	330.5	13	14	0	23	10	-7			17	34 PP
FOCSANI	102.01	315.3				23	24	7				
KIRUNA	102.33	338.3	13	14A	-2	23	17	-1				
TROMSOE	102.39	340.2	13	15	-1							
BUCHAREST	102.87	314.0				23	21	0			20	22
UMEA	103.37	334.3	13	19A	-1	23	21	-2			17	40 PP
LWOW	103.77	319.7									17	46
ATHENS	105.11	307.5	17	52	777						26	10
WARSAW	105.30	322.4				23	33	1			18	2 PP
UPPSALA	105.54	330.6	13	28	777	23	31	-2				
KRAKOW	106.36	320.3									18	0 PP
SKALSTUGAN	106.83	335.1	13	35	777							
CHORZOW	106.91	320.7									18	1 PP
RESOLUTE	107.26	10.9	13	38	777							
BUDAPEST	107.40	317.8	17	56	777							
RACIBORZ	107.45	320.6									18	15 PP
BRATISLAVA	108.54	318.8	16	36	777						18	22
VIENNA-H.	109.00	318.9									18	22 PP
BERKELEY	109.28	52.1									33	8
MINERAL	109.45	49.5	17	49A	777							
PRUHONICE	109.76	321.0	18	21	777							
PRAGUE	109.82	321.1	18	22	777							
COLLMBERG	110.37	322.7									18	36 PP
KASPERSKE H.	110.59	320.3	17	12	-37						18	17 PP
LJUBLJANA	110.72	317.0									18	39 PP
TRIESTE	111.33	316.7				23	59	2			18	40 PP
JENA	111.33	322.6	18	22	32						18	41 PP
MESSINA	111.48	308.6									29	56 PS
BLUE MTS.	111.70	44.1	17	53	2	24	2	3			14	2 P
ROME	113.08	313.0									20	21
STUTTGART	113.41	320.8									18	52
EUREKA	113.86	49.6	17	59	4						18	55 PP
BENSBERG	113.96	323.6	19	1	65						27	52 SP
STRASBOURG	114.42	321.0									19	3 PP
BOZEMAN	115.73	41.9	18	1	2							
DOURBES	115.80	323.4									19	12 PP
DUGWAY	116.06	48.2	18	2A	2							
PARIS	117.58	322.7									19	25
GARCHY	117.83	320.9									19	25
KEW	118.03	326.3									19	24
FLAMING GRGE	118.36	46.5	18	6	2							
CLERMONT-FD.	118.38	319.3									18	34

UINTA BASIN	118.41	47.3	18	6	2			19	28	35	24	SS
TONTO FOREST	118.67	54.3	18	8	3					19	36	PP
FOLINIERE	119.37	323.6	18	8	2							
TUCSON	119.47	56.5	18	9	3					20	0	PP
GOLDEN	121.67	46.7	18	13	2					31	32	
ALBUQUERQUE	122.34	52.4	18	15	3							
TOLEDO	125.57	315.4				24	56	9		20	15	PP
ALMERIA	125.63	311.4	18	17	-1	24	49	2		20	15	PP
WICHITA MTS.	128.52	50.0	18	25	1				19	55	39	52 SS
LISBON	129.62	316.4								21	13	
TULSA	130.12	47.4	18	19	-8					19	49	PP
AVERROES	130.73	309.2								21	17	*SPKP
FAYETTEVILLE	131.20	46.4								21	22	
CUMBERLAND	137.45	41.9	18	30	-10					39	10	SS
MORGANTOWN	138.23	33.0								21	43	
M.BOUR	144.71	286.1	18	56	2					20	42	
ANTOFAGASTA	145.23	149.3	18	58	3							
SALINAS	146.06	149.8	18	59	3							
NANA	149.33	126.1	19	9	8					20	37	
AREQUIPA	150.31	139.5	19	7	5							
HUANCAYO	150.49	127.9	19	8	5							
LA PAZ	152.33	144.8	19	9	4							
CHINCHINA	156.38	91.7	19	13	2					19	44	PKP2
BOGOTA	157.89	93.0	19	17	4					19	53	PKP2
SAN JUAN	161.60	47.6	19	19	2			20	4	21	43	
CARACAS	164.54	72.9	19	48	28					24	42	PP

DECEMBER 10 6.H 31.M 0.S EPICENTRE -58.20 -26.53 DEPTH= 161.KM

A= 0.47381 B=-0.23655 C=-0.84826 D=-0.4467 E=-0.8947
G=-0.7589 H= 0.3789 K=-0.5296 HT= -8.3

DEPTH OF FOCUS= 0.020R

SE= 1.12

	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	
ARGENTINE I.	18.96	232.5	4	12	1						7	31	
SOUTH POLE	31.98	180.0	6	13	0						16	27	
BYRD STATION	33.86	198.2	6	29	0						9	4	
MAWSON	38.23	141.7	7	5	-1								
SANTA LUCIA	38.45	290.6	7	9	1	12	50	-1			15	16	
SCOTT BASE	43.96	184.0	7	53	0	14	16	4			8	36	
KIMBERLEY	45.85	72.8	8	7K	-1								
MIRNY	47.71	151.9	8	21	-1	15	6	1			9	5	
PIETERMZBURG	48.03	78.9	8	24K	-1								
CAPE HALLETT	49.26	186.7	8	33	-1								
WILKES	51.71	159.5	8	54	1	16	7	7	9	31			
LA PAZ	51.73	305.8	8	53	3	16	3	2					
BANDEIRA	52.42	51.4	8	58K	0						10	8	PCP
AREQUIPA	53.24	302.2	9	5	1								
HUANCAYO	58.86	300.7	9	46	2								
NANA	59.60	299.2	9	49	0								
CHILEKA	61.89	73.7	10	4	-1								
TANANARIVE	65.74	86.9	10	33K	3						24	54	
LWIRO	70.48	60.7	11	1	2						24	38	
M.BOUR	72.74	9.7	11	13	0								
BOGOTA	73.23	309.8	11	16	1	20	30	1			21	28	SKS
CHINCHINA	74.19	308.5	11	18	-3								
MONOWAI	75.73	190.2	11	30	0								
CARACAS	75.93	318.9	11	30	-1	21	0	1			25	40	SS
WELLINGTON	79.30	196.2	11	50	1								
MOORLANDS	79.59	175.3	11	51	0								
KARAPIRO	82.46	197.4	12	5K	-1								
SAN JUAN	83.01	322.4	12	7	-2				12	36			
TOOLANGI	84.36	173.6	12	15K	0				12	38			
MUNDARING	84.91	148.9	12	18	0								
ADELAIDE	86.37	167.9	12	26K	1						13	2	
CANBERRA	86.76	176.3	12	28K	1				13	1	12	30	PCP
RIVERVIEW	88.30	178.1	12	35K	0						24	8	
BRISBANE	94.74	179.4	13	5	1						16	24	
TOLEDO	99.51	17.4									26	16	PS
CUMBERLAND	105.63	313.5									18	12	PP
PALISADES	106.45	324.5				23	35	-45					
TULSA	110.06	306.1									29	16	PKKP
WICHITA MTS.	110.28	303.3	18	13	0						29	15	PKKP

KASPERSKE H.	111.93	27.1	18 3	-13			18 56	
PORT MORESBY	112.44	173.3	18 19A	2				
COLLMBERG	113.82	25.9	18 24	4			19 40	PP
TONTO FOREST	115.82	293.7	18 25	1	18 59		19 42	PP
QUETTA	116.88	75.7	18 28K	2			19 40	
SCHEFFERVLLE	117.25	335.1	18 26	0				
BOULDER CITY	118.91	292.2	18 32	2	19 7		19 37	PP
UINTA BASIN	119.84	299.0	18 32	1	19 7		21 50	SKP
WOODY	120.68	289.0	18 34	1			20 35	
NEW DELHI	120.95	85.0	18 34K	0				
DUGWAY	121.27	296.6	18 35K	1				
PRIEST	121.93	287.9	18 44A	9				
EUREKA	122.22	293.8	18 39	3			28 35	PKKP
WARSAK DAM	122.28	76.6	18 18	-18				
UPPSALA	122.72	24.7	18 36K	-1				
DEHRA DUN	122.78	84.4	18 39	2				
PARAISO	122.95	286.8	18 38	1				
LICK	123.36	288.1	18 41A	3				
CHITTAGONG	123.62	102.0	18 41	2				
BERKELEY	124.08	288.1	18 41K	1				
MOSCOW	124.68	38.2	18 42	1				
BOZEMAN	124.70	301.9	18 42	1			27 23	
CALISTOGA	124.83	288.4	18 42A	1				
NURMIJARVI	124.95	28.1	18 41	0			37 12	SS
SKALSTUGAN	125.03	20.0	18 41	0				
MINERAL	125.65	290.5	18 44A	1				
FROBISHER	125.76	338.5	18 43K	0				
PULKOVO	125.81	31.5	18 44	1				
VIBORG	126.20	30.1	18 43K	-1			20 45	PP
SHILLONG	126.27	99.8	18 45K	1			20 40	
TASHKENT	126.75	69.3	18 45K	0				
UMEA	126.82	23.8	18 44	-1				
BLUE MTS.	126.97	297.1	18 46	1	19 18		22 6	SKP
HUNGRY HORSE	128.06	302.2	18 47	0				
KAJAANI	128.75	27.2	18 48	-1			21 54	SKP
KIRUNA	130.36	21.3	18 52	0			22 2	SKP
FRUNSE	130.54	71.7	18 53A	1				
SODANKYLA	131.25	24.3	18 46	-7			22 2	SKP
EDMONTON	131.43	307.1	18 50	-4				
TROMSOE	131.64	19.5	18 53	-1				
ALMATA-2	132.24	73.3	18 51	-4				
APATITY	132.95	27.0	18 57K	0				
KEVO	133.29	22.6	18 55	-2	19 28		22 12	SKP
YELLOWKNIFE	137.99	316.1	19 6	0				
RESOLUTE	139.98	337.4	19 2	-7				
ALERT	141.66	352.9	19 7	-6				
ESEN BULAK	144.17	83.7	19 16K	-1				
KHEYS	145.95	17.0	19 22	2			22 57	
MOULD BAY	146.07	334.6	19 18K	-2				
ULAN-BATOR	150.76	90.0	19 27	0				
COLLEGE	152.19	308.5	19 26	-4				
MATUSIRO	156.11	148.4	19 36A	1			19 46	PKP2
TIKSI	163.17	27.1	19 50	7			24 21	P
YAKUTSK	167.58	62.0	19 46	-1				

DECEMBER 11 0.H 47.M 44.S EPICENTRE -15.44-173.23 DEPTH= 0.KM

A=-0.95768 B=-0.11361 C=-0.26448 D=-0.1178 E= 0.9930
G= 0.2626 H= 0.0312 K=-0.9644 HT= 5.7

SE= 3.18

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
AFIAMALU	2.07	43.1	0 36	0	0 58	-5		
PORT VILA	17.83	260.1	4 14K	3				
LUGANVILLE	18.93	267.1	4 24	-1				
NOUMEA	20.39	247.4	4 38A	-3				
KOUMAC	21.98	253.3	4 56	-1				
GISBORNE	24.37	196.8	5 23	2				
CHATEAU	25.64	200.5	5 34	1				
HONIARA	26.84	279.7	5 54	10				
WELLINGTON	27.77	199.6	5 52	0				
RABAUL	35.81	284.6						18 28
RIVERVIEW	36.95	233.8	7 9	-4				8 37 PP
CHARTERS TS.	38.78	257.1	7 25	-3	13 30	4		

HAWAII V.OB.	38.89	27.6	7	25	-4						
CANBERRA	39.13	232.5	7	30	-1						
HONOLULU	39.41	22.5				13	39	3			
KIPAPA	39.55	22.6	7	34	0						
TOOLANGI	42.57	230.8	7	56	-3					8	11 *SP
MOORLANDS	43.27	223.5	8	8	3						
TARRALEAH	43.70	224.0	8	7	-1						
ADELAIDE	47.13	236.4	8	32	-4					19	16
CAPE HALLETT	57.69	185.9	9	56	1						
SCOTT BASE	63.23	184.7	10	34	2	19	25	21			
MUNDARING	65.66	241.6	10	47	-1	19	49	15			
TUKUBASAN	67.69	320.5	11	9A	8	19	53	-5		20	28
BYRD STATION	68.90	171.3	11	11	2						
MATUSIRO	69.07	319.7	11	7	-3	20	11	-4			
PARAISO	70.40	41.7	11	24K	6	20	42	12			
WILKES	70.46	204.6	11	17	-1	20	30	-1		11	35 PCP
PRIEST	71.39	42.7	11	24K	0						
BERKELEY	71.40	40.4	11	24A	0	20	44	2		11	35 PCP
LICK	71.47	41.2	11	25A	1						
UKIAH	71.59	38.9	11	27	2						
CALISTOGA	71.68	39.6	11	25K	-1						
PASADENA	71.93	45.7	11	27	0	20	51	3		14	5 PP
PETROPAVLOVK	72.36	342.6	11	38	8						
BAGUIO CITY	72.58	293.0	11	16	-15	20	56	1			
MINERAL	73.33	38.7	11	35A	0						
Y.-SAKHLINSK	73.66	330.3	11	35	-2						
SOUTH POLE	74.66	180.0	11	44	1						
BOULDER CITY	75.22	45.6	11	47	1						
TUCSON	76.23	50.6	11	53	1						
EUREKA	76.34	42.1	11	53	0					12	33
TUMWATER	76.80	32.7	11	55	0						
TONTO FOREST	76.88	48.6	11	55	-1	21	43	0	12 6	12	8 PCP
VICTORIA	77.52	31.3	11	58A	-1						
SEATTLE	77.52	32.5	11	55	-4						
GLEN CANYON	77.97	46.1	12	3	1						
BLUE MTS.	78.55	37.0	12	4A	-1	22	0	-1		14	55 PP
DUGWAY	78.78	42.8	12	6A	0						
SALT LAKE C.	79.70	42.7	12	11	0						
LOGAN	80.22	41.8	12	13	-1						
ALBUQUERQUE	80.70	49.9	12	16	0						
UINTA BASIN	80.99	43.9	12	16	-2	22	24	-3		15	18 PP
FLAMING GRGE	81.40	43.5	12	21	1						
COLLEGE	82.37	10.7	12	21	-4						
HUNGRY HORSE	82.40	35.3	12	24	-1						
BOZEMAN	82.71	38.7	12	25	-2				12 36		
BANFF	83.17	32.4	12	26	-3						
GOLDEN	83.56	46.0	12	32	1	22	56	3			
LARAMIE	84.13	44.5	12	47	13						
EDMONTON	85.51	31.3	12	39A	-2						
WICHITA MTS.	86.54	52.7	12	46	0	23	13	-9		15	21 PP
MAWSON	87.81	198.6	12	52	0						
TULSA	89.10	52.4	13	3	5	23	28	-18			
YAKUTSK	89.19	336.7	12	56	-3						
SANTA LUCIA	91.76	125.3				24	16	6			
N-LAZARVSKYA	93.94	181.7	13	21K	0						
ULAN-BATOR	94.68	318.4	13	36	12						
TIKSI	95.07	344.4	13	20	-6	24	36	35			
MOULD BAY	96.93	11.2	13	33	-1						
CUMBERLAND	96.96	55.1	13	38	3	24	6	-6		17	30 PP
PALISADES	106.93	51.3				24	56	-3			
CARACAS	108.31	83.9				26	40	95		34	8 SS
SVERDLOVSK	122.25	328.3	18	58	1						
QUETTA	123.20	296.1	18	59	0						
KEVO	124.25	351.6	19	0	-1					37	46 SS
APATITY	125.11	347.8	19	2	-1						
SODANKYLA	126.50	350.6	19	6	1						
KIRUNA	126.90	353.6	19	6	0						
KAJAANI	129.30	348.3	19	9	-2						
UMEA	130.77	352.2	19	29	16					22	32 PKS
PULKOVO	132.49	344.1	19	29	12					23	2 PKS
NURMIJARVI	133.15	348.0	19	19	1	26	18	-10		21	54 PP
KONGSBERG	135.80	357.9	19	26	3						
LWOW	142.94	341.4	19	46	10						
KRAKOW	143.86	345.6	19	35	-2					20	3
COLLMBERG	143.88	353.4	19	34	-3						
RACIBORZ	144.22	347.4	19	36	-2					20	6
JENA	144.38	354.8	19	47	9					23	7 PP
BENSBERG	144.56	359.6	19	38	0					19	49 PKP2

PRUHONICE	144.97	351.2	19	39	0							
DOURBES	145.38	2.5	19	39	-1							
KASPERSKE H.	145.94	352.0	19	41	0							
FOLINIERE	146.23	8.6	19	43	2					19	54	PKP2
BRATISLAVA	146.26	347.5	19	42K	1							
VIENNA-H.	146.33	348.4	19	44	3					19	56	PKP2
BUDAPEST	146.47	344.9	19	56	14							
PARIS	146.53	5.1	19	45	3							
STUTTGART	146.69	357.0	19	44	2					19	56	PKP2
STRASBOURG	146.94	358.8	19	48	6							
ISTANBUL UN.	148.03	327.3	19	48	4	26	54	3				
GARCHY	148.10	4.8	19	59K	15							
ADDIS ABABA	148.11	262.3	19	49	5							
BESANCON	148.27	1.0	19	50	5					20	14	
BELGRADE	148.50	341.2	19	48	3					20	2	PKP2
LJUBLJANA	148.79	349.6	19	50	5					20	2	PKP2
BANDEIRA	149.17	192.4	19	51	5							
TRIESTE	149.31	350.4	20	4	18					36	7	SPP
SOFIA	149.33	335.7	19	51	5					20	5	PKP2
CLERMONT-FD.	149.60	5.0	20	4	17							
ISOLA	151.35	359.6	20	0	11					20	31	
MONACO	151.79	359.0	20	9	19							
BAGNERES	151.88	10.3	20	6	16							
LWIRO	152.00	233.0	19	58A	8							
AQUILA	152.58	349.3								42	46	SS
ATHENS	153.01	329.5	19	54	2					20	26	
TOLEDO	153.87	19.1	19	28	-25					24	2	PP
AVERROES	158.06	33.3	20	14	15					20	37	PKP2
BANGUI	163.98	227.9	20	5	0					24	47	PP

DECEMBER 11 2.H 31.M 21.S EPICENTRE -17.88-178.69 DEPTH= 558.KM

A=-0.95205 B=-0.02181 C=-0.30518 D=-0.0229 E= 0.9997
G= 0.3051 H= 0.0070 K=-0.9523 HT= 5.2

DEPTH OF FOCUS= 0.083R

SE= 1.12

	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	12.38	268.7	2	43K	0						3	9	
LUGANVILLE	13.79	277.7	2	56A	-1								
NOUMEA	14.64	250.1	3	6K	1								
KOUMAC	16.31	257.9	3	23K	1	6	15	11					
KARAPIRO	20.60	193.1	4	2K	0								
GISBORNE	20.89	187.2	4	3	-2	7	30	8					
HONIARA	22.37	289.2	4	18	0								
WELLINGTON	23.99	192.2	4	31	-2								
MONOWAI	30.06	199.3	5	25	-1				7	0			
RIVERVIEW	31.30	233.6	5	36	0						13	3	
CHARTERS TS.	33.18	260.5	5	52	0	10	31	-3					
CANBERRA	33.51	232.4	5	56	1								
PORT MORESBY	34.20	279.7	6	2K	1	10	51	1			12	9	SCP
TOOLANGI	36.98	230.6	6	24	0	11	31	0					
MOORLANDS	37.93	222.5	6	32	1								
TARRALEAH	38.34	223.1	6	36	1								
ADELAIDE	41.42	237.2	7	0K	1								
HAWAII V.OB.	43.63	32.9	7	16	-1								
HONOLULU	43.85	28.2	7	18	-1								
KIPAPA	43.99	28.3	7	19	-1								
CAPE HALLETT	54.81	184.1	8	40	0								
MUNDARING	59.90	243.0	9	13	-1								
BYRD STATION	67.32	170.7	10	1	0						11	55	
MATUSIRO	67.72	323.5	10	3A	-1								
SOUTH POLE	72.23	180.0	10	30	0								
MIRNY	73.09	204.7	10	35	0						10	57	
PETROPAVLOVK	73.28	345.9	10	35A	-1								
Y.-SAKHLINSK	73.34	333.5	10	36	-1								
PARAISO	75.73	43.9	10	54	4						12	55	
BERKELEY	76.69	42.7	10	56A	1								
PRIEST	76.76	44.9	10	57A	2								
LICK	76.79	43.4	10	57A	1								
CALISTOGA	76.93	41.9	10	56A	0								
PASADENA	77.40	47.7	10	59	0				11	56	12	57	*SP
SHASTA	78.26	40.2	11	3A	0								
MINERAL	78.54	40.9	11	5A	0								

BOULDER CITY	80.69	47.5	11	17	1		13	15	
EUREKA	81.69	44.0	11	22	1		14	37	
TUMWATER	81.73	34.9	11	22	1				
TUCSON	81.83	52.5	11	24	2		13	24	
VICTORIA	82.37	33.5	11	25A	0				
TONTO FOREST	82.44	50.5	11	26A	1		13	23	11 32 PCP
SEATTLE	82.44	34.6	11	23	-2				
GLEN CANYON	83.45	48.0	11	31	1				
BLUE MTS.	83.68	38.9	11	31A	0		13	33	14 51 PP
MAWSON	83.79	199.8	11	32K	0		13	32	
DUGWAY	84.15	44.6	11	34A	0				
COLLEGE	85.81	12.7	11	40	-2				
ALBUQUERQUE	86.29	51.6	11	44	0		13	48	
UINTA BASIN	86.40	45.7	11	45	1		13	46	15 11 PP
HUNGRY HORSE	87.45	37.1	11	49	0				
BOZEMAN	87.91	40.5	11	50	-1		13	53	
BANFF	88.07	34.2	11	51	-1				
GOLDEN	89.04	47.7	11	58	1				
YAKUTSK	89.43	338.3	11	57A	-2				
EDMONTON	90.35	33.0	12	2A	-1				
WICHITA MTS.	92.18	54.3	12	11	0			22	42
RAPID CITY	92.27	44.3	12	9	-3				
TULSA	94.74	53.9	12	23	0				
TIKSI	96.05	345.4	12	27A	-2				
COPPERMINE	96.99	20.0	12	32A	-1				
MOULD BAY	100.37	12.1	12	47A	-1				
CUMBERLAND	102.65	56.5	12	56	-2				17 16 PP
QUETTA	119.52	295.0	17	48K	2				
KEVO	125.78	349.3	17	58	0				
APATITY	126.27	345.3	13	55	-244				17 37 PKP
SODANKYLA	127.92	347.9	18	2	-1				20 33 SKP
KIRUNA	128.60	350.8	18	4A	0				20 34 SKP
KAJAANI	130.47	345.1	18	2	-5				20 42 SKP
UMEA	132.31	348.8	18	11	0				20 48 SKP
BULAWAYO	133.68	216.6							20 54
NURMIJARVI	134.25	344.1	18	15	0				20 54 SKP
UPPSALA	136.45	348.1	18	5	-14				
KONGSBERG	137.85	353.7	18	13	-8				21 5 SKP
GOTEBORG	139.46	351.2	18	16	-8				
KARLSKRONA	140.29	347.5	18	19	-7				
KISHINEV	143.17	328.2	18	29	-2				
LWOW	143.27	335.3	18	31	-1				
KRAKOW	144.60	339.2	18	34A	0				18 56
WITTEVEEN	144.88	354.3	18	34A	0				
RACIBORZ	145.13	340.9	18	35	0				18 58
BANDEIRA	145.35	200.7	18	39K	4		20	46	
COLLMBERG	145.39	347.1	18	35A	0				
HALLE	145.41	348.3	18	37	2				
MUNSTER	145.62	353.1	18	37	2				
JENA	146.03	348.4	18	38	2		20	48	22 9 PP
PRUHONICE	146.26	344.6	18	36	0				
LWIRO	146.33	236.3	18	42	6				
KEW	146.46	1.8	18	39A	3				
BENSBERG	146.67	353.3	18	40A	3				
ISTANBUL UN.	146.88	320.0	18	41K	4				
KASPERSKE H.	147.28	345.0	18	39	2				19 40
DOURBES	147.75	356.0	18	43	5				
STUTTGART	148.52	349.9	18	41	2				
STRASBOURG	148.93	351.7	18	42K	2				
PARIS	149.14	358.5	18	46A	6				
FOLINIERE	149.16	2.3	18	42	2				
LJUBLJANA	149.85	341.5	18	48A	7				
GARCHY	150.65	357.6	18	48A	5		20	57	18 58 PKP2
ATHENS	151.98	320.1	18	53K	8				
CLERMONT-FD.	152.15	357.3	18	46	1				
ISOLA	153.34	350.8	18	57	11				
TOLEDO	157.59	10.9							19 29 PKP2
BANGUI	158.39	233.7	18	53	0				23 8 PP

DECEMBER 11 17.H 8.M 9.S EPICENTRE 51.42-179.30 DEPTH= 0.KM

A=-0.62617 B=-0.00766 C= 0.77965 D=-0.0122 E= 0.9999
G=-0.7796 H=-0.0095 K=-0.6262 HT= -5.9

SE= 2.21

	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	13.61	285.4	3	19	3								
COLLEGE	21.09	38.3	4	48	0	8	15	-24					
Y.-SAKHLINSK	25.00	274.9	5	28K	2								
YAKUTSK	29.14	311.2	6	4K	0								
TIKSI	30.44	330.5	6	15	-1								
MATUSIRO	33.48	260.4	6	41	-2	12	4	0					
MOULD BAY	33.69	22.0	6	45A	1								
KIPAPA	34.23	143.1	6	47	-2								
COPPERMINE	34.44	37.2	6	53	2								
VICTORIA	35.32	72.2	6	58A	0								
ABUYAMA	36.20	260.7	7	5A	-1								
SEATTLE	36.39	72.9	7	14	7								
EDMONTON	38.99	60.4	7	30	1								
RESOLUTE	39.84	24.4	7	37	1						9	41	
SHASTA	39.97	82.6	7	38K	1								
MINERAL	40.66	82.5	7	46K	3								
BLUE MTS.	40.78	74.0	7	44	0	13	55	-1			9	23	PP
HUNGRY HORSE	40.92	67.7	7	45	0								
CALISTOGA	41.07	85.3	7	48A	2								
BERKELEY	41.74	85.9	7	37K	-15	14	7	-3					
LICK	42.45	86.1	7	57K	-1								
PARAISO	42.62	87.8	8	2	3								
ALERT	42.65	10.0	8	0A	1								
BUTTE	42.98	69.9	7	59	-3								
PRIEST	43.81	86.7	8	1A	-8								
BOZEMAN	44.06	69.5	8	8	-3								
KHEYS	44.47	348.6	8	5K	-9								
EUREKA	44.66	79.7	8	16	0						10	7	PP
WOODY	45.22	85.9									12	52	
ULAN-BATOR	46.02	296.1	8	25	-1								
DUGWAY	46.16	76.8	8	27	-1								
SALT LAKE C.	46.40	75.6	8	25	-5								
PASADENA	46.65	87.0	8	35	4	15	36	15					
UINTA BASIN	48.06	74.6	8	43	0	15	42	1			19	33	SS
GLEN CANYON	48.92	79.4	8	52	3								
RAPID CITY	49.54	66.9	8	54	0								
TONTO FOREST	50.86	81.9	9	3	-1	16	19	-1			10	59	PP
GOLDEN	50.97	72.6	9	5	0	16	25	4					
ESEN BULAK	52.79	300.1	9	19	0								
FROBISHER	53.19	31.3	9	20A	-2								
ALBUQUERQUE	53.39	77.9	9	21	-2								
KEVO	57.62	349.5	9	54	0	18	4	13			21	45	SS
SEMIPALATNSK	58.24	312.3	9	57	-1								
WICHITA MTS.	58.31	72.8	9	57	-1	17	59	-1			19	42	SCS
HONG KONG	58.32	266.5				17	32	-28					
TROMSOE	58.53	352.6	9	59	-1								
BAGUIO CITY	58.77	256.7	10	1	-1								
APATITY	58.83	346.0	10	1	-1	18	2	-5					
TULSA	59.15	70.0	10	13K	9	18	9	-2					
SODANKYLA	59.94	348.7	10	9	-1						10	49	PCP
KIRUNA	60.16	351.5	10	11K	0								
SCHEFFERVLLE	60.20	38.0	10	10	-2								
ST. LOUIS 1	60.48	64.1	10	12	-1								
RABAUL	60.53	213.2				18	26	-3					
SVERDLOVSK	61.39	327.2	10	20K	0								
KAJAANI	62.93	347.0	10	29K	-1						11	10	PCP
UMEA	64.09	350.5	10	36	-2	19	19	5			19	50	
BREBEUF	64.20	48.8	10	38	0								
ALMATA-2	64.72	308.2	10	42A	0								
SKALSTUGAN	64.99	354.3	10	43	0								
CUMBERLAND	65.26	63.6	10	43	-2	19	27	-1					
AFIAMALU	65.38	172.0				19	33	3					
VIBORG	65.96	345.3	10	48K	-2								
MILO	66.51	46.3	10	53	0								
PULKOVO	66.61	344.2	10	53	-1	19	45	0					
NURMIJARVI	66.77	347.4	10	54K	-1	19	51	4			20	27	PS
BLACKSBURG	66.90	59.0	10	56	0	19	51	3					
PORT MORESBY	67.14	216.3	10	53	-4	19	46	-5					
PALISADES	67.43	52.2	10	57	-2	19	49	-6					
EAST MACHIAS	67.60	45.7	10	59	-1								
UPPSALA	68.25	350.9	11	3	-1				11	20			
CHAPEL HILL	68.60	59.1	11	7	1								
MOSCOW	68.92	338.6	11	9K	1								
KONGSBERG	69.05	355.2	11	10A	1				11	26			
SHILLONG	69.74	285.7	11	12A	-1								
TASHKENT	70.09	311.8	11	15A	0								

GOTEBORG	70.85	353.6	11	19	-1					11	36			
CHATRA	71.61	290.0	11	26A	1									
KHOROG	72.01	307.8	11	28A	1	20	52	4						
KARLSKRONA	72.08	351.3	11	27K	0					11	43			
CHITTAGONG	72.17	283.5	11	27	-1									
DUZHANBE	72.50	310.3	11	31	1									
COPENHAGEN	72.83	353.1	11	32K	0	21	1	3						
DEHRA DUN	74.16	298.7	11	40	0	21	26	13						
WARSAK DAM	74.73	305.6	11	42	-1									
LAHORE	75.21	302.1	11	46	0									
NEW DELHI	75.97	298.2	11	49A	-1									
HALLE	77.02	352.8	11	59	3									
COLLMBERG	77.13	352.1	11	56	-1					12	2			
LWOW	77.20	344.7	11	58	1									
KRAKOW	77.59	347.4	11	59	0							12	13	PCP
JENA	77.61	353.0	11	59	0									
ASHKABAD	77.73	316.9	12	2	2									
VANNOVSKAYA	77.83	317.1	12	0	0									
BENSBERG	77.85	355.8	12	1K	1									
PRUHONICE	78.29	350.9	12	3	0									
UZHGOROD	78.63	345.6	12	5	0									
DOURBES	78.81	357.4	12	6	0									
KISHINEV	79.00	340.8	12	11	4									
KASPERSKE H.	79.23	351.4	12	8	0									
TIFLIS	79.62	328.0	12	11	1									
BRATISLAVA	79.80	348.9	12	11K	0									
STUTTGART	79.92	354.2	12	12	0									
BAKURIANI	80.03	328.9	12	13	1									
KIROVOBAD	80.05	326.5	12	13	1									
QUETTA	80.12	306.4	12	13	0	22	19	2						
FOLINIERE	80.19	0.8	12	13	0									
GORIS	81.08	326.0	12	19	1	22	35	8						
BRISBANE	82.23	204.8	12	23	-1	22	37	-2						
CLERMONT-FD.	83.17	358.3	11	55	-34	22	43	-6						
ISOLA	84.63	355.4	12	38	2									
ISTANBUL UN.	84.67	338.9	12	37	1	23	10	6						
POONA	85.75	294.4	12	43	1	23	30	16						
AQUILA	85.96	350.6										22	51	
RIVERVIEW	88.77	204.2	13	4	8	23	23	-20				29	39	SS
TOLEDO	88.99	3.7	12	58A	1	23	43	-2				35	31	SS
KARAPIRO	89.09	184.1	12	58	0									
SAN JUAN	89.41	60.8	13	0	1									
CANBERRA	90.75	205.5	13	4	-2									
CHINCHINA	94.61	76.2	13	27	4									
CARACAS	95.35	66.0										31	51	SS
BOGOTA	95.83	75.2										31	23	SS
LA PAZ	115.91	84.0	18	47	3									
BANGUI	122.34	338.7	18	53	-4							19	34	
LWIRO	125.62	324.6										20	58	PP
SOUTH POLE	141.23	180.0	19	26	-6									
ARGENTINE I.	144.96	138.4	19	36	-3									
MAWSON	146.32	217.7	19	39	-2									
PIETERMZBURG	148.98	303.2	19	51K	6									
KIMBERLEY	151.05	312.2	19	55K	7									
N-LAZARVSKYA	159.92	190.7	19	59	-1									

DECEMBER 12 23.H 24.M 39.S EPICENTRE 46.35 150.78 DEPTH= 111.KM

A=-0.60457 B= 0.33814 C= 0.72121 D= 0.4881 E= 0.8728
G=-0.6295 H= 0.3521 K=-0.6927 HT= -4.1

DEPTH OF FOCUS= 0.012R

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
KURILSK	2.32	242.3	0	39A	1	2	8	61				
Y.-SAKHLINSK	5.59	279.8	1	28K	5	2	29	3				
PETROPAVLOVK	8.40	34.5	1	59	-2							
MIZUSAWA	10.11	227.9	2	25	1	4	2	-14				
MATUSIRO	13.58	228.3	3	6K	-3	5	37	-1				
ABUYAMA	16.24	230.5	3	41K	-2							
YAKUTSK	19.81	330.0	4	23K	-1	7	58	2				
TIKSI	27.41	345.1	5	35	-2							
ULAN-BATOR	29.60	289.3	5	55	-2							
COLLEGE	37.46	38.1	7	6	1							

MOULD BAY	45.53	19.6	8 10K	-1					
KIPAPA	48.22	103.1	8 32	0					
HONOLULU	48.25	103.3	8 31	-1					
COPPERMINE	49.59	29.8	8 41K	-1					
ALERT	50.32	5.4	8 46	-2					
RABAUL	50.34	178.2	8 48	0				9 17	
RESOLUTE	51.72	18.0	8 57K	-1					
YELLOWKNIFE	52.20	35.9	9 1A	-1					
CHITTAGONG	52.88	264.1	9 6	-1					
SVERDLOVSK	53.03	316.5	9 6	-2					
VICTORIA	55.08	54.0	9 23A	0					
PORT MORESBY	55.59	184.3	9 26K	-1					
TASHKENT	56.53	296.7	9 32K	-1					
APATITY	57.07	336.0	9 35	-2					
DEHRA DUN	57.31	281.2	9 39A	0					
KHOROG	57.33	291.8	9 39K	0					
EDMONTON	57.64	44.9	9 41K	0					
BANFF	57.84	47.9	9 42	-1					
NEW DELHI	58.97	280.1	9 49K	-2					
SODANKYLA	59.03	338.1	9 48	-3				10 47	
LAHORE	59.06	284.6	9 51	0					
TROMSOE	59.09	342.3	9 51	0					
WARSAK DAM	59.41	288.5	9 52	-1					
SHASTA	60.16	61.1	9 58A	-1					
KIRUNA	60.20	340.5	9 58	-1					
HUNGRY HORSE	60.30	49.9	10 0	0					
BLUE MTS.	60.63	54.7	10 2	0	18 13	6	10 24	19 21	SPP
MINERAL	60.85	61.0	10 3A	0					
KAJAANI	61.20	335.1	10 15	9					
CALISTOGA	61.30	63.0	10 6A	0					
BERKELEY	61.97	63.6	10 11A	0					
LICK	62.68	63.7	10 16A	0					
VIBORG	63.40	332.2	10 18A	-2					
UMEA	63.47	337.9	10 18	-3			10 44	11 17	
BOZEMAN	63.56	50.8	10 20	-1			10 43		
MOSCOW	63.85	324.6	10 21	-2				10 59	SP
PRIEST	64.05	64.2	10 25A	0					
EUREKA	64.77	58.7	10 30	1			10 52	10 56	PCP
QUETTA	64.84	288.0	10 28K	-2	19 45	45			
NURMIJARVI	64.87	333.8	10 28	-2				19 33	PS
VANNOVSKAYA	65.41	299.7	10 31	-2					
SKALSTUGAN	65.61	341.0	10 32	-3					
KIZYL-ARVAT	65.69	301.8	10 35K	0					
FROBISHER	65.97	18.0	10 35K	-2					
DUGWAY	66.14	56.3	10 38K	0					
CHARTERS TS.	66.25	184.6	10 38	-1	19 15	-2			
PASADENA	66.89	64.4	10 43	0			11 5		
UPPSALA	67.45	336.5	10 43	-3					
FLAMING GRGE	67.60	53.9	10 47	0					
KOUMAC	67.70	166.3	10 48K	0					
BOULDER CITY	67.74	60.9	10 49	1			11 11	11 16	PCP
POONA	67.89	274.0	10 48K	-1					
UINTA BASIN	67.91	54.4	10 49	0	19 40	3	11 12	20 5	PS
GLEN CANYON	69.01	58.2	10 56	0					
NOUMEA	69.78	164.5	11 2K	1					
TIFLIS	70.40	310.2	11 5	1					
GOLDEN	70.67	52.5	11 6	0					
TEHERAN	70.89	301.8	11 8	1					
TONTO FOREST	71.03	60.1	11 9	1			11 37	11 32	PCP
BAKURIANI	71.07	310.9	11 8	0					
GORIS	71.15	307.7	11 8	-1				11 40	*SP
TUCSON	72.70	61.4	11 18	0			11 42	11 46	PCP
ALBUQUERQUE	73.40	56.7	11 23	1			11 46		
BRISBANE	73.41	178.1	11 23	1	20 46	5			
LWOW	73.68	327.3	11 25	1					
KRAKOW	74.97	329.7	11 31	0			12 3		
UZHGOROD	75.31	327.5	11 32	-1					
RACIBORZ	75.55	330.7	11 35	1			12 2	11 48	PCP
COLLMBERG	76.16	334.2	11 37	-1			12 7		
HALLE	76.29	334.9	11 51	12					
PRUHONICE	76.83	332.7	11 42	0				12 32	
JENA	76.90	334.9	11 42	0			12 13	12 34	
BRATISLAVA	77.55	330.3	11 46	0					
VIENNA-H.	77.73	330.8	11 48	1					
KASPERSKE H.	77.88	332.8	11 48	1				12 13	
WICHITA MTS.	78.00	52.0	11 49	1	21 35	4		12 16	
BENSBERG	78.11	337.5	11 49	0					
TULSA	78.61	49.5	11 52A	1			12 15		
KEW	79.43	342.1	11 57	1					

STUTTGART	79.51	335.2	11	57	1									
DOURBES	79.56	338.6	11	58	1	20	46	-62						
STRASBOURG	80.11	336.1	12	1	1									
BREBEUF	80.52	29.9	12	1	-1									
PARIS	81.28	339.4	12	6	0									
CANBERRA	81.31	181.5	12	7	1								12	31
FOLINIERE	82.01	341.3	12	10	0									
GARCHY	82.56	338.5	12	13A	1									
JERUSALEM	82.91	309.3	12	16K	2									
ROSELEND	83.06	335.6	12	16	1									
CLERMONT-FD.	83.95	337.9	12	21	2								13	26
CUMBERLAND	83.97	43.0	12	19	0	22	37	4	12	43				
ISOLA	84.32	334.7	12	22	1								12	51
BAGNERES	87.23	338.9											15	36
BANGUI	114.14	305.9	18	38	11								19	44 PP
LA PAZ	136.11	60.4	19	26	17				19	41				
N-LAZARVSKYA	148.60	204.7	19	35K	4									

DECEMBER 14 0.H 5.M 41.S EPICENTRE -2.33 -61.23 DEPTH= 47.KM

A= 0.48093 B=-0.87583 C=-0.04036 D=-0.8765 E=-0.4813
G=-0.0194 H= 0.0354 K=-0.9992 HT= 7.2

DEPTH OF FOCUS= 0.002R

SE= 3.33

	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	
TRINIDAD	12.89	359.2	3	2	-1								
CARACAS	13.95	336.1	3	17	0						6	37	SS
BOGOTA	14.57	298.3	3	25	0	6	13	7			3	37	PP
FUQUENE	14.70	301.8	3	27	0						3	37	PP
LA PAZ	15.63	205.3	3	38	-1	6	48	17					
CHINCHINA	16.10	296.8	3	45	0	6	47	5			7	3	SS
FORT FRANCE	16.95	0.3	3	55	-1						4	10	PP
HUANCAYO	16.99	234.7	3	57	1								
AREQUIPA	17.30	215.1	4	2	2								
NANA	18.21	237.4	3	33	-38								
ST. CLAUDE	18.25	358.6									4	59	
GALERAZAMBA	19.10	313.2	4	38	16	8	15	25					
SAN JUAN	21.13	347.0	4	45	2								
ANTOFAGASTA	23.03	202.0	5	3	1						9	12	
CUMBERLAND	44.06	331.1	8	6	1								
BREBEUF	48.88	348.4	8	56A	13								
FAYETTEVILLE	49.05	324.3	8	42	-3								
TULSA	49.88	323.0	8	51A	0				9	2	9	9	*SP
WICHITA MTS.	50.85	319.9	8	57	-2						10	27	PCP
ALBUQUERQUE	56.29	315.5	9	38	-1								
SCHEFFERVLLE	57.14	356.2	9	56A	11								
GOLDEN	58.16	320.8	9	51	-1								
TUCSON	58.18	310.6	9	52	0				10	4			
TONTO FOREST	59.42	312.5	10	1	0				10	13	12	19	PP
GLEN CANYON	60.90	315.1	10	12	1								
UINTA BASIN	61.20	319.3	10	13	0						11	8	
FLAMING GRGE	61.40	320.0	10	16	2								
BOULDER CITY	62.79	312.8	10	25	2				10	37			
DUGWAY	63.28	317.8	10	26A	-1								
PASADENA	64.57	309.7	10	49	14								
EUREKA	65.11	315.8	10	39	1				10	52			
FROBISHER	66.11	356.5	10	42K	-3								
BLUE MTS.	68.39	320.6	10	59	0						11	17	PCP
EDMONTON	70.42	329.9	11	9	-3								
FOLINIERE	72.98	37.1	11	26	-1								
GARCHY	74.60	39.5	11	35	-1								
DOURBES	76.55	37.2	11	57	10								
BENSBERG	78.38	36.9	12	7	9								
STUTTGART	79.03	39.4	11	59	-2								
COPPERMINE	79.26	341.8	12	0K	-2								
RESOLUTE	79.50	351.4	12	2	-2								
KASPERSKE H.	81.86	39.8	12	14A	-2								
COLLMBERG	82.00	37.6	12	16K	-1				12	29			
PRUHONICE	82.67	39.1	12	19	-1								
GOTEBORG	83.05	31.2	12	34	12								
ALERT	84.74	359.8	12	29A	-2								
SKALSTUGAN	84.79	25.5	12	29	-2				12	43			

MOULD BAY	84.99	348.2	12	31K	-1							
UPPSALA	86.41	29.8	12	37	-2				12	50		
SOUTH POLE	87.69	180.0	12	44	-1							
TROMSOE	88.74	20.2	12	50	0				13	2		
BROKEN HILL	89.13	104.3									12	52 PCP
LWIRO	89.94	92.2	12	56	0							
COLLEGE	90.64	334.8	12	58	-1							
QUETTA	123.71	54.9	18	54	1							
MATUSIRO	141.51	334.5	19	21	-6							
CHARTERS TS.	145.02	229.2	19	33	0							
SHILLONG	145.30	45.9	19	34A	1							
MUNDARING	145.80	176.1	19	35	1							
CHITTAGONG	147.11	50.6	19	39	3							
PORT MORESBY	149.42	247.2	19	43	3						20	1

DECEMBER 14 7.H 51.M 6.S EPICENTRE 62.70-149.24 DEPTH= 65.KM

A=-0.39624 B=-0.23579 C= 0.88735 D=-0.5114 E= 0.8594
G=-0.7626 H=-0.4538 K=-0.4611 HT= -9.8

DEPTH OF FOCUS= 0.005R

SE= 2.17

	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
COLLEGE	2.27	15.6	0	39	3							
SITKA	8.99	122.7	2	8	-1							
COPPERMINE	15.04	55.2	3	27A	-3							
YELLOWKNIFE	15.84	75.3	3	39K	-1							
MOULD BAY	16.81	24.4	3	51K	-1							
VICTORIA	20.15	122.8	4	32	1							
EDMONTON	20.88	99.9	4	39	0							
SEATTLE	21.30	122.5	4	54	11							
BANFF	21.42	107.0	4	44	0							
TUMWATER	21.58	124.4	4	47	1							
RESOLUTE	22.05	35.1	4	50K	0							
HUNGRY HORSE	24.17	110.0	5	12	1							
BLUE MTS.	25.57	119.4	5	24	0	10	11	26	5	49	10	42
BUTTE	26.60	111.7	5	34	0							
BOZEMAN	27.53	110.3	5	41	-1				6	4		
MINERAL	27.82	130.5	5	45K	0							
ALERT	28.00	16.3	5	46	-1							
CALISTOGA	29.01	133.6	5	55K	-1							
BERKELEY	29.82	133.8	6	3K	0	10	54	1				
TIKSI	30.43	321.7	6	5	-3							
LICK	30.51	133.3	6	9K	0							
EUREKA	30.65	123.6	6	11	1				6	29	9	16 PCP
PARAISO	31.18	135.2	6	17	2						6	42
SALT LAKE C.	31.19	117.0	6	15	0							
DUGWAY	31.28	118.8	6	16K	0							
PRIEST	31.92	132.9	6	22K	1							
FLAMING GRGE	32.08	113.9	6	23	0						12	47 SCP
RAPID CITY	32.24	103.5	6	23	-1							
UINTA BASIN	32.51	114.7	6	27K	1	11	33	-3	6	45	7	51 PP
CHINA LAKE	33.28	129.0									12	51
LARAMIE	33.40	109.1	6	35	1							
BOULDER CITY	34.15	125.3	6	41	0				7	2		
FROBISHER	34.15	51.5	6	40K	-1							
GLEN CANYON	34.54	120.4	6	44	0							
PASADENA	34.58	131.0	6	45	1				7	1	7	9 *SP
YAKUTSK	35.28	306.2	6	46A	-4							
KHEYS	36.09	352.7	6	58	1							
TONTO FOREST	37.01	122.2	7	6	1	12	48	3	7	30	13	3 SCP
ALBUQUERQUE	38.37	116.0	7	14	-2							
TUCSON	38.98	123.2	7	22	1				7	46		
Y.-SAKHLINSK	40.08	279.8	7	28	-2							
SCHEFFERVLLE	40.66	61.7	7	35A	0							
KIPAPA	41.69	192.3	7	43	-1							
HONOLULU	41.82	192.4	7	43	-2							
WICHITA MTS.	41.93	107.6	7	45	-1						13	23 SCP
TULSA	42.18	103.8	7	47K	-1						8	17
FAYETTEVILLE	42.75	102.0	7	50	-2							
OTTAWA	43.79	77.5	7	59K	-2							
BREBEUF	44.66	75.8	8	7K	-1							
PENNSYLVANIA	46.42	83.3	8	19	-3							

			P	O-C	S	O-C	*PP	SUPP.
	DELTA DEG.	AZ. DEG.	M S	S	M S	S	M S	M S
CUMBERLAND	47.10	94.2	8 26	-1				8 50
TROMSOE	47.69	5.6	8 34	2				
KEVO	47.80	1.8	8 32	0				
PALISADES	48.06	79.8			16 21	54		
BLACKSBURG	48.14	88.3	8 34	-1				
KIRUNA	49.55	5.1	8 44	-2				
HALIFAX	49.75	68.9	8 46K	-2				
APATITY	50.03	358.7	8 51K	1				
SODANKYLA	50.19	2.1	8 49	-2				
MATUSIRO	50.40	274.4	8 50	-3				15 48
SKALSTUGAN	53.28	10.2	9 16	2				
KAJAANI	53.51	1.7	9 13	-3				
UMEA	53.55	5.8	9 18A	2			9 39	
BERGEN	55.70	15.0	9 34	2				
VIBORG	56.89	1.1	9 42A	2				
KONGSBERG	56.91	12.6	9 43	3			10 3	
NURMIJARVI	57.03	3.6	9 42	1				10 4
UPPSALA	57.36	7.8	9 45	1				
HELSINKI	57.37	3.4	9 45	1				10 34 PCP
SVERDLOVSK	58.57	341.3	9 50	-2				
GOTEBORG	59.06	11.6	9 57A	2				
ESEN BULAK	59.46	313.0	10 0	2				
KARLSKRONA	60.89	9.6	10 9	1				
COLLMBERG	65.48	12.1	10 41	3				11 31
FOLINIERE	66.14	22.0	10 39	-3				
PRUHONICE	66.93	11.3	10 51	4				11 20
KASPERSKE H.	67.68	12.1	10 51	-1				
ALMATA	68.10	325.4	10 51	-4				
UZHGOROD	68.81	6.0	11 2	3				
SAN JUAN	70.70	87.3	11 9	-2				
TOLEDO	74.02	27.2	11 30A	0			11 46	12 5 *SP
BAKURIANI	75.41	350.2	11 37	-1				
KIROVOBAD	76.24	347.9	11 41	-2				
CHINCHINA	78.12	102.4	11 51	-2				
WARSAK DAM	78.23	326.3	11 54	0				
FUQUENE	78.53	100.4	11 55	-1				
BOGOTA	79.13	101.1	11 59	0				
DEHRA DUN	79.90	319.8	12 6	3				
CHATRA	80.19	310.9	12 5	0				
TEHERAN	80.51	343.1	12 10	4				
NEW DELHI	81.79	319.9	12 10	-3				
CHITTAGONG	82.58	305.2	12 35	18				
QUETTA	83.01	329.0	12 21	2				
PORT MORESBY	86.66	242.3	12 43	6				
BYRD STATION	143.50	171.6	19 22	-5				
KIMBERLEY	145.82	9.4	19 30K	-1				
SOUTH POLE	152.54	180.0	19 42	1				20 7

DECEMBER 15 19.H 34.M 46.S EPICENTRE -4.86 108.09 DEPTH= 654.KM

A=-0.30940 B= 0.94720 C=-0.08420 D= 0.9506 E= 0.3105
G= 0.0261 H=-0.0800 K=-0.9964 HT= 7.0

DEPTH OF FOCUS= 0.098R

SE= 2.41

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
DJAKARTA	1.81	223.7	1 16	-3				
TANGERANG	1.95	228.1	1 18A	-1				
NHATRANG	17.01	3.7	3 27	1				
PORT BLAIR	22.44	317.1	4 12K	-3	7 33	-7		4 22 PP
DARWIN	23.68	109.9	4 26	0				
BAGUIO CITY	24.49	30.0	4 32	-2				
PHU-LIEN	25.54	356.8	4 43	0				
HONG KONG	27.64	12.2	5 2K	1	8 56	-5	6 22	6 29 PP
MUNDARING	28.02	165.2	5 4	0	9 5	-2		
HENGCHUN	29.43	24.5	5 21A	5				
KAOHSIUNG	29.80	23.1						6 0
TAINAN	30.12	22.7	5 24	2				7 37
TAITUNG	30.27	24.4	5 30	7				7 10
HSINKONG	30.67	24.5	5 30	3				7 12
ALISHAN	30.82	23.2	5 33	5	9 49	-1		
YUSHAN	30.84	23.5	4 31	-57				6 11
TAICHUNG	31.34	22.5	5 35	3				
CHITTAGONG	31.39	330.1	5 34	1	9 56	-3		

HWALIEN	31.55	24.1	5 36A	2						
HSINCHU	32.04	22.5	6 40	62						
TAIPEI	32.46	23.1	5 43	2					7 27	
ANPU	32.59	23.0	5 44A	1						
MADRAS	32.92	302.9	5 45	0	10 17	-5			6 36	PP
CALCUTTA	33.36	325.4	5 51	2	10 28	0			6 36	PP
TOCKLAI	33.97	338.4	5 56	2	10 41	4			9 11	
KODAIKANAL	33.98	296.2	6 2	8	10 44	6				
SHILLONG	34.10	333.3	5 56	1	10 46	7			9 2	PCP
BOKARO	35.86	323.6	6 9K	-1	11 3	-2			9 11	PCP
CHATRA	37.45	328.4	6 23K	0	11 27	-2			7 57	PP
PORT MORESBY	39.00	98.9	6 36A	1	11 51	0			15 32	SCS
CHARTERS TS.	40.09	115.6	6 44K	0	12 0	-7				
GUAM	40.69	63.0	6 48	-1	12 13	-2				
POONA	40.98	305.5	6 51K	0	12 12	-7	8 34		8 44	PP
YAKUSIMA	41.14	30.0	6 51	-1	12 18	-4				
SEHORE	41.15	313.9	6 51	-1	12 19	-3			15 44	SS
ADELAIDE	41.22	140.6	6 53	0	12 16	-7			8 38	PP
BOMBAY	42.00	305.2	6 58	-1	12 22	-12			8 56	PPP
KAGOSIMA	42.08	29.1	7 2K	2	12 33	-2			8 47	PP
HUKUE	42.23	26.4							8 41	
NAGASAKI	42.73	27.5	7 5K	0	12 36	-8			8 42	PP
MIYAZAKI	42.80	29.7	7 7	2					8 50	
KUMAMOTO	43.19	28.2	7 8	0	12 47	-4			9 2	
SAGA	43.36	27.5	7 12K	3					9 6	
ASOSAN	43.43	28.5	7 9	-1						
HUKUOKA	43.67	27.3	7 12	0	12 55	-2				
ITUHARA	43.70	25.7	7 11	-1						
RABAUL	43.94	91.0	7 14	0	11 50	-71			8 44	PP
OOITA	43.96	28.8	7 15	1					9 13	
SIMONOSEKI	44.23	27.6	7 14	-2						
ASHIZURI	44.23	30.6	7 11	-5	13 1	-4				
NEW DELHI	44.60	320.0	7 17K	-2	13 2	-8	9 11		15 58	SS
MATUYAMA	45.02	29.4	7 23	1	13 14	-2				
KOTI	45.16	30.4	7 23K	0	13 16	-2				
MUROTO	45.25	31.3	7 26	2	13 17	-2				
HIROSIMA	45.28	28.7	7 25	1	13 14	-6				
DEHRA DUN	45.28	322.5	7 23K	-1	13 17	-3	9 17		10 29	*SP
HAMADA	45.54	27.9			13 18	-5			8 52	
TSURUGISAN	45.64	30.6	7 32	5						
TAKAMATU	46.03	30.2	7 30	0	13 27	-3			16 14	SCS
TOKUSIMA	46.10	30.9	7 32K	2					9 26	
SIOMISAKI	46.25	32.5	7 32	1	13 30	-3				
SUMOTO	46.48	31.0	7 32	-1	13 33	-3				
YONAGO	46.58	28.7	7 33	-1					9 29	
TORISIMA	46.74	39.2	7 35A	0	13 36	-4				
KOBE	46.89	30.9	7 36	0	13 39	-3				
OWASE	46.95	32.4	7 35	-2					12 28	
OSAKA	47.05	31.3	7 37	0	13 41	-3			9 34	
TOOLANGI	47.15	138.8	7 39K	1	13 48	3	9 33		17 14	SS
NARA	47.22	31.5	7 37	-2						
ABUYAMA	47.24	31.1	7 38K	-1	13 41	-6				
TOYOOKA	47.38	29.9	7 41	1	13 43	-5			16 24	
KYOTO	47.44	31.1	7 40	0	13 45	-4				
TU	47.60	32.1	7 44	2						
KAMEYAMA	47.69	31.9	7 42	0	13 50	-3				
HIKONE	47.90	31.4	7 47	3	13 51	-5				
BRISBANE	48.06	122.8	7 46K	1	13 55	-3				
TSURUGA	48.10	30.9	7 44	-1						
NAGOYA	48.20	32.1	7 43	-3	13 55	-5				
HAMAMATU	48.26	33.1	7 45	-2	13 56	-5				
GIHU	48.27	31.7	7 47	0					9 46	
CANBERRA	48.37	134.2	7 47K	0	14 2	0	9 43		14 11	SP
LAHORE	48.44	320.6	7 45	-3						
HUKUI	48.49	30.7	7 45	-3						
SHIZUOKA	48.82	33.4	7 51	0	14 7	-1				
IIDA	48.92	32.5	7 51	0					9 53	
KANAZAWA	49.08	30.6	7 54	1						
OSIMA	49.22	34.4	7 52	-2	14 4	-10				
MISIMA	49.23	33.7	7 52	-2	14 6	-8			9 52	PCP
RIVERVIEW	49.26	131.4	7 54K	0	14 16	2	9 51		9 5	PCP
AJIRO	49.26	33.9	7 51	-3	14 10	-4			9 50	
HUNATU	49.41	33.2	7 54	-1	14 10	-6				
KOHU	49.43	32.9	7 53	-2	14 10	-6				
TOYAMA	49.49	30.9	7 52	-4	14 15	-2			9 54	
MATUMOTO	49.55	32.0	7 57	1	14 15	-3				
YOKOHAMA	49.85	34.0	7 58	0	14 16	-6				
MATUSIRO	49.89	31.9	7 56K	-3	14 16	-7				

TITIBU	49.94	33.1	7 57	-2					
NAGANO	49.99	31.8	7 59	0	14 18	-6		16 42	
TOKYO C.M.O.	50.09	33.9	8 0	0					
HONGO	50.12	33.8	7 58	-2					
KUMAGAYA	50.23	33.2	8 0K	-1	14 20	-7			
MAEBASI	50.25	32.7	7 59	-2	14 33	6			
TAKADA	50.34	31.5	7 46	-16					
TARRALEAH	50.50	143.4	8 3	0					
TUKUBASAN	50.67	33.7	8 0	-4	14 20	-13	9 59	18 19	SS
KAKIOKA	50.73	33.7	8 3	-2				14 26	
TYOSI	50.73	34.7	8 4	-1	14 26	-8			
UTUNOMIYA	50.79	33.2	8 4	-1	14 23	-12			
MITO	51.00	33.8	8 4	-2	14 31	-6			
MOORLANDS	51.02	143.1	8 7	0					
AIKAWA	51.04	30.7	8 5	-2					
SHIRAKAWA	51.40	33.0	8 8	-1	14 36	-7			
ONAHAMA	51.65	33.6	8 9A	-2	14 40	-6			
WARSAK DAM	51.81	321.0	8 1	-11					
HUKUSIMA	52.00	32.6	8 15	1	14 47	-4		10 14	PP
ESEN BULAK	52.11	349.6	8 15	1					
YAMAGATA	52.30	32.1	8 14	-2	14 50	-5			
ULAN-BATOR	52.57	359.0	8 17	-1					
QUETTA	52.58	314.2	8 16	-2	14 56	-2			
ISINOMAKI	52.95	32.6	8 19K	-1	14 57	-6		10 19	
AKITA	53.27	30.7	8 27	4	15 3	-4			
MIZUSAWA	53.36	31.9	8 23	0	15 4	-4			
MORIOKA	53.80	31.5	8 27	1	15 11	-3		17 7	
KHOROG	54.15	324.2	8 28	-1	15 15	-4		19 44	SS
MIYAKO	54.18	32.1	8 29	0	15 13	-6			
AOMORI	54.43	30.3						10 32	
HATINOHE	54.60	31.0	8 30K	-2	15 20	-5			
HAKODATE	55.17	29.4	8 35K	-1	15 29	-3			
MORI	55.30	29.1	8 37	0					
MURORAN	55.66	29.2	8 38	-1	15 35	-3		10 41	
SUTTSU	55.67	28.3						15 34	
TOMAKOMAI	56.19	29.3	8 43	0	15 39	-6			
FRUNSE	56.33	330.8	8 43K	-1	15 47	0		10 56	PP
SAPPORO	56.41	28.8	8 43K	-1	15 44	-4		17 26	SCS
URAKAWA	56.43	30.5	8 45A	1	15 47	-1			
KOUMAC	56.70	111.3	8 46K	0				21 52	
HIROO	56.80	30.8	8 45	-2					
IRKUTSK	57.00	357.2	8 48K	0	15 54	-1	10 51	9 33	PCP
OBIHIRO	57.20	30.2	8 49K	-1	15 56	-2			
ASAHIGAWA	57.43	29.0	8 51K	0				10 57	
KUSIRO	57.85	30.9	8 53	-1	16 2	-4		17 34	SCS
TASHKENT	58.03	326.2	8 53K	-2				11 11	PP
WAKKANAI	58.34	27.2	8 57	0	16 11	-1			
NEMURO	58.71	31.3	8 58	-2	16 12	-5			
LUGANVILLE	58.90	105.1	9 1A	0					
NOUMEA	58.95	113.0	9 2	1				16 22	
Y.-SAKHLINSK	60.03	26.7	9 7K	-1	16 30	-3	11 13		
SEMIPALATNSK	60.05	339.8	9 6K	-3	16 21	-13		9 44	PCP
PORT VILA	60.20	107.6	9 9	0	16 38	3			
TANANARIVE	60.59	251.1	9 13	1	16 42	2			
WILKES	61.39	178.9	9 17	0	16 47	-3	9 52		
MIRNY	62.47	186.7	9 22A	-2	16 54	-9	11 25	11 49	PP
ASHKABAD	62.77	317.3	9 25	-1	17 5	-2			
MACQUARIE I.	64.20	149.8	9 35K	0			11 41	12 4	PP
ROXBURGH	66.59	137.8	9 49	-1	17 50	-2	11 54	18 44	SP
TEHERAN	66.66	312.2	9 49K	-1	17 53	0		12 34	PP
YAKUTSK	68.74	10.8	10 1	-2			12 7		
KARAPIRO	69.29	128.7	10 6K	0	18 26	3	12 17	37 58	PKPPKP
WELLINGTON	69.35	132.3	10 6	0	18 19	-5	12 11	18 56	SP
CHATEAU	69.52	130.0	10 8A	1	18 28	3	12 23	37 58	PKPPKP
MAWSON	69.71	196.9	10 7A	-1	18 24	-4	12 19	12 53	PP
ADDIS ABABA	70.46	281.3	10 15	2					
PETROPAVLOVK	71.62	29.4	10 20K	0	18 48	-1		10 31	PCP
GORIS	71.85	314.2	10 20K	-1	18 48	-4		23 38	SS
CHILEKA	72.45	255.2	10 24	0					
MAGADAN	72.51	21.2	10 24	-1	18 59	0		10 44	PCP
SVERDLOVSK	72.54	334.9	10 25	0					
TIFLIS	73.77	315.9	10 31	-1	19 8	-5			
PIETERMZBURG	76.92	240.9	10 49K	0					
CAPE HALLETT	77.14	163.9	10 51	1					
TIKSI	77.55	6.6	10 51K	-1	19 45	-7	13 7	14 1	PP
KSARA	78.06	305.9	10 34K	-21	20 33	35		13 45	PP
JERUSALEM	78.12	303.7	10 56K	1					
BULAWAYO	78.48	250.5	10 57	0					
BROKEN HILL	78.77	256.3	10 59	0					

SCOTT BASE	78.93	169.4	11	2	2	20	9	2			11	27
LWIRO	79.14	268.6	10	55	-6	20	12	3				
GRAHAMSTOWN	80.27	237.2	11	9	3							
KIMBERLEY	81.82	241.8	11	15	1							
SIMFEROPOL	82.18	316.5	11	15K	-1	20	36	-3	13	32	14	37 PP
MOSCOW	83.16	327.5	11	20K	-1	20	43	-5	13	37	14	39 PP
ISTANBUL UN.	84.98	311.8	11	30	0	21	4	-2				
SOUTH POLE	85.17	180.0	11	30	-1						13	46
HERMANUS	86.34	235.9	11	39	3	21	23	5	14	0	21	2 SKS
FOCSANI	87.10	316.1	11	46	6	21	35	10			15	41
IASI	87.11	317.7	11	33A	-7	20	54	-31	14	1	16	13
BACAU	87.46	317.0	11	43	1	21	30	2			22	38
N-LAZARVSKYA	87.51	199.2	11	43A	1	21	31	2	14	1	15	17 PP
BUCHAREST	87.66	314.8	11	45A	2	21	34	4	13	54	15	26
PULKOVO	88.04	330.3	11	44K	0	21	10	-24	14	3	15	22 PP
ATHENS	88.53	308.1	11	45	-2	21	34	-4			21	9
CAMPULUNG	88.54	315.5	11	48	1	21	41	3			15	33
APATITY	88.65	338.3	11	47K	0	21	41	2	14	0	15	10 PP
KHEYS	88.74	352.8	11	46K	-2	21	34	-6				
SOFIA	89.42	312.8	12	1	10	21	17	-29			15	14 PP
BANGUI	89.84	274.4	11	52	-1	22	0	10				
LWOW	89.85	319.9	11	52	-1	21	17	-33	14	9		
KAJAANI	90.14	334.3	11	53K	-1						29	20 PKKP
SKOPJE	90.73	311.9	11	57	0							
HELSINKI	90.76	330.2	11	56K	-1						15	41 PP
NURMIJARVI	90.96	330.6	11	57K	-1	22	2	3	14	16	15	51 PP
SODANKYLA	91.17	337.5	11	56	-3	21	20	-41				
TIMISOARA	91.26	315.6	11	58	-1						25	51
KEVO	91.44	339.9	11	58K	-2	21	58	-5	14	24	15	57 PP
BELGRADE	91.72	314.7	12	1K	0						15	31 PP
BYRD STATION	91.96	172.6	12	4	2						21	34
WARSAW	92.01	322.1	12	3A	0	22	12	4	14	22	15	54 PP
TITOGRAD	92.38	312.2	12	3	-1						15	52 PP
BUDAPEST	92.92	317.2	12	5	-2							
CHORZOW	93.13	320.0	12	7	-1				14	30	16	3 PP
BANDEIRA	93.37	254.8	12	9A	0	21	42	-38	11	28	28	46 SS
UMEA	93.38	333.6	12	7K	-2				14	29	16	9 PP
KIRUNA	93.58	337.7	12	8K	-2	21	39	-43	14	30	29	11 PKKP
RACIBORZ	93.62	319.8	12	10	0						16	8 PP
TROMSOE	94.23	339.4	12	10	-3						29	9 PKKP
BRATISLAVA	94.25	317.8	12	30A	17				14	32	16	2 PP
UPPSALA	94.40	329.6	12	12K	-2	21	42	-47	14	33	16	6 PP
VIENNA-H.	94.74	317.9	12	14	-1						16	16 PP
REGGIO CALA.	94.89	307.7	12	27	11	21	53	-40			16	18 PP
ZAGREB	94.92	315.5	12	14	-2						16	14 PP
MESSINA	94.97	307.8	12	26	10				14	54	16	19 PP
HONOLULU	95.29	69.1	12	21	3						36	56 PKPPKP
KIPAPA	95.37	69.0	12	20	2							
KARLSKRONA	95.40	325.8	12	16	-2						16	8 PP
LJUBLJANA	95.95	315.7	12	20K	-1						16	22 PP
PRUHONICE	95.97	319.6	12	19	-2						25	17
TRIESTE	96.48	315.3	12	21	-2	21	56	-2			16	24 PP
KASPERSKE H.	96.60	318.8	12	22	-1							
AQUILA	96.71	311.9									19	14
SKALSTUGAN	96.92	333.4	12	24K	-1						16	16 PP
COLLMBERG	96.95	321.0	12	23	-2	22	51	51				
COPENHAGEN	97.17	325.4	12	26K	0							
GOTEBORG	97.35	327.4	12	25	-2				14	38	16	25 PP
CHEB	97.37	319.7	12	23	-4						16	37 PP
ROME	97.40	311.5	12	27	0						21	44
HALLE	97.60	321.2	12	27	-1	22	52	49				
PADOVA	97.81	315.0									16	26 PP
HAWAII V.OB.	97.85	71.1	12	32	3							
JENA	97.86	320.6	12	27	-2	21	50	-15	14	48	16	32 PP
PRATO	98.39	313.5	12	35	4	21	5	-62				
KONGSBERG	98.45	329.5	12	30K	-2	22	51	43	14	54	16	33 PP
STUTTGART	99.44	318.5	12	35	-1	22	2	-10			16	48 PP
TUBINGEN	99.60	318.3	12	36K	-1							
MOKA	99.66	272.6	12	37K	0	23	13	59				
PAVIA	99.72	314.9				22	13	-1			28	7
HEIDELBERG	99.77	319.2	12	37	-1							
KARLSRUHE	100.00	318.8	12	39A	0						16	54 PP
MUNSTER	100.26	321.8	12	39	-1							
FELDBERG	100.35	317.6	12	40K	0							
STRASBOURG	100.46	318.4	12	40	-1	22	11	-6			16	55 PP
BERGEN	100.52	330.5	12	43	2						16	59 PP
BENSBERG	100.64	320.8	12	41K	-1	22	16	-2			16	57 PP
WITTEVEEN	100.76	322.7	12	40K	-2							
MONACO	101.05	313.5	12	42	-1						16	50

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.

ISOLA	101.29	313.9	12	43	-1						16	53
BESANCON	101.77	317.1	12	45	-2						16	37
ALERT	102.29	358.7	12	48K	-1							
DOURBES	102.36	320.1	12	49	0	22	26	0				
GARCHY	103.74	317.4	12	55	0				17	0		
CLERMONT-FD.	103.90	315.8	12	56	0							
PARIS	103.90	319.0	12	56	0				17	11		
MOULD BAY	104.08	10.5	12	55	-2							
ABERDEEN	104.95	328.1				22	36	-2			17	34 PP
KEW	105.22	322.0	13	2K	777	22	36	-3			17	29 PP
DURHAM	105.25	325.6	13	4A	777	22	39	0			17	29 PP
FOLINIERE	105.85	319.3	13	4	777							
ALICANTE	107.55	308.6	17	17A	777						17	44 PP
RESOLUTE	108.97	6.3	13	18	777							
ALMERIA	109.33	307.3	17	21A	777						18	1 PP
ARGENTINE I.	109.84	183.4	17	19	777						22	39
TOLEDO	110.04	310.6	16	44A	-35	23	2	3	20	2	17	59 PP
GRANADA	110.17	307.8									18	24 PP
COPPERMINE	110.72	16.1	17	30K	9							
SERRA PILAR	113.16	312.8	17	27	2						28	6
AVERROES	113.92	304.2									18	28 PP
LISBON	114.16	310.3	17	26K	-1						17	31 PP
YELLOWKNIFE	114.50	20.2	17	28	0							
GODHAVN	114.56	352.9	17	28	0							
VICTORIA	118.37	36.3	17	37A	2							
TUMWATER	119.37	37.6	17	39	2							
SEATTLE	119.44	36.7	17	40	2						32	17 PS
CORVALLIS	120.22	40.3	17	41	2						26	10
EDMONTON	120.98	27.6	17	41K	0							
FROBISHER	121.20	358.2	17	40K	-1							
BANFF	121.30	30.6	17	41	0							
UKIAH	122.51	46.0	17	46	3				20	17	28	20 PKKP
MINERAL	123.16	44.1	17	32A	-13							
HUNGRY HORSE	123.76	32.6	17	48	2							
BLUE MTS.	123.84	37.6	14	31	-195	24	24	35	16	53	19	38 PP
PARAISO	124.19	48.8	17	48	1						20	21
M.BOUR	125.13	284.1	17	50	1						19	39 PP
BUTTE	125.95	34.1	17	50	0						20	10 PP
BOZEMAN	127.01	33.7	14	57	-175						19	58 PP
EUREKA	127.41	42.7	15	4	-169						30	22 SKKP
PASADENA	128.20	49.7	14	38	-196	26	1	120	17	14	20	16 PP
DUGWAY	129.13	40.3	17	44	-12							
SALT LAKE C.	129.42	39.1	17	46	-11				20	21		
BOULDER CITY	129.88	46.0	14	36	-202						20	4 PP
PRICE	130.73	39.8	18	2	3							
UINTA BASIN	131.10	38.3	18	12	12						15	1 P
GLEN CANYON	131.65	43.2	17	44	-17				20	29	18	4
RAPID CITY	132.23	30.4	17	48	-14							
LARAMIE	132.85	34.7	17	46	-17							
TONTO FOREST	133.24	46.1	17	55	-9	24	6	-7	20	20	31	0 PS
GOLDEN	134.02	36.3	17	52	-13							
TUCSON	134.56	48.3	17	57	-9	24	6	-10	20	39		
ALBUQUERQUE	136.24	42.3	15	54	-136						20	41 PP
OTTAWA	139.49	4.1	18	7	-8							
BREBEUF	139.50	1.9	18	9A	-6				20	52	38	0 SS
HALIFAX	139.74	350.8	18	9K	-7							
LAWRENCE	139.99	28.7	18	11	-5							
SCARBOROUGH	140.77	8.4	18	12K	-7							
LONDON ONT.	141.10	10.8	18	14K	-6							
ANN ARBOR	141.28	14.0	18	15	-5							
WICHITA MTS.	141.37	36.3	18	16	-4						15	55 P
SANTA LUCIA	141.89	181.7	18	18K	-3						20	57
TULSA	142.08	32.3	18	18K	-3	24	29	1	20	46	21	57 PP
ST. LOUIS 1	142.48	23.8	18	18	-4							
CLEVELAND	142.54	11.9	18	19A	-3	24	25	-3				
FAYETTEVILLE	142.77	30.5	18	20	-2						22	50
DALLAS	143.75	36.8	18	24	0							
PALISADES	143.97	2.6	18	23K	-1	25	5	35				
MORGANTOWN	144.63	10.8	18	26K	1						20	55 PP
WASHINGTON	145.80	7.2	18	27	0				20	50	24	58
BLACKSBURG	146.88	12.5	18	29	1						25	30
CUMBERLAND	146.93	20.7	18	29K	1				20	50	22	0 PP
COPIAPO	147.94	182.6	18	39	9						21	8
CHAPEL HILL	148.40	11.1	18	32	2							
COLUMBIA	149.79	15.2	18	35	2							
ANTOFAGASTA	151.57	182.9	18	38	3						21	13
LA PAZ	158.45	189.9	18	48	4	26	22	94				
AREQUIPA	158.81	181.1	18	48	3							

SAN SALVADOR	160.83	61.6	18	48	1				19	38
SANTIAGO MA.	161.55	61.2	18	55	7					
NANA	162.56	163.7	18	55	6	25	49	57		
HUANCAYO	162.86	168.6	18	54	5					
ST. CLAUDE	165.04	318.7	18	48	-3				23	39 PP
SAN JUAN	165.42	337.6	18	44	-7				23	44
FORT FRANCE	165.57	313.6	18	53	1				23	46 PP
HOPE	166.11	19.5	19	53	61					
TRINIDAD	168.11	299.5	18	56	3					
BALBOA HTS.	171.38	61.4	18	56	1				29	57
CARACAS	172.54	318.9	18	57	1				24	14 PP
GALERAZAMBA	173.24	29.3	18	59K	3				20	31 PKP2
CHINCHINA	176.30	88.2	18	57K	0				24	38 PP
BOGOTA	177.83	96.3	18	59A	2				24	49 PP
FUQUENE	178.09	71.5	18	56A	-1				20	50 PKP2

DECEMBER 16 1.H 51.M 30.S EPICENTRE -6.44 105.48 DEPTH= 54.KM
A=-0.26519 B= 0.95774 C=-0.11137 D= 0.9637 E= 0.2668
G= 0.0297 H=-0.1073 K=-0.9938 HT= 6.9

DEPTH OF FOCUS= 0.003R

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	
TANGERANG	1.18	77.0	0	22K	1								
DJAKARTA	1.37	79.3	0	23	-1								
LEMBANG	2.16	100.5	0	36	1								
NHATRANG	18.90	11.3	4	20	1								
PORT BLAIR	22.01	324.8	4	49	-2						15	56	
MANILA	26.06	36.3	5	30	0	10	30	35					
PHU-LIEN	27.09	2.4	5	45	5						6	37	PP
MUNDARING	27.31	159.8	5	40	-2								
CHITTAGONG	31.59	335.3	6	24	4						15	26	
TAWU	32.35	27.4	6	36	9								
KODAIKANAL	32.44	300.5									7	40	
TAITUNG	32.81	27.4	6	26	-5								
TAIPEI	34.96	25.9									20	42	
BOKARO	35.69	328.1	6	56	1								
CHATRA	37.53	332.6	7	9	-2	12	59	4			9	18	PCP
POONA	39.85	309.1	7	29K	-1						14	30	
BOMBAY	40.86	308.7	7	44	6	13	52	6			9	20	PP
PORT MORESBY	41.36	96.9	7	43A	1	13	57	4			17	54	SS
ADELAIDE	41.74	137.5	7	45A	-1	13	58	-1			10	22	
CHARTERS TS.	41.82	113.0	7	45	-1	13	58	-2					
GUAM	43.71	63.0	8	3	1								
NEW DELHI	44.21	323.3	8	4K	-2	14	27	-8			14	41	PS
DEHRA DUN	45.03	325.7	8	10	-2	14	45	-1			10	43	PPP
RABAUL	46.53	89.7	8	26	2	15	16	8			21	25	
TOOLANGI	47.75	136.4	8	34K	0	15	32	7			18	49	
LAHORE	48.08	323.6	8	36	0	16	26	56					
KARACHI	48.64	311.2	8	40	-1	15	38	0					
BRISBANE	49.45	120.7	8	46	-1	15	50	1					
ABUYAMA	49.94	32.6	8	50A	-1								
RIVERVIEW	50.23	129.2	8	54A	1	16	5	5			10	53	PP
TARRALEAH	50.86	141.1	8	59	1								
MOORLANDS	51.39	140.9	9	2	0								
WARSAK DAM	51.46	323.6	9	0	-2	16	11	-6					
QUETTA	51.87	316.7	9	3K	-2	16	20	-2					
MATUSIRO	52.61	33.2	9	8	-3	16	54	22					
ESEN BULAK	53.24	352.0	9	14	-1								
TUKUBASAN	53.43	34.9									11	21	PP
KHOROG	53.96	326.7	9	19K	-2	16	54	3					
HONIARA	53.99	97.0	9	19K	-2	16	52	1					
ULAN-BATOR	54.14	1.2	9	19	-3								
FRUNSE	56.48	333.1				17	25	1					
TANANARIVE	57.63	251.8	9	48	1								
TASHKENT	57.94	328.3	9	46	-3	17	40	-3					
IRKUTSK	58.49	359.2	9	54A	1								
KOUMAC	58.58	110.1	9	54K	0								
MIRNY	60.63	185.7	10	4K	-4	18	23	5					
SEMIPALATNSK	60.67	341.8	10	3	-5								
NOUMEA	60.75	111.9	10	8A	-1								
LUGANVILLE	61.02	104.1	10	11A	0								
ASHKABAD	62.20	319.1	10	17	-1	18	39	1					

SHIRAZ	62.20	308.2	10	17	-1						
PORT VILA	62.22	106.6	10	18K	-1						
Y.-SAKHLINSK	62.61	27.8	10	20	-1				14	8	PPP
MACQUARIE I.	64.18	148.6	10	33	2						
TEHERAN	65.83	313.8	10	44	2	19	21	-2			
ROXBURGH	67.21	136.8	10	54	3	19	58	18	24	12	SS
MAWSON	67.47	196.3	10	49	-3	19	40	-3	39	13	PKPPKP
ADDIS ABABA	68.23	282.3	10	59	2						
CHILEKA	69.54	255.7	11	5K	0						
WELLINGTON	70.24	131.5	11	9	-1	20	14	-2	24	50	SS
KARAPIRO	70.36	127.9	11	10	0						
YAKUTSK	70.78	11.8	11	10	-3	20	29	7			
GORIS	71.11	315.4	11	13K	-2	20	29	3			
GISBORNE	72.38	128.4	11	25	3						
SVERDLOVSK	72.89	336.1	11	24K	-1	20	46	0			
TIFLIS	73.11	317.0	11	26	-1	20	52	3			
PETROPAVLOVK	74.27	30.2	11	33	0						
BULAWAYO	75.51	250.9	11	38K	-2						
BROKEN HILL	75.87	256.8	11	41A	-2						
LWIRO	76.52	269.2	11	46	0						
JERUSALEM	76.85	304.6	11	48	0						
KSARA	76.90	306.8	11	48	0	21	44	13	14	45	PP
TIKSI	79.42	7.4	11	59K	-3	21	53	-5	12	5	PCP
SIMFEROPOL	81.54	317.1	12	12K	-1	22	20	0	15	24	PP
MOSCOW	83.10	328.1	12	21K	0	22	36	1	15	25	PP
ISTANBUL UN.	84.10	312.3	12	27	1	21	47	-58			
N-LAZARVSKYA	85.17	199.4	12	31K	-1	22	53	-3			
FOCSANI	86.44	316.6	12	30	-8	23	4	-4			
BACAU	86.84	317.4	12	48	8	23	17	5			
BUCHAREST	86.93	315.1	12	52	12	23	24	11	13	24	
BANGUI	87.37	274.7	12	41	-2	23	1	-16			
ATHENS	87.46	308.5	12	44K	1	23	15	-3	16	17	
CAMPULUNG	87.84	315.8	12	51	6	23	27	6			
PULKOVO	88.12	330.7	12	45K	-1	23	26	2	12	52	PCP
SOFIA	88.58	313.1	12	53	5	23	20	-8			
APATITY	89.15	338.6	12	50K	-1	23	36	2	23	13	SKS
LWOW	89.38	320.2	12	53	1						
KHEYS	89.97	353.1	12	54A	-1				16	17	PP
KAJAANI	90.43	334.6	12	56	-1	23	47	2			
BANDEIRA	90.45	255.0	12	56K	-1						
HELSINKI	90.83	330.5	12	59	0						
BELGRADE	90.97	314.8	13	9	9				24	4	SCS
NURMIJARVI	91.05	330.8	12	58	-2	24	6	15	23	35	SKS
SODANKYLA	91.62	337.7	13	2	-1						
KEVO	92.02	340.1	13	4	0	24	10	11	23	42	SKS
KRAKOW	92.03	320.0	13	5	1				13	30	
RACIBORZ	93.14	319.9	13	17	7				16	58	PP
UMEA	93.62	333.7	13	12A	0	24	14	1	23	44	SKS
BRATISLAVA	93.66	317.9	14	11K	59						
MESSINA	93.88	307.8							24	30	PS
KIRUNA	94.04	337.7	13	12	-2						
UPPSALA	94.43	329.6	13	15	0						
TROMSOE	94.78	339.5	13	17	0			13	32		
LJUBLJANA	95.25	315.6	13	24	5						
PRUHONICE	95.48	319.6	13	21	1						
TRIESTE	95.76	315.2							21	14	PP
AQUILA	95.82	311.9							24	50	PS
KASPERSKE H.	96.06	318.7	13	25	2				16	35	PP
ROME	96.48	311.4							24	0	PS
COLLMBERG	96.53	320.9	13	30	5				17	10	PP
SKALSTUGAN	97.15	333.2	13	29	1						
GOTEBORG	97.27	327.3	13	39	11						
JENA	97.41	320.5	13	36	7				17	23	PP
HONOLULU	98.27	69.5							24	54	
KONGSBERG	98.47	329.3	13	37	3						
STUTTGART	98.89	318.3	13	42	6				17	44	
STRASBOURG	99.89	318.1							17	41	PP
ALERT	103.79	358.4	13	57	-1						
MOULD BAY	106.08	10.1	14	10	777						
TOLEDO	109.07	309.9							28	12	PS
RESOLUTE	110.80	5.7	18	29	2						
AVERROES	112.62	303.3							19	26	PP
COPPERMINE	112.93	15.5	18	31	0						
YELLOWKNIFE	116.85	19.6	18	38	-1						
VICTORIA	121.17	35.8	18	50	3						
SEATTLE	122.25	36.3	18	53	4						
FROBISHER	122.65	356.8	18	49	-1						
M.BOUR	122.97	282.9							20	36	PP
EDMONTON	123.56	26.8	18	52	0						

BANFF	123.96	29.9	18	54	1					
SHASTA	125.40	43.8	18	57	2				20	51 PP
UKIAH	125.46	45.8	18	59	4					
MINERAL	126.09	43.8	18	58A	1					
CALISTOGA	126.12	46.1	18	59K	2					
HUNGRY HORSE	126.47	31.9	18	59	2					
BERKELEY	126.66	46.9	19	OK	2				21	14 PP
BLUE MTS.	126.66	37.0	18	59	1	19	13		20	52 PP
PARAISO	127.18	48.7	19	3	4					
LICK	127.32	47.3	19	1A	2					
PRIEST	128.52	48.2	19	5A	4					
BUTTE	128.70	33.4	19	3	1				22	29 SKP
BOZEMAN	129.74	32.9	19	5	1					
EUREKA	130.32	42.2	18	58	-7				21	19 PP
PASADENA	131.19	49.5	19	9	3				22	32 SKP
SCHEFFERVLLE	131.35	354.0	19	10	3					
DUGWAY	131.99	39.7	18	58	-10					
SALT LAKE C.	132.27	38.5	19	4	-4				21	37 PP
BOULDER CITY	132.83	45.7	19	5	-5				21	17 PP
UINTA BASIN	133.93	37.6	18	58	-14	19	16		21	40 PP
GLEN CANYON	134.57	42.7	19	16	3					
RAPID CITY	134.88	29.2	19	14	1					
LARAMIE	135.61	33.7	19	11	-4					
TONTO FOREST	136.20	45.7	19	21	5	19	30		21	59 PP
GOLDEN	136.81	35.3	19	10	-7				22	50 PP
TUCSON	137.54	48.0	19	12	-6				22	0 PP
ALBUQUERQUE	139.14	41.6	19	14	-7				37	58
MILO	141.05	353.8	19	28	3					
BREBEUF	141.08	359.0	19	28	3				41	0 SS
OTTAWA	141.17	1.3	19	25	0					
LAWRENCE	142.59	27.0	19	25	-2					
LONDON ONT.	143.08	8.1	19	31	3					
ANN ARBOR	143.38	11.4	19	28	-1					
WICHITA MTS.	144.15	35.0	19	29	-1				25	33 PPP
CLEVELAND	144.55	9.1	19	31K	0					
FLORISSANT	144.74	21.7	19	30	-1					
TULSA	144.77	30.7	19	31K	0					
ST. LOUIS 1	144.93	21.7	19	30	-1					
PALISADES	145.57	359.2	19	33	1					
PENNSYLVANIA	145.65	4.5	19	34	1					
COPIAPO	146.17	186.7	19	35	2					
DALLAS	146.54	35.3	19	37	3					
MORGANTOWN	146.59	7.6	19	37A	3					
WASHINGTON	147.60	3.7	19	37	1					
BLACKSBURG	148.90	9.1	19	43	5				32	22
CUMBERLAND	149.26	17.8	19	39	1				41	58 SS
ANTOFAGASTA	149.78	187.5	19	47	8				42	30 SS
CHAPEL HILL	150.36	7.4	19	48	8					
COLUMBIA	151.92	11.5	19	46	4					
BERMUDA	152.60	341.7	19	50	7				23	30 PKS
LA PAZ	156.35	195.4	19	53	5	26	50	3		
AREQUIPA	157.05	187.5	19	54	5					
NANA	161.55	172.8	20	2	8					
HUANCAYO	161.62	177.5	20	2	7					
SAN JUAN	165.58	326.1	20	6	8				24	45
TRINIDAD	166.37	288.8	20	3	4					
CARACAS	171.47	298.8	20	8	6				25	19 PP
BALBOA HTS.	174.41	63.0	20	4	1					
BOGOTA	178.14	194.1	20	5	1				25	47 PP
CHINCHINA	178.18	143.1	20	7A	3				25	46 PP
FUQUENE	178.76	219.4	20	10K	6				25	53 PP

DECEMBER 16 11.H 9.M 36.5 EPICENTRE 45.95 142.51 DEPTH= 310.KM

A=-0.55360 B= 0.42470 C= 0.71635 D= 0.6087 E= 0.7934
G=-0.5684 H= 0.4360 K=-0.6977 HT= -3.9

DEPTH OF FOCUS= 0.044R

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
WAKKANAI	0.78	228.0	0	40	-1	1	18	5				
RUMOE	2.09	197.8	0	51	3							
ASAHIGAWA	2.17	182.6	0	47K	-2	1	30	2				
ABASHIRI	2.30	146.2	0	52K	2	1	32	2				

SAPPORO	2.99	196.4	0	58A	2	1	42	1			
OBIHIRO	3.07	170.4	0	58	1	1	41	-1			
KUSIRO	3.26	154.8	0	59	0	1	42	-4			
TOMAKOMAI	3.38	191.7	1	1A	1	1	48	0			
NEMURO	3.41	138.9	1	0	-1	1	45	-4			
SUTTSU	3.54	208.2	1	2	0						
HIROO	3.71	170.6	1	3	-1	1	48	-6			
MURORAN	3.79	197.4	1	5A	0	1	53	-3			
URAKAWA	3.80	176.9	1	3	-2	1	53	-3			
MORI	4.09	200.6	1	10	2						
HAKODATE	4.32	197.6	1	6A	-5	2	2	-4			
AOMORI	5.28	194.4	1	21	0	2	19	-6			
HATINOHE	5.46	187.8	1	23	-1	2	21	-8			
MIYAKO	6.31	183.8	1	32	-2	2	39	-8			
MORIOKA	6.32	189.4	1	27	-7	2	41	-7			
AKITA	6.47	196.7	1	32	-4	2	46	-5			
MIZUSAWA	6.89	189.0	1	39	-2	2	52	-8			
SAKATA	7.31	196.6									3 28
ISINOMAKI	7.56	187.1	1	47K	-2	3	6	-9			
/AMAGATA	7.86	192.5	1	50	-2	3	15	-6			
HUKUSIMA	8.33	191.2	1	57	-1	3	26	-5			
SHIRAKAWA	8.98	191.8	2	4	-2	3	39	-7			
ONAHAMA	9.07	188.2				3	26	-22			
UTUNOMIYA	9.60	192.8	2	11	-3	3	45	-14			
MITO	9.68	189.8	2	12K	-3	3	54	-7			
NAGANO	9.82	200.7	2	17	1						
KAKIOKA	9.86	191.0	2	15	-2	3	59	-6			
MAEBASI	9.88	196.4	2	17	0						
MATUSIRO	9.94	200.5	2	11K	-7	4	2	-5			
KUMAGAYA	10.07	194.6	2	18K	-1	4	3	-7			
TITIBU	10.29	195.7				4	10	-5			
TYOSI	10.29	187.6				4	8	-7			
KOHU	10.69	197.6	2	29	2						
AJIRO	11.19	194.5	2	30	-3	4	28	-7			
GIHU	11.40	204.4	2	34	-2	4	34	-5			
NAGOYA	11.55	203.2	2	35	-3	4	36	-7			
TOYOOKA	11.92	211.9	1	47	-55						
ABUYAMA	12.26	207.9	2	44A	-2						
HUKUOKA	15.45	221.2	3	26	2	6	13	6			
COLLEGE	41.30	37.4	7	17	0						8 25
SHILLONG	44.99	261.0	7	47K	1						
MOULD BAY	47.80	18.7	8	4	-4						
ALERT	51.19	4.1	8	33	-1						
COPPERMINE	52.71	27.8	8	39	-6						
NEW DELHI	53.32	274.9	8	49K	0						
RESOLUTE	53.80	16.1	8	52	-1						
KIPAPA	53.82	96.1	8	53	0						
WARSAK DAM	53.99	283.9	8	55	1						
PORT MORESBY	55.25	174.4	9	2K	-1						
KEVO	55.46	337.6	9	5	0						
YELLOWKNIFE	55.79	33.2	9	6A	-1						
SODANKYLA	57.13	335.5	9	16A	0						
KIRUNA	58.53	337.8	9	25	-1						
KAJAANI	59.01	332.3	9	29A	0						
QUETTA	59.40	283.0	9	32K	0	17	15	0			
VICTORIA	59.86	50.1	9	36	1						
SEATTLE	60.98	50.4	9	49	6						
UMEA	61.52	334.7	9	45A	-1						
LONGMIRE	61.80	50.9	9	49	1						
EDMONTON	61.86	41.2	9	45	-3						
BANFF	62.25	44.1	9	52	1						
NURMIJARVI	62.53	330.5	9	52A	-1						
HELSINKI	62.67	330.1	9	53A	-1						
HUNGRY HORSE	64.83	45.8	10	7	-1						10 41 PCP
SHASTA	65.28	56.5	10	11A	1						
UPPSALA	65.36	332.9	10	10	-1						
BLUE MTS.	65.43	50.3	10	12A	1				11	28	
CHARTERS TS.	65.81	176.1	10	12	-2						
MINERAL	65.97	56.3	10	15A	0				11	16	
TEHERAN	66.08	297.1	10	18	3						
CALISTOGA	66.51	58.3	10	19	1						
BERKELEY	67.20	58.7	10	24K	2						
LICK	67.92	58.8	10	27A	0						
FROBISHER	67.96	14.3	10	27K	0						
BOZEMAN	68.15	46.4	10	23	-5				11	34	
PARAISO	68.15	60.1	10	33	5						
KARLSKRONA	68.94	331.4	10	33	0						
PRIEST	69.30	59.2	10	36	1						

SHIRAZ	69.35	291.5	10 36	0	19 14	
EUREKA	69.77	53.9	10 40	2	13 22	PP
SALT LAKE C.	71.15	50.6	10 48	2		
PASADENA	72.15	59.3	10 53	1		
UINTA BASIN	72.69	49.6	10 57A	1	15 2	
BOULDER CITY	72.85	55.9	10 54	-3		
BRISBANE	73.58	170.5	11 0	-1		
COLLMBERG	73.80	329.7	11 2	0	12 17	
GLEN CANYON	73.99	53.3	11 4	1		
LARAMIE	74.04	46.6	11 4	0		
PRUHONICE	74.34	328.1	11 5	0	12 8	
JENA	74.61	330.3	11 7	0		
KASPERSKE H.	75.39	328.1	11 12	1		
TONTO FOREST	76.09	55.0	11 13	-2	14 10	PP
TUCSON	77.83	56.1	11 26	1		
ALBUQUERQUE	78.30	51.5	11 27	0		
JERUSALEM	78.53	303.9	11 30K	2		
ATHENS	80.02	315.3			13 40	
WICHITA MTS.	82.63	46.6	11 50	0	15 2	PP
TULSA	83.07	44.1	11 53A	1		
BREBEUF	83.52	24.7	11 54	0		
LA PAZ	141.09	51.1	18 57	3		

DECEMBER 16 13.H 47.M 53.S EPICENTRE 37.04 21.02 DEPTH= 0.KM

A= 0.74686 B= 0.28705 C= 0.59983 D= 0.3588 E=-0.9334
G= 0.5599 H= 0.2152 K=-0.8001 HT= -0.6

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	
PATRAS	1.31	25.4						0 33	PG
ATHENS	2.34	65.9	0 44A	4	1 16	6		0 51	PG
REGGIO CALA.	4.40	285.5	1 9	-1	1 58	-4			
MESSINA	4.50	286.5	1 11A	0	1 59	-6			
TARANTO	4.52	320.4	1 17	6	2 7	2			
SKOPJE	4.93	3.6	1 19	2	2 14	-2		1 37	PG
TITOGRAD	5.55	346.4	1 27	1				1 44	PG
SOFIA	5.92	16.7	1 36	5	2 41	0		3 14	SG
ISTANBUL UN.	7.37	54.8	1 55	3	4 13	56			
BELGRADE	7.78	357.0	1 56K	-1				3 16	
AQUILA	7.91	314.4	1 57	-2					
ROME	8.19	308.9						2 27	P*
BUCHAREST	8.31	26.0	2 7	2	3 46	5		4 53	SG
TIMISOARA	8.70	0.9	2 19	9				5 16	
CAMPULUNG	8.75	18.9	2 5	-6				4 54	SG
ZAGREB	9.55	338.2	2 20	-2				5 32	
FOCSANI	9.81	26.3	2 19	-7				4 55	
PRATO	10.18	315.2	2 31	0	3 44	-43			
TRIESTE	10.18	329.9	2 30	-1	4 46	19		5 39	SGSG
LJUBLJANA	10.23	333.6	2 29	-2	4 40	12		3 11	
BOLOGNA	10.46	318.4	2 37	3	4 37	3			
BACAU	10.48	22.9	2 29	-6	4 19	-15		3 19	PG
BUDAPEST	10.53	352.5	2 35	0					
PADOVA	10.83	323.4	2 41	2	4 47	4		5 17	SS
IASI	11.25	23.5	2 37	-8				3 33	PG
BRATISLAVA	11.49	346.7	2 47	-1	6 7	58		6 56	
VIENNA-H.	11.71	344.5	2 50	-2	5 3	-1			
PAVIA	12.07	316.0	2 55	-1				3 50	
MONACO	12.32	307.0	2 59	-1					
NIEDZIKA	12.38	357.9	3 1	0				3 39	
KSARA	12.54	100.5	3 2	-1	5 33	9		3 19	PPP
SIMFEROPOL	12.65	47.3	3 6A	2					
ISOLA	12.78	308.2	3 6	0				3 16	PP
JERUSALEM	12.84	110.0	3 3	-4	5 21	-11			
LWOW	12.96	8.7	3 12	4					
KRAKOW	13.03	356.9	3 10K	1				3 36	PPP
RACIBORZ	13.19	352.0	3 11	0	5 45	5		3 25	PP
KASPERSKE H.	13.24	338.2	3 10	-2					
CHORZOW	13.32	354.3	3 13	0				3 24	PP
RAVENSBURG	13.62	325.5	3 18	1					
PRUHONICE	13.75	342.2	3 17	-2	6 10	17			
PRAGUE	13.86	342.0	3 20	0					
TUBINGEN	14.43	326.5	3 28	0					
CHEB	14.44	337.2	3 22	-6				6 28	
FELDBERG	14.45	322.6	3 27	-1					

STUTTGART	14.52	327.5	3 26	-1				
STRASBOURG	15.06	324.1	3 37A	1			6 39	
KARLSRUHE	15.08	326.4	3 39	3				
BESANCON	15.09	317.2	3 56	20			4 50	
WARSAW	15.18	360.0	3 44A	6			3 50	PP
HEIDELBERG	15.24	328.0	3 38	0				
COLLMBERG	15.36	340.7	3 41	1				
JENA	15.44	337.0	3 41	0	6 55	22	8 31	
HALLE	15.83	338.8	3 51	5				
CLERMONT-FD.	15.99	308.6	3 48	0				
GARCHY	16.75	313.3	3 55A	-3				
ALICANTE	17.07	280.9	3 58	-4	7 15	4	4 16	PP
BENSBERG	17.07	328.9	4 4K	2	7 8	-3	4 20	PP
DOURBES	17.61	323.0	4 7	-1	7 21	-3		
PARIS	17.90	316.9	4 12	0				
UCCLE	18.20	324.3	4 17	1	7 49	12		
WITTEVEEN	18.71	332.0	4 23	1				
DE BILT	18.75	328.4	4 27	4	8 7	18		
ALMERIA	18.77	276.5	4 22	-1	8 2	12	4 50	PPP
TIFLIS	18.94	68.4	4 26	1			8 7	SS
KARLSKRONA	19.47	350.9	4 29	-2	8 10	4		
COPENHAGEN	19.53	345.4	4 32A	0	8 18	11		
FOLINIERE	19.56	313.6	4 31	-1				
GRANADA	19.63	277.9	4 32A	-1	8 21	12	5 53	PP
TOLEDO	19.82	285.9	4 34K	-1	8 17	4		
GORIS	20.00	75.2	4 37A	0			5 15	PPP
JERSEY	20.69	313.2	4 43	-1				
KEW	20.91	320.4	4 47	0	8 40	4		
GOTEBORG	21.52	346.7	4 52	-1				
MOSCOW	21.82	25.8	4 57A	1	8 55	2	5 26	PP
UPPSALA	22.93	355.6	5 6	-1	9 21	8	9 54	
HELSINKI	23.28	5.0	5 10K	0	9 22	2	5 31	
AVERROES	23.51	269.4	5 13	0	9 26	2	5 39	PP
PULKOVO	23.52	11.8	5 13	0	9 25	1	10 19	SS
DURHAM	23.52	326.1	5 14K	1	9 27	3		
NURMIJARVI	23.60	4.5	5 13K	0	9 25	0	5 42	PP
KONGSBERG	23.79	345.6	5 15	0	9 37	9	5 50	PP
TEHERAN	24.43	83.9	5 24	3	9 43	4		
BERGEN	25.44	341.7	5 32	1		5 42	6 20	PPP
VALENTIA	26.56	314.0	5 43	1				
UMEA	26.81	359.2	5 45	1	10 18	-1		
SKALSTUGAN	27.10	351.4	5 45	-1			6 11	
SHIRAZ	27.24	96.5	5 49	1	10 27	1		
KAJAANI	27.37	6.4	5 48A	-1	10 33	5		
ASHKABAD	29.50	76.7	6 9	1	11 4	2		
SODANKYLA	30.54	4.3	6 16A	-1			7 3	
KIRUNA	30.84	359.6	6 19	-1			7 36	
APATITY	31.35	9.1	6 24K	-1	11 29	-3	7 30	PP
ADDIS ABABA	32.19	145.6	6 34	2				
BANGUI	32.58	184.5	6 32	-3	11 40	-11		
TROMSOE	32.67	358.6	6 34	-2				
SVERDLOVSK	32.87	40.2	6 37K	-1	11 53	-2		
KEVO	32.94	3.8	6 37K	-1			7 37	PP
TASHKENT	37.27	68.1	7 15A	0	12 59	-4		
QUETTA	38.56	86.4	7 25	-1	13 22	-1		
LWIRO	39.76	167.8	7 35	-1	13 41	0		
KHOROG	39.80	73.5	7 39	2	13 38	-4		
M.BOUR	40.62	246.4	7 49	6	13 38	-16		
WARSAK DAM	40.85	78.7	7 45	0				
SEMIPALATNSK	43.71	52.7	8 6	-3				
LAHORE	43.90	80.8	8 10	0				
KHEYS	45.85	7.9	8 26K	0			10 52	PPP
NEW DELHI	47.38	83.2	8 37K	-1	15 29	-3		
BOMBAY	48.58	97.2	8 47	0	15 52	3		
POONA	49.60	96.9	8 56A	1				
BANDEIRA	52.17	189.5	9 13A	-2				
ALERT	52.65	350.5	9 17A	-1				
CHILEKA	54.06	163.3	9 28K	-1				
ESEN BULAK	54.96	54.8	9 37	2				
CHATRA	56.05	80.1	9 41K	-2	17 29	-2		
BOKARO	56.41	84.0	9 46	0	17 32	-4		
FROBISHER	57.30	328.1	9 52A	0				
IRKUTSK	57.95	46.1	9 56A	-1				
SCHEFFERVLLE	59.54	317.9	10 6K	-2				
SHILLONG	60.36	79.0	10 12A	-1				
TIKSI	60.58	20.3	10 14A	-1	18 33	3		
RESOLUTE	60.97	344.1	10 16A	-1				
TANANARIVE	61.03	151.1	10 23	5				
ULAN-BATOR	61.15	50.0	10 18	-1				

CHITTAGONG	61.93	82.2	10	25	1	18	43	-4			
MOULD BAY	64.23	350.2	10	38A	-1						
KIMBERLEY	65.54	176.4	10	46	-2						
YAKUTSK	65.92	29.3	10	49A	-1	19	36	-1			
BREBEUF	67.61	310.7	11	1A	0						
COPPERMINE	70.36	343.8	11	17	-1						
LONDON ONT.	73.51	311.6	11	36	-1						
YELLOWKNIFE	74.60	340.3	11	42A	-1						
MORGANTOWN	74.73	308.2	11	44K	0						
HONG KONG	79.30	70.2				22	7	-2			
CUMBERLAND	80.72	307.7	12	16	-1						
FLORISSANT	81.59	312.7	12	21	0						
ST. LOUIS 1	81.61	312.5	13	10	49						
EDMONTON	81.67	334.4	12	22A	0						
CARACAS	82.14	277.2	12	24	0						
BANFF	84.25	334.2	12	36	1						
LAWRENCE	84.28	315.4	12	36	1						
FAYETTEVILLE	85.66	312.7	12	42	0						
HUNGRY HORSE	86.04	331.8	12	44	0						
MATUSIRO	86.49	45.9	12	44	-2						
TULSA	86.72	313.5	12	48A	1						
BOZEMAN	87.04	328.6	12	51	2						
BUTTE	87.38	329.7	12	52	2						
LARAMIE	87.99	322.8	12	55	2						
GOLDEN	89.12	321.6	12	59	0						
VICTORIA	89.13	337.3	13	0	1						
WICHITA MTS.	89.18	314.3	13	0	1						
SEATTLE	89.54	336.2	13	5	4						
TANGERANG	90.18	97.5	13	3	-1						
BLUE MTS.	90.21	331.8	13	3	-1				14	34	PP
UINTA BASIN	90.66	324.5	13	6	0				16	50	PP
SALT LAKE C.	91.33	326.2	13	10	1						
DUGWAY	92.22	326.4	13	14K	1						
ALBUQUERQUE	93.32	319.2	13	19	1				17	3	PP
EUREKA	94.19	328.0	13	23	1						
GLEN CANYON	94.28	323.8	13	21	-2						
SHASTA	95.67	332.9	13	28K	-1						
MINERAL	95.69	332.2	13	30A	1						
TONTO FOREST	96.28	322.0	13	33	1	13	40		17	43	PP
BOULDER CITY	96.59	325.3	13	35	2						
CALISTOGA	97.55	332.0	13	38A	1						
TUCSON	97.69	320.4	13	39	1						
CHINA LAKE	97.96	327.2	13	41	2						
BERKELEY	98.10	331.5	13	41K	1						
LICK	98.32	330.8	13	43A	2						
PRIEST	98.97	329.5	13	45A	1						
LA PAZ	99.09	256.3	17	39	235						
PARAISO	99.49	330.8	13	47	1						
PORT MORESBY	124.25	74.6	19	3	2						
SOUTH POLE	126.86	180.0	19	7	1						
CHARTERS TS.	129.70	86.1	19	18	6						
BRISBANE	138.44	90.9	19	34	6						
KOUMAC	144.12	73.0	19	41K	3						
NOUMEA	146.77	73.5	19	48K	6						
AFIAMALU	154.28	29.7	20	7	13						
KARAPIRO	159.77	100.3	20	43	42						
CHATEAU	159.85	103.9	20	43	42						

DECEMBER 18 0.H 30.M 1.S EPICENTRE -24.84-176.54 DEPTH= 32.KM

A=-0.90689 B=-0.05482 C=-0.41779 D=-0.0603 E= 0.9982
G= 0.4170 H= 0.0252 K=-0.9085 HT= 3.4

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	
RAOUL ISLAND	4.56	195.3	1	9	1								
AFIAMALU	11.76	23.3	2	44A	-4								
ONERAHI	13.42	213.6	3	17	7	5	43	4			3	38	*SP
GISBORNE	14.52	197.2	3	20	-5	5	57	-9			15	41	SCS
PORT VILA	15.78	293.7	3	47A	6								
NOUMEA	15.80	275.7	3	47A	6								
LUGANVILLE	17.90	298.1	4	10	2								
WELLINGTON	17.92	201.7	4	2	-6	7	10	-14			15	51	SCS
KOUMAC	18.20	279.7	4	14A	2								

ROXBURGH	23.55	205.5	5	7	-1	9	3	-13				
HONIARA	27.12	300.3	5	36	-6							
BRISBANE	27.63	258.0	5	45	-2	10	29	5				
RIVERVIEW	29.46	244.8	6	4A	1	10	50	-4			7	4 PP
CANBERRA	31.45	242.5	6	21A	0	11	20	-5	6	33	7	28 PP
MOORLANDS	34.60	230.5	6	48	0						9	22
CHARTERS TS.	34.63	270.3	6	46	-2							
TOOLANGI	34.64	239.3	6	47	-1	12	10	-5			13	0 PCS
MACQUARIE I.	34.76	205.1	6	49A	0	12	18	1			7	43 PP
TARRALEAH	35.07	231.0	6	50	-2							
RABAUL	36.42	299.2	6	59A	-4						13	7 SCP
PORT MORESBY	37.79	287.5	7	13K	-2	12	53	-10			9	15 PCP
ADELAIDE	39.79	244.6	7	31	0	13	15	-18				
CAPE HALLETT	48.07	185.4	8	41	3							
HAWAII V.OB.	48.63	27.1	8	43	0							
HONOLULU	49.24	22.9	8	48	1	15	57	7			10	48 PP
KIPAPA	49.38	22.9	8	48	0	15	56	4			18	39
GUAM	53.63	310.9	9	21	1						19	5
SCOTT BASE	53.66	184.3	9	23	2	16	59	9			10	17
MUNDARING	58.75	246.5	9	55	-2	17	48	-10				
BYRD STATION	60.16	170.3	10	8	1							
WILKES	60.67	206.3	10	8	-2	18	17	-6	10	32		
SOUTH POLE	65.31	180.0	10	41	0							
MIRNY	67.67	205.6	10	55A	-1				11	26	20	42 SCS
TORISIMA	68.82	320.7	11	0K	-3	19	58	-5				
HATIDYOZIMA	71.06	322.2	11	18	1							
MANILA	72.39	295.9	11	25	0	20	37	-8				
OSIMA	72.53	323.1	11	25A	0	20	43	-3				
YOKOHAMA	72.88	323.7	11	29	2	21	28	38				
AJIRO	72.90	323.1	11	25	-3	20	45	-5				
TOKYO C.M.O.	73.02	324.0	11	26	-2	20	46	-6				
HONGO	73.03	324.0	11	11	-17	21	27	35				
MISIMA	73.03	323.1	11	29A	1	20	46	-6			21	33 SCS
OMAESAKI	73.05	322.2	11	27	-1							
MITO	73.17	324.9	11	30A	1	20	49	-5				
KAKIOKA	73.20	324.6	11	29	0							
SHIZUOKA	73.22	322.6	11	31	2	20	41	-13				
TUKUBASAN	73.24	324.6	11	26A	-4	20	44	-10			14	11 PP
ONAHAMA	73.38	325.6	11	28	-2	20	54	-2				
HUNATU	73.41	323.2	11	24	-7							
HAMAMATU	73.41	322.0	11	29A	-2	21	39	43				
KUMAGAYA	73.57	324.1	11	31	0							
TITIBU	73.60	323.7	11	29	-3							
UTUNOMIYA	73.61	324.6	11	30	-2	20	53	-5				
SIOMISAKI	73.61	319.9	11	33	1	20	58	-1				
KOHU	73.65	323.2	11	33	1	20	51	-8				
OWASE	73.81	320.6	11	34A	1	20	56	-5				
SHIRAKAWA	73.86	325.2	11	32	-1	20	54	-7				
MAEBASI	73.92	324.0	11	34K	0	21	5	3				
IIDA	73.94	322.6	11	34	0	21	37	35				
TU	74.08	321.2	11	46	12						20	27
OIWAKE	74.15	323.7	11	36	1	21	2	-3				
NAGOYA	74.16	321.9	11	24	-11	21	3	-2				
HUKUSIMA	74.21	325.8	11	36	1	21	2	-3				
KAMEYAMA	74.21	321.3	11	35	0	21	0	-5				
ISINOMAKI	74.30	326.8	11	34A	-2	20	56	-10				
LEMBANG	74.33	269.7	11	36	0							
MATUMOTO	74.40	323.2	11	38	2	21	7	0				
MUROTO	74.41	318.7	11	37	1	21	3	-5				
GIHU	74.44	321.9	11	38	1	20	45	-23				
NARA	74.46	320.8	11	35	-2							
MATUSIRO	74.49	323.6	11	34A	-3	21	2	-6				
WAKAYAMA	74.52	320.1	11	49	12	21	15	6				
OSAKA	74.61	320.6	11	40	2	21	11	1				
HIKONE	74.64	321.5	11	40	2	21	53	43			14	41
YAMAGATA	74.65	326.1	11	36	-2	21	6	-4				
TAKAYAMA	74.72	322.7	11	35	-3							
ABUYAMA	74.74	320.8	11	36A	-2	21	4	-7				
SUMOTO	74.75	320.0	11	38A	0	21	7	-4			16	35
TOKUSIMA	74.75	319.6	11	40	2							
KYOTO	74.76	321.0	11	39	1	20	56	-15				
YAKUSIMA	74.81	314.4	11	40A	1	21	6	-6				
KOBE	74.83	320.4	11	33	-6							
TAKADA	74.88	324.0	11	40	1	21	50	37				
TSURUGISAN	74.93	319.1	11	42	3							
MIYAKO	74.93	328.0	11	37	-2	21	6	-7				
MIZUSAWA	74.94	327.2	11	42	3	21	5	-8				
KOTI	75.01	318.6	11	40A	0	21	8	-6				

TSURUGA	75.02	321.6	11	38	-2					
NIIGATA	75.07	325.1							18	38
TOYAMA	75.15	323.1	11	43	2	21	15	-1		
MIYAZAKI	75.20	316.1	11	46	5	21	18	2		
TAKAMATU	75.24	319.5	11	41	0	21	9	-8	21	54 SCS
MAIZURU	75.27	321.1	11	43	2					
MORIOKA	75.36	327.6	11	40	-2	21	10	-8		
UWAZIMA	75.39	317.8	11	43	1	21	15	-3		
SAKATA	75.41	326.2	11	45	3					
KAGOSIMA	75.52	315.3	11	45K	2	21	15	-5		
AIKAWA	75.56	324.6	11	42K	-1					
TOYOOKA	75.64	320.8	11	44	1	21	15	-6		
MATUYAMA	75.66	318.3	11	46	2	21	18	-3		
WAZIMA	75.81	323.4	11	44	0	21	16	-7		
HATINOHE	75.83	328.3	11	43	-2	21	35	12		
AKITA	75.90	326.9	11	48	3	21	30	6		
OOITA	75.96	317.2	11	54	9	21	27	2		
TOTTORI	76.00	320.4	11	44	-1	21	41	16		
ASOSAN	76.08	316.6	11	46	0					
HIROSIMA	76.24	318.5	11	48	1	21	20	-8		
NEMURO	76.25	332.5	11	45A	-2	21	26	-2		
KUMAMOTO	76.25	316.4	11	47	0	21	52	24		
HIROO	76.38	330.5	11	45	-3	21	27	-2		
AOMORI	76.42	328.0	11	50	2	21	30	0		
YONAGO	76.42	319.9	11	47	-1					
KUSIRO	76.47	331.6	11	47A	-1	21	48	18	21	26 SKS
URAKAWA	76.52	330.1	11	51K	3	21	30	-1		
MATSUE	76.60	319.7	11	50	1	22	8	36		
HENGCHUN	76.64	302.0	11	55	6	21	51	19		
NAGASAKI	76.71	315.8	11	49A	-1	21	25	-8		
TAWU	76.72	302.4	11	49	-1					
TAITUNG	76.76	302.9	11	45	-5					
HSINKONG	76.78	303.3	11	51	1					
SAGA	76.79	316.5	11	49	-1				13	17
HAMADA	76.82	318.7	11	52K	2	21	31	-3	23	29
OBIHIRO	76.95	330.8	11	50	-1	21	39	4		
HUKUOKA	76.96	316.8	11	50A	-1	21	28	-8		
SAIGO	76.97	320.4	11	54	3	21	53	17		
HWALIEN	77.09	304.2	11	54	2	22	32	55		
HAKODATE	77.19	328.7	11	51A	-1	21	35	-3		
ABASHIRI	77.36	332.2	11	51A	-2	21	38	-2	22	11
TOMAKOMAI	77.45	329.7	11	54	0					
ALISHAN	77.45	303.4	11	51	-3					
MURORAN	77.48	329.1	11	52	-2					
MORI	77.51	328.7	11	58	4					
TAINAN	77.61	302.6	12	29	34					
TAIPEI	77.76	305.0	12	2	7	21	12	-32		
ANPU	77.85	305.1	11	55	-1					
SAPPORO	77.90	329.8	11	55	-1	21	40	-6		
MAWSON	77.95	199.7	11	55	-1	21	43	-3		
ASAHIGAWA	78.00	330.9							21	46
ITUHARA	78.06	316.6	11	30	-27					
SUTTSU	78.21	329.0	11	55	-3					
RUMOE	78.47	330.5	11	59	0					
PARAISO	79.45	41.8	12	8	3	22	15	13		
WAKKANAI	79.60	331.5	12	2	-3					
SAN FRANCSCO	80.36	40.6	12	11	2					
PRIEST	80.37	42.8	12	11K	1	22	17	5	30	57 PKPPKP
Y.-SAKHLINSK	80.43	333.1	12	9A	-1	22	8	-4	13	11
PETROPAVLOVK	80.49	345.1	12	9A	-1	22	8	-5		
BERKELEY	80.54	40.6	12	11K	1	22	18	5	30	54 PKKP
LICK	80.56	41.4	12	11K	0	22	17	3	38	54 PKPPKP
PASADENA	80.69	45.7	12	11	0	22	19	4	15	19 PP
UKIAH	80.82	39.2	12	14	2	22	20	4	13	28 PP
CALISTOGA	80.86	39.9	12	12K	0				38	51 PKPPKP
HONG KONG	81.96	299.0	12	18A	0	22	12	-16	15	28 PP
MINERAL	82.56	39.1	12	22A	1					
BOULDER CITY	83.98	45.9	12	30K	2	22	25	-23	15	46 PP
N-LAZARVSKYA	84.47	182.8	12	30A	-1	22	49	-4	23	37 *SS
CORVALLIS	84.47	35.1	12	31	0	22	45	-8		
TUCSON	84.56	50.9	12	33K	2				30	43 PKKP
EUREKA	85.36	42.6	12	35	0				30	59 PKKP
TONTO FOREST	85.39	49.0	12	36	1	22	57	-5	16	6 PP
TUMWATER	86.33	33.5	12	38	-2					
GLEN CANYON	86.68	46.6	12	43	1					
LONGMIRE	86.71	34.2	12	41	-1					
SEATTLE	87.07	33.3	12	41	-2	23	1	-17		
VICTORIA	87.11	32.2	12	45	1					

PHU-LIEN	87.35	294.2	12	44	-1			16 12 PP
DUGWAY	87.74	43.4	12	47K	0			
BLUE MTS.	87.88	37.7	12	46	-1	23	10 -16	16 14 PP
SOCORRO	88.29	51.1	12	51	2			
SITKA	88.65	21.1	12	51	0	23	19 -14	
SALT LAKE C.	88.67	43.4	12	51	0			16 32 PP
PRICE	88.67	44.8	12	52K	1			
SANTA LUCIA	88.80	126.5	12	55K	3	23	57 22	23 13 SKS
ALBUQUERQUE	89.08	50.6	12	53	0			
LOGAN	89.25	42.6	12	54K	0			
SPOKANE	89.67	35.4	12	55	-1	23	21 -22	
UINTA BASIN	89.86	44.7	12	56	-1	23	22 -22	16 32 PP
FLAMING GRGE	90.31	44.3	12	59	0			
BUTTE	91.25	38.8	13	0	-3	22	57 -60	
HUNGRY HORSE	91.80	36.3	13	4	-2			
BOZEMAN	91.92	39.7	13	4	-2	23	7 -56	
COPIAPO	91.97	121.3	13	12	5	24	24 21	17 16
COLLEGE	92.15	11.8	13	5	-2	23	33 -32	
GOLDEN	92.27	47.0	13	8	0	23	31 -35	
BANFF	92.71	33.5	13	7	-3			
LARAMIE	92.95	45.5	13	12	1			
SAN SALVADOR	93.28	76.5	13	14	1			
NANA	93.64	104.9	13	16	2			
ANTOFAGASTA	93.68	118.1	13	16K	2			17 3
SANTIAGO MA.	93.85	77.0	13	29A	-50			25 11 *SS
WICHITA MTS.	94.63	53.9	13	18K	-1			
HOUSTON	94.84	59.6	13	15	-5			
HUANCAYO	94.94	105.6	13	24	4			
EDMONTON	95.10	32.5	13	19K	-2			
DALLAS	95.14	56.3	13	21	0			
PORT BLAIR	95.48	280.3	13	21K	-2	23	51 -4	17 13 PP
AREQUIPA	96.24	111.2	13	38	12			
YAKUTSK	96.60	337.5	13	25A	-3	23	52 -9	
LA PLATA	96.87	133.4	13	31	2			
TULSA	97.20	53.9	13	31K	1	23	54 -10	17 34 PP
FAYETTEVILLE	98.46	54.3	13	36	0			17 37 PP
LA PAZ	99.05	112.8	13	43	4	24	10 -3	
ULAN-BATOR	99.62	318.4	13	37	-4			
YELLOWKNIFE	99.87	24.6	13	41	-2			
BALBOA HTS.	100.00	84.7	13	45	2			17 55 PP
CHITTAGONG	100.49	289.8	13	50	5			
SHILLONG	101.66	292.8	13	50A	-1	24	21 -5	18 9 PP
CHINCHINA	101.97	90.0	13	56K	4	24	27 -1	18 16 PP
FLORISSANT	102.32	52.9	13	54	1			
ST. LOUIS 1	102.36	53.1	13	56	2			
COPPERMINE	102.81	20.0	13	56A	0			
IRKUTSK	102.97	321.7	13	55A	-1	24	26 -6	25 21 S
BOGOTA	103.24	91.0	14	1K	3			18 23 PP
TIKSI	103.26	344.6	13	56	-2	24	26 -8	18 8 PP
CALCUTTA	103.51	288.7	14	1	2	24	39 4	18 12
FUQUENE	103.89	90.4	14	1A	1			
GALERAZAMBA	104.60	84.7						18 24 PP
CUMBERLAND	104.75	57.4	14	5	1	24	26 -14	18 19 PP
ESEN BULAK	105.72	314.1	14	9	777			
CHATRA	106.05	292.4	14	12	777	24	42 -4	18 25 PP
BOKARO	106.18	289.1	14	12	777	24	43 -4	18 25 PP
MOULD BAY	106.72	12.1	14	14	777			
MADRAS	107.27	276.6	14	18	777	24	49 -3	25 48 S
KODAIKANAL	108.67	272.8	14	30	777	24	54 -4	25 54 S
CLEVELAND	109.59	52.6	14	29	777			
MORGANTOWN	110.24	54.9	17	40	-48			19 1 PP
LONDON ONT.	110.26	51.1	18	31	3			
HYDERABAD	110.43	280.3	14	7	-262	24	43 -22	
CARACAS	112.06	88.4	14	40K	-232	27	4 112	19 20 PP
GEORGETOWN	112.21	56.2						19 17 PP
OTTAWA	114.62	49.6	18	37	0			
DEHRA DUN	114.75	293.4	14	50	-227	25	19 -3	25 29 S
POONA	114.91	279.8	14	52	-225	25	21 -2	
NEW DELHI	115.00	291.3	14	49	-229	25	18 -5	26 27 S
PALISADES	115.05	54.6	14	52	-226	25	20 -3	15 36 18 39 PKP
SAN JUAN	115.59	80.7	18	40	1	25	19 -6	19 18 19 45 PP
BOMBAY	115.96	279.8	14	37	-243	25	4 -22	18 50 PP
BREBEUF	116.10	49.8	18	42	2	25	24 -3	15 5 P
SEMIPALATNSK	116.99	315.6	18	38	-3			
TRINIDAD	117.14	90.5	18	45	3			
ALERT	117.59	7.8	18	42	-1			
GRAHAMSTOWN	118.12	201.9	18	49	5			20 9
LAHORE	118.15	293.8	15	5	-219			
ST. CLAUDE	118.79	84.7	18	32	-13			19 36 PP

FORT FRANCE	118.85	86.3	18	49	4					20	23 *PPP
TANANARIVE	118.89	228.8	18	49	4					30	30
HERMANUS	119.19	194.9								20	8 PP
MILO	119.25	50.6	18	48	2						
KHEYS	119.90	351.1	18	46	-1	25	27	-14		20	14 PP
FRUNSE	119.92	306.6	18	49	2	25	38	-3		20	46
FROBISHER	119.97	29.2	18	46	-1						
PIETERMZBURG	119.99	207.1	18	50	3						
CARIBOU	120.07	48.7	18	49	2						
EAST MACHIAS	120.29	51.3	18	50	2						
WARSAK DAM	120.94	296.0	15	37	-192					19	42 PKP
SCHEFFERVLLE	121.23	39.6	18	50	0						
KHOROG	121.54	300.0								20	23 PP
CHANGALANE	122.09	210.6	18	49	-2					20	12 SP
KARACHI	122.80	284.5	18	54	1						
KIMBERLEY	122.91	202.4	18	54	1						
HALIFAX	123.05	51.7	18	54K	1						
QUETTA	124.06	290.7	15	32	-203					18	46 PKP
GODHAVN	124.52	21.3	18	55	-1						
SVERDLOVSK	128.30	323.9	19	4	1					19	38 *SPKP
BULAWAYO	129.03	210.9	18	51	-14					19	8
CHILEKA	129.33	220.6	18	55	-10					19	8
ASHKABAD	131.99	299.5								22	35 PKS
KEVO	132.96	349.0	19	6	-6					21	49 PP
APATITY	133.47	344.7	19	1	-12	26	7	-12	19 22	21	42 PP
BROKEN HILL	133.95	214.7	19	1	-13					19	15
TROMSOE	134.26	352.5	19	14	-1					21	45 PP
SODANKYLA	135.11	347.5	19	1	-15					21	37 PP
KIRUNA	135.75	350.9	19	5	-12					16	52 P
SHIRAZ	136.37	287.6	19	36	18						
TEHERAN	137.58	296.5	19	7	-14					23	41 PKS
KAJAANI	137.68	344.4	19	10	-11					55	22
UMEA	139.49	348.6	19	15	-9					16	41 P
MOSCOW	140.33	330.2	19	21	-5	26	19	-12		22	59 PKS
PULKOVO	140.40	339.0	19	21	-5	26	11	-20	19 46	22	33 PP
SKALSTUGAN	140.83	353.8	19	23	-4					21	44
GORIS	141.25	302.8	19	20	-7					23	4 PKS
NURMIJARVI	141.46	343.3	19	20	-8					17	1 P
HELSINKI	141.67	342.8	19	22	-6					55	43
ADDIS ABABA	142.89	251.1	19	30	0						
LWIRO	143.53	226.0	17	1A	-150					41	25
UPPSALA	143.64	348.0	19	28A	-3					16	53 P
BERGEN	144.44	358.4	19	32	-1					23	12 PKS
KONGSBERG	144.95	354.5	19	32	-2					23	2 PKS
LUANDA	145.18	197.1	19	36A	2					22	59 PP
GOTEBORG	146.61	351.7	19	37A	0						
ABERDEEN	147.45	5.6	19	44A	6	26	44	3		26	10 PPP
KARLSKRONA	147.48	347.4	19	38	0					20	14
SIMFEROPOL	148.12	316.7	19	37	-2	26	38	-4		26	43 PPP
COPENHAGEN	148.49	350.2	19	41A	1						
WARSAW	149.56	338.5	19	42A	1					23	13 PP
DURHAM	149.87	5.8	19	44K	2					23	16 PP
KISHINEV	150.04	324.1	19	42	0				20 9	42	29
LWOW	150.37	332.6	19	44	1					30	0 SKKS
KSARA	150.45	295.2	19	45K	2						
IASI	150.58	325.4	19	35	-8				20 19	29	57 SKKS
VALENTIA	151.00	17.6	19	45	2					29	59
JERUSALEM	151.27	291.2	19	46A	2						
BACAU	151.34	325.1	19	47	3				20 14	30	14 SKKS
FOCSANI	151.75	323.4	19	44	-1					30	8 SKKS
KRAKOW	151.77	337.3	19	45	0					20	41 *SPKP
CHORZOW	151.89	338.6	19	46	1				20 23	20	13 PKP2
PONTA DELGDA	152.10	55.6	19	51K	6						
RACIBORZ	152.33	339.3	19	47	2					20	7 PKP2
COLLMBERG	152.59	346.9	19	45	-1					23	25 PP
HALLE	152.60	348.4	19	48	2					23	42 PP
MUNSTER	152.73	354.4	19	47	1						
DE BILT	152.75	357.7	19	49	3						
BUCHAREST	153.16	322.3							21 28	20	12 PKP2
CAMPULUNG	153.18	324.9	19	48	1					30	34 SKKS
JENA	153.21	348.6	19	47	0					23	38 PP
KEW	153.26	5.3	19	48	1					23	45 PP
ISTANBUL UN.	153.31	313.5	19	48	1					17	37
PRAGUE	153.41	344.1	19	58	11					28	17 PP
PRUHONICE	153.46	343.9	19	46	-1					20	12
BENSBERG	153.77	354.7	19	49	2					24	15 PP
CHEB	153.87	346.9	19	45	-3					30	27 SKKS
BUDAPEST	154.25	335.2	19	48	0						

BRATISLAVA	154.34	338.6	19	48	0					20	18	PKP2
KASPERSKE H.	154.49	344.5	19	47	-1							
VIENNA-H.	154.51	339.7	19	47	-1					24	31	
TIMISOARA	154.71	330.0	19	51	2					31	28	
DOURBES	154.77	358.3	19	51	2	27	4	14				
BANGUI	154.97	218.1	19	50	1					31	0	
HEIDELBERG	155.14	351.8	19	51A	2							
JERSEY	155.32	8.8	20	5	15					43	31	
KARLSRUHE	155.57	352.1	19	52	2					24	2	PP
STUTTGART	155.68	350.6	19	49	-1					24	20	PP
BELGRADE	155.77	329.6	19	52K	2	26	33	-18		22	51	PKS
SOFIA	155.81	322.3	19	54	4	26	41	-10		28	23	PKKP
FOLINIERE	155.92	6.4	19	53	3							
TUBINGEN	155.95	350.8	19	52A	2					20	21	
PARIS	156.06	1.6	19	53	3							
STRASBOURG	156.06	352.9	19	52A	2					24	19	PP
RAVENSBURG	156.59	349.5	19	53A	2							
FELDBERG	156.73	352.2	19	53	2							
ZAGREB	156.77	337.4	19	53A	2					24	59	
LJUBLJANA	157.04	340.0	19	53	1				20 9	24	19	PP
SKOPJE	157.34	323.3	20	2	10							
BESANCON	157.55	355.5	19	55	2					20	42	
GARCHY	157.61	0.7	19	55A	2							
TRIESTE	157.64	340.8	19	55	2				20 9	24	16	PP
MOKA	158.04	194.0	19	55	2					24	11	PP
TITOGRAD	158.14	327.2	19	53	0					20	41	PKP2
M.BOUR	158.15	114.6	19	56	3					24	11	PP
ATHENS	158.37	312.1	19	55K	1					24	31	
PADOVA	158.38	343.8	19	56	2					44	9	SS
ROSELEND	159.04	353.8	19	56	2					22	18	
CLERMONT-FD.	159.12	0.7	19	57	3					32	41	
PAVIA	159.19	348.6	19	57	2					24	33	PP
BOLOGNA	159.37	343.9	19	58K	3					20	41	PKP2
PRATO	160.01	343.7	19	57	2	27	3	7				
ISOLA	160.49	352.2	19	59	3					24	21	PP
TARANTO	160.61	326.8								24	54	
AQUILA	160.70	337.2	19	57	1	27	9	13		24	19	PP
MONACO	160.88	351.2	19	58	2							
ROME	161.41	338.5	19	57A	0	26	59	2		24	19	PP
LISBON	162.52	34.7	20	1	3	26	57	-1		24	34	PP
MESSINA	163.18	325.2	19	58	-1					24	31	PP
REGGIO CALA.	163.21	324.8								24	33	PP
BARCELONA	163.43	3.5	20	18	19							
TOLEDO	163.73	21.0	20	3A	4					24	44	PP
ALICANTE	166.12	13.0	20	4A	3	27	7	7		24	59	PP
GRANADA	166.30	24.5	20	15	13	27	50	50		25	27	PP
ALMERIA	167.00	21.6	20	4A	2					24	46	PP
AVERROES	167.30	46.0	20	3K	1					21	16	PKP2

DECEMBER 18 2.H 50.M 39.S EPICENTRE 46.40 151.67 DEPTH= 67.KM

A=-0.60914 B= 0.32837 C= 0.72188 D= 0.4745 E= 0.8802
G=-0.6354 H= 0.3425 K=-0.6920 HT= -4.1

DEPTH OF FOCUS= 0.005R

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
KURILSK	2.91	247.6	0	37A	-8							
Y.-SAKHLINSK	6.19	279.0	1	29	-2	2	43	2				
PETROPAVLOVK	8.02	31.8	2	0K	4	3	39	13				
MIZUSAWA	10.62	230.6				4	46	16			3	54
MATUSIRO	14.09	230.4	3	1A	-17	5	46	-7				
YAKUTSK	20.07	329.1	4	31K	0							
TIKSI	27.51	344.6	5	38	-5							
COLLEGE	37.04	38.1	7	7	2							
BAGUIO CITY	39.51	231.2	7	30	4							
MOULD BAY	45.27	19.7	8	13	0							
COPPERMINE	49.23	30.0	8	44	0							
ALERT	50.20	5.5	8	52A	1							
SHILLONG	51.37	267.7	8	56A	-4							
RESOLUTE	51.48	18.2	9	1	0							
YELLOWKNIFE	51.79	36.1	9	4K	1							
FRUNSE	52.91	296.0	9	11	-1							
SEATTLE	55.65	54.8	9	37	5							

EDMONTON	57.17	45.3	9	43A	0			10 34 PCP
APATITY	57.27	336.3	9	43K	0			
KEVO	57.33	340.1	9	44	0			
DEHRA DUN	57.91	281.7	9	46A	-2			
SODANKYLA	59.21	338.4	9	56	-1			
TROMSOE	59.22	342.6	9	57	0			
SHASTA	59.59	61.6	9	59A	0			
HUNGRY HORSE	59.79	50.3	10	1	0			
WARSAK DAM	59.97	289.0	9	58	-4			
BLUE MTS.	60.09	55.1	10	2	-1			11 39
MINERAL	60.28	61.5	10	3A	-1			
KIRUNA	60.35	340.8	10	5	0			
CALISTOGA	60.72	63.6	10	6K	-1			
BERKELEY	61.39	64.1	10	11A	-1			
LICK	62.11	64.2	10	15K	-1			
PARAISO	62.28	65.5	10	20	2	10 34		
BOZEMAN	63.05	51.3	10	20	-3	10 34		
PRIEST	63.47	64.7	10	24A	-2			
UMEA	63.65	338.2	10	27	0			
EUREKA	64.21	59.2	10	30	0			11 30
NURMIJARVI	65.09	334.2	10	36A	0			
HELSINKI	65.27	333.8	10	37	0			
QUETTA	65.41	288.5	10	36A	-2			
DUGWAY	65.60	56.8	10	39A	0			
FROBISHER	65.73	18.3	10	40A	0			
SKALSTUGAN	65.76	341.4	10	41	1			
SALT LAKE C.	65.78	55.8	10	40	0			
VANNOVSKAYA	65.92	300.2	10	41	0			
PASADENA	66.31	64.9	10	42	-2			
CHARTERS TS.	66.36	185.6	10	36	-8			
FLAMING GRGE	67.07	54.4	10	48	-1			
BOULDER CITY	67.17	61.4	10	49	0	11 0		
UINTA BASIN	67.37	55.0	10	50	-1			13 23 PP
UPPSALA	67.65	336.9	10	52	0			
GLEN CANYON	68.45	58.8	10	57	0			
KONGSBERG	69.83	340.6	11	7	1			
BERGEN	70.09	343.0	11	8	1			
TONTO FOREST	70.46	60.7	11	9	-1	11 21		13 48 PP
KIROVOBAD	70.78	309.0	11	11	0			
GOTEBORG	70.99	338.4	11	13	0			
KARLSKRONA	71.37	335.8	11	14	-1			
BAKURIANI	71.50	311.4	11	18	2			
TUCSON	72.13	62.0	11	18	-2			
COPENHAGEN	72.66	337.2	11	23K	0			
ALBUQUERQUE	72.86	57.3	11	23	-1			
BRISBANE	73.45	179.0	11	30	3			
KRAKOW	75.24	330.2	11	38A	0			11 56 PCP
UZHGOROD	75.59	328.0	11	40	0			
RACIBORZ	75.80	331.2	11	42	1			11 57 PCP
COLLMBERG	76.37	334.7	11	44A	0			
HALLE	76.50	335.4	11	38	-7	21 16	-8	
JENA	77.11	335.4	11	48	0			
MUNSTER	77.26	338.1	11	52	3			
WICHITA MTS.	77.48	52.6	11	49	-1			
VIENNA-H.	77.98	331.3	11	55	2			
TULSA	78.10	50.0	11	53	-1			
KASPERSKE H.	78.11	333.4	11	55A	1			
BENSBERG	78.29	338.0	11	55A	0			12 20
STUTTGART	79.71	335.8	12	3A	1			12 29
STRASBOURG	80.31	336.6	12	7	1			
CANBERRA	81.38	182.2	12	5	-6			
KSARA	81.42	310.7	12	13	2			
PARIS	81.44	340.0	12	15A	3			
FOLINIERE	82.15	341.8	12	17	2			
GARCHY	82.73	339.0	12	19A	1			
ROSELEND	83.26	336.1	12	22	1			
JERUSALEM	83.35	309.9	12	22A	1			
CUMBERLAND	83.51	43.6	12	21	-1			
ISOLA	84.53	335.3	12	27	0			12 47
BANGUI	114.60	306.7	18	32	-1			19 36 PP

DECEMBER 18 6.H 40.M 3.S EPICENTRE 41.86 82.71 DEPTH= 18.KM

A= 0.09479 B= 0.74092 C= 0.66487 D= 0.9919 E=-0.1269
G= 0.0844 H= 0.6595 K=-0.7470 HT= -2.4

SE= 2.61

	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
PRZHEVALSK	3.26	282.3	0	55	3						1	51
ALMATA-2	4.19	291.4	1	9A	4							
ALMATA	4.48	290.2	1	12A	3	1	59	-2				
RYBACHE	4.89	279.1	1	10A	-5							
FRUNSE	6.07	281.8	1	32	1							
ANDIJAN	7.86	265.3	1	59	3							
SEMIPALATNSK	8.71	349.5	2	6	-2	3	37	-10				
KHOROG	9.67	246.7	2	24	3	4	10	-1				
TASHKENT	10.08	271.4	2	30	3							
ESEN BULAK	10.73	60.5	2	39	3							
DUZHANBE	11.16	257.4	2	30	-12							
WARSAK DAM	11.79	231.9	2	49	-2							
DEHRA DUN	12.12	199.6	2	53	-2	5	7	-4				
SAMARKAND	12.13	264.8	2	58	3							
LAHORE	12.29	215.8	2	57	0							
NEW DELHI	13.99	200.4	3	16K	-4	5	44	-12				
CHATRA	15.44	164.9	3	36	-3							
QUETTA	17.24	232.5	3	59A	-3	7	4	-8				
SHILLONG	17.93	152.2	4	10K	0	7	32	5				
IRKUTSK	17.96	47.2	4	12A	1							
ULAN-BATOR	18.14	62.3	4	13	0							
BOKARO	18.17	170.9	4	16	3	7	39	6				
ASHKABAD	19.07	266.2	4	24	0							
VANNOVSKAYA	19.26	266.4	4	25	-1							
KIZYL-ARVAT	20.25	271.3	4	39	2							
SVERDLOVSK	20.63	324.1	4	40K	-1							
BOMBAY	24.39	203.2	5	21	3	9	39	5				
POONA	24.46	200.7	5	23K	4							
TEHERAN	25.07	266.3	5	29	4							
GORIS	27.56	277.3	5	49	1							
TIFLIS	28.12	282.6	6	0	7	10	32	-4				
MADRAS	28.84	185.1									10	50
BAKURIANI	29.05	283.0	6	3	2							
YAKUTSK	34.26	37.8	6	46A	-1							
SIMFEROPOL	35.02	291.9	6	54	0							
PULKOVO	36.47	317.6	7	7K	1							
APATITY	36.77	330.9	7	9K	0	12	49	-2				
VIBORG	37.32	319.1	7	13K	0							
TIKSI	37.38	22.1	7	14A	0							
KSARA	37.46	273.3	7	15	1							
KISHINEV	38.17	296.6	7	21	1							
KAJAANI	38.23	324.4	7	21A	0							
JERUSALEM	38.89	270.8	7	29	3							
HELSINKI	39.18	318.0	7	30	1							
SODANKYLA	39.25	329.5	7	29A	0						8	57 PP
NURMIJARVI	39.34	318.5	7	31K	1						9	6 PP
KEVO	39.66	333.2	7	33A	0						9	17 PP
KHEYS	39.89	353.9	7	37A	2							
LWOW	40.71	302.0	7	40	-1							
BAGUIO CITY	41.18	116.5	7	49	4							
UMEA	41.49	323.6	7	48A	0							
KIRUNA	41.67	329.6	7	50A	1							
UZHGOROD	42.08	300.6	7	54	1							
TROMSOE	42.41	332.2	7	56	1							
MATUSIRO	42.70	78.1	7	58	0							
UPPSALA	42.88	317.7	8	0A	1							
KRAKOW	43.24	303.2	8	2A	0						8	44
KARLSKRONA	44.47	312.6	8	12A	0							
ATHENS	44.64	285.4	8	9K	-4							
SKALSTUGAN	45.04	323.4	8	17A	0							
VIENNA-H.	45.98	301.6	8	24	0							
GOTEBORG	46.11	315.3	8	25	0							
COPENHAGEN	46.30	312.5	8	28	1							
KONGSBERG	46.91	318.3	8	33	2						10	31 PP
KASPERSKE H.	47.46	303.6	8	37	1						10	43
HALLE	47.71	307.1	8	38	0	15	29	-3				
LJUBLJANA	47.90	299.4	8	40	1							
JENA	48.11	306.4	8	42	1						10	21 PP
TRIESTE	48.55	299.1	8	44	0							
BERGEN	48.85	320.0	8	47	0							

STUTTGART	50.25	304.4	8 59	2	
PETROPAVLOVK	50.25	49.7	8 58K	1	
BENSBERG	50.73	307.7	9 1	0	
DOURBES	52.57	307.5	9 16	1	
ROSELEND	53.12	301.7	9 30	11	
ISOLA	53.50	299.9	9 21	-1	10 13
DURHAM	54.20	314.7	9 23	-4	
GARCHY	54.66	304.8	9 29	-1	
ALERT	54.66	354.7	9 30	0	
MOULD BAY	61.34	5.9	10 17A	0	
TOLEDO	62.80	300.3	10 26K	-1	
RESOLUTE	63.74	359.3	10 32A	-1	
BANGUI	67.92	255.4	10 59	-1	13 28 PP
COPPERMINE	69.81	7.1	11 11A	0	
FROBISHER	72.29	347.0	11 26	0	
BROKEN HILL	75.05	234.5	11 44	2	
YELLOWKNIFE	75.07	8.2	11 42K	-1	
PORT MORESBY	77.87	114.4	12 0	2	
MUNDARING	79.68	151.5	12 9	1	
EDMONTON	84.13	9.6	12 33A	2	
CHARTERS TS.	85.08	122.4	12 38	2	
SEATTLE	88.16	16.6	12 57	6	
BLUE MTS.	91.83	14.1	13 9	1	16 15 PP
BOZEMAN	91.99	9.6	13 10	1	
ADELAIDE	92.09	137.0	13 11	1	
BRISBANE	94.47	123.0	13 22	2	
SHASTA	94.73	18.9	13 23A	1	
MINERAL	95.25	18.4	13 26K	2	16 30 PP
EUREKA	97.27	14.5	13 35	2	
UINTA BASIN	97.44	9.4	13 35	1	16 50
TOOLANGI	97.60	134.5			20 1
CUMBERLAND	102.18	350.2	13 56	1	
TONTO FOREST	103.14	11.9	14 1	1	14 36
N-LAZARVSKYA	123.11	201.9	18 58	2	
HUANCAYO	144.65	320.8	19 40	4	
NANA	145.29	323.1	19 40	3	
AREQUIPA	146.36	311.1	19 44	5	
ANTOFAGASTA	151.22	300.6	19 56K	10	

DECEMBER 19 17.H 4.M 1.S EPICENTRE -9.69 -79.41 DEPTH= 0.KM

A= 0.18126 B=-0.96911 C=-0.16726 D=-0.9830 E=-0.1838
G=-0.0307 H= 0.1644 K=-0.9859 HT= 6.6

SE= 2.95

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
NANA	3.40	132.4	0 55	0	1 52	15		
HUANCAYO	4.64	120.7	1 14	1	2 10	2		
LA PAZ	12.90	122.8	3 4	-3	5 39	6		
CHINCHINA	15.05	14.7	3 35	0	6 45	21	3 47	
BOGOTA	15.18	20.7	3 38K	1	6 38	11	3 47	
FUQUENE	16.09	20.8	3 50A	1	7 2	14		
ANTOFAGASTA	16.36	149.5	3 52K	0	6 52	-3		4 7 PP
BALBOA HTS.	18.53	359.5	4 24	4				
GALERAZAMBA	20.75	11.5	4 48	3	8 50	18		5 8 PP
CARACAS	23.59	32.1	5 15K	2	9 21	-4		
SANTA LUCIA	24.97	162.4	5 13	-13	9 51	3		
SAN SALVADOR	25.17	337.1	5 30	2				
TRINIDAD	27.00	42.0	5 46	1				
FORT FRANCE	30.27	37.0	6 11	-4				11 28 *SS
SAN JUAN	30.82	25.2	6 19	-1				
ST. CLAUDE	30.99	34.6	6 24	3	11 21	-5		
COLUMBIA	43.48	358.0	8 5	-1				
CUMBERLAND	45.41	352.9	8 21A	-1	14 40	-24		18 37 SS
BLACKSBURG	46.66	358.9	8 31	-1				
FAYETTEVILLE	47.62	343.8	8 39	0				
WICHITA MTS.	47.76	338.6	8 39	-2	15 35	-2		10 55 PP
TULSA	47.92	342.0	8 42A	0	15 39	0	8 55	
MORGANTOWN	49.07	359.4	8 50K	-1				
LAWRENCE	50.61	344.0	9 1	-2				
PALISADES	50.70	5.4	9 5	2	16 17	-1	9 13	10 27 PCP
TUCSON	51.39	325.6	9 9	1				
ANN ARBOR	51.88	356.0	9 10	-2				
TONTO FOREST	53.17	326.9	9 23	1			9 36	11 23 PP
GOLDEN	54.73	335.6	9 33	0				

BREBEUF	55.18	5.0	9	35A	-2							
GLEN CANYON	55.38	328.8	9	39	1							
LARAMIE	56.18	336.4	9	46	2							
BOULDER CITY	56.37	325.6	9	45	0				10	0	39	46 PKPPKP
PASADENA	57.04	321.8	9	50	0	17	53	9				
UINTA BASIN	57.05	332.8	9	50A	0	17	47	3			12	3 PP
PRICE	57.05	331.3	9	51	1							
FLAMING GRGE	57.46	333.3	9	53	0							
RAPID CITY	57.71	339.9	9	56	1							
SALT LAKE C.	58.46	331.4	10	0	0							
DUGWAY	58.47	330.4	10	1	1						39	34 PKPPKP
LOGAN	59.20	332.2	10	3	-2							
EUREKA	59.54	327.7	10	8	1						39	44 PKPPKP
PRIEST	59.88	321.9	10	10A	0							
PARAISO	61.06	321.0	10	14	-4							
LICK	61.26	322.3	10	20A	1							
BERKELEY	61.98	322.4	10	25A	1	18	51	3			22	59 SS
BOZEMAN	62.01	335.4	10	25	1				10	40		
CALISTOGA	62.67	322.9	10	29A	0							
BUTTE	62.93	334.7	10	28	-2							
MINERAL	63.23	324.9	10	32A	0							
BLUE MTS.	64.16	331.0	10	37A	-1	19	19	4			12	57 PP
SCHEFFERVLLE	65.14	8.0	10	42A	-3							
HUNGRY HORSE	65.38	335.4	10	46	0							
M.BOUR	66.37	69.7	10	52	-1	19	37	-5				
BANFF	68.20	336.4	11	2	-2							
SEATTLE	68.58	330.4	11	1	-6							
EDMONTON	69.15	339.0	11	8A	-2							
VICTORIA	69.73	330.5	11	13K	-1							
BYRD STATION	72.77	186.8	11	32	0							
FROBISHER	73.68	5.0	11	35A	-2							
YELLOWKNIFE	76.94	344.0	11	55K	-1							
SOUTH POLE	80.37	180.0	12	14	-1							
AVERROES	80.56	53.8	12	15A	-1				12	26	12	42 *SP
COPPERMINE	81.42	347.1	12	18A	-2							
HONOLULU	83.12	292.9	12	39	10						28	9
GRANADA	84.70	51.0	12	49A	12							
RESOLUTE	84.76	355.9	12	35	-2							
VALENTIA	85.07	35.5	12	49	10							
TOLEDO	85.12	48.3	12	39	0	23	3	-5			28	59 SS
SCOTT BASE	85.47	191.2	12	54	13	23	11	-1			13	23
MOULD BAY	88.93	351.2	12	57A	-1							
AFIAMALU	89.98	256.0	13	6	3	23	49	-5				
FOLINIERE	90.01	40.5	13	1	-2				13	10		
BANDEIRA	90.14	105.0	12	59	-4							
KEW	90.79	37.9	13	17	11							
GARCHY	91.98	42.5	13	21A	9							
ALERT	92.38	2.2	13	12A	-2							
DOURBES	93.53	39.9	13	16	-3							
CHATEAU	95.38	228.9	13	35	8							
STUTTGART	96.34	41.7	13	30	-2							
KIMBERLEY	97.59	120.8	13	28	-9							
JENA	98.06	39.7	13	50	11							
AQUILA	98.51	48.5				24	39	19			30	29
BANGUI	98.62	87.0	13	41	-1						17	45 PP
COLLMBERG	98.98	39.4	13	46	2							
KASPERSKE H.	99.20	41.6	13	45	0							
PRUHONICE	99.88	40.8	13	57	9							
KIRUNA	102.63	22.5	14	13	13							
ATHENS	106.23	53.3									28	14
LWIRO	107.53	95.5	18	29	777							
RIVERVIEW	115.39	225.4									20	1 PP
JERUSALEM	115.95	59.4	18	46	1							
ADELAIDE	122.79	217.1	18	59	1							
CHARTERS TS.	126.19	236.4	19	7	2				21	16		
TEHERAN	128.41	51.8	19	11	2							
MUNDARING	135.96	199.2									24	25
MATUSIRO	136.73	314.2	19	13	-11						19	25 PKP2
QUETTA	142.60	52.2	19	32K	-3						22	48 PP
DARWIN	142.81	234.5	19	45	10						20	55
WARSAK DAM	144.02	43.3	19	35	-2							
KARACHI	144.73	60.4	19	26	-13							
LAHORE	147.34	44.4	19	44	1							
DEHRA DUN	150.62	42.5	19	52	4							
NEW DELHI	151.10	46.3	19	50A	1							
CHATRA	158.75	34.9	20	10K	11							
BAGUIO CITY	159.42	291.0	20	34	34							
HONG KONG	161.92	315.5									20	45 PKP2

SHILLONG	162.17	26.6	20	4A	1								21	3	
CHITTAGONG	164.85	32.7	20	8	2										

DECEMBER 20 0.H 23.M 49.S EPICENTRE -8.67 160.48 DEPTH= 52.KM

A=-0.93192 B= 0.33031 C=-0.14976 D= 0.3341 E= 0.9425
G= 0.1412 H=-0.0500 K=-0.9887 HT= 6.7

DEPTH OF FOCUS= 0.003R

SE= 2.10

	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	0.92	214.9	0	18	1								
LUGANVILLE	9.41	137.0	2	8K	-7								
PORT VILA	11.80	140.5	2	44K	-4								
KOUMAC	12.38	163.2	2	58	2								
NOUMEA	14.72	157.7	3	31A	5								
CHARTERS TS.	17.83	228.9	4	9A	3	7	29	9					
RIVERVIEW	26.48	197.6	5	33	-1	10	15	13					
GUAM	26.98	324.4	5	40	2								
AFIAMALU	27.68	103.4	5	49K	4	10	33	11					
CANBERRA	28.53	199.9	5	52	-1						10	59	*SS
TOOLANGI	31.81	203.0	6	21	-1	11	59	32	6	32	7	47	PP
ADELAIDE	32.91	214.1	6	30A	-1	12	11	27					
MOORLANDS	35.61	197.0	6	53	-1						7	20	
TARRALEAH	35.70	197.9	6	55	0								
BAGUIO CITY	46.70	302.2	8	25	0								
MUNDARING	47.11	234.1	8	28	0								
ABUYAMA	49.30	332.8	8	45A	0								
MATUSIRO	49.60	336.4	8	46	-2								
HONOLULU	50.41	53.2				16	16	14					
PETROPAVLOVK	61.47	358.7	10	11K	-2								
MIRNY	73.22	202.7	11	26	-1								
YAKUTSK	74.42	345.5	11	33A	-1								
SHILLONG	74.85	299.4	11	38A	2								
BYRD STATION	79.78	169.9	12	3	-1								
COLLEGE	82.75	19.7	12	17	-2								
TIKSI	82.82	350.4	12	18	-2								
PARAISO	84.88	52.2	12	34	4								
CALISTOGA	85.30	49.9	12	33A	1								
BERKELEY	85.35	50.8	12	33A	1								
LICK	85.70	51.4	12	33A	1								
SHASTA	85.97	48.0	12	34	-2								
PRIEST	86.17	52.7	12	37A	0								
MINERAL	86.47	48.5	12	38A	0								
PASADENA	87.72	55.1	12	44	0				12	51			
NEW DELHI	88.26	299.1	12	45A	-2								
EUREKA	90.51	50.3	12	58	1						16	25	PP
BLUE MTS.	90.57	44.8	12	57	-1	23	37	-9			30	17	SS
BOULDER CITY	90.76	53.9	12	59	1								
ALMATA-2	90.90	313.5	12	59	0								
TONTO FOREST	93.38	56.0	13	11	1	23	38	-33	13	19	16	54	PP
TUCSON	93.46	58.1	13	13	2								
GLEN CANYON	93.50	53.3	13	12	1								
SALT LAKE C.	93.83	49.5	13	13	1								
BOZEMAN	95.06	44.7	13	17	-1								
YELLOWKNIFE	95.27	27.7	13	18	-1								
UINTA BASIN	95.50	50.2	13	21	1	24	11	21			17	3	PP
FLAMING GRGE	95.70	49.6	13	21	0								
COPPERMINE	95.86	22.3	13	21K	-1								
MOULD BAY	96.03	13.7	13	21	-1								
ALBUQUERQUE	97.39	55.8	13	34	5								
WICHITA MTS.	103.84	56.4	14	4	6				14	20			
JERUSALEM	124.38	302.6	18	55	2								
BULAWAYO	124.67	238.3	18	54A	0								
LA PAZ	125.79	117.5	18	58	2								
UZHGOROD	126.94	326.4	18	57	-1								
COLLMBERG	129.79	333.9	19	13A	9								
BANGUI	141.89	266.1	19	22	-4						22	33	PP
TOLEDO	145.99	338.5	19	35A	2				19	45			
MOKA	151.49	261.0	19	53	11								

DECEMBER 20 8.H 57.M 19.S EPICENTRE -7.09 129.37 DEPTH= 101.KM

A=-0.62949 B= 0.76727 C=-0.12262 D= 0.7731 E= 0.6343
G= 0.0778 H=-0.0948 K=-0.9925 HT= 6.9

DEPTH OF FOCUS= 0.011R

SE= 1.59

	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	
DARWIN	5.45	164.8	1	21	1								
CHARTERS TS.	20.87	129.9	4	35	0	8	16	-1					
TANGERANG	22.60	271.0	4	51	-1								
RABAUL	22.87	84.0	4	55	0	9	23	30					
BAGUIO CITY	24.92	339.6	5	15	0								
MUNDARING	27.63	204.7	5	38	-2	10	8	-4					
ADELAIDE	29.05	164.0	5	51K	-1						11	13	
BRISBANE	30.01	135.1	5	59	-2	10	41	-9					
HONIARA	30.35	96.5	6	2	-2								
HONG KONG	32.78	333.4				11	28	-6			12	4	*SS
RIVERVIEW	33.37	145.8	6	31	1	11	41	-2			13	7	
CANBERRA	33.39	150.0	6	30K	0						8	32	
TOOLANGI	33.69	156.6	6	33K	0	11	45	-3			13	17	PCS
TARRALEAH	38.19	159.3	7	12	1								
MOORLANDS	38.57	158.7	7	15	1						8	47	
ABUYAMA	42.14	7.6	7	44A	1								
MATUSIRO	44.19	10.2	7	59A	-1	14	18	-7					
CHITTAGONG	47.00	309.5	8	25	3								
SHILLONG	48.81	313.1	8	37	1						10	0	
MONOWAI	50.73	146.0	8	51	0								
MACQUARIE I.	52.91	158.8	9	5	-3								
CHATRA	52.99	311.3	9	7	-1								
GISBORNE	53.87	133.3	9	20	5				12	43			
AFIAMALU	58.15	101.9	9	46A	1								
NEW DELHI	61.51	307.8	10	5A	-3								
DEHRA DUN	61.66	309.9	10	10A	1								
IRKUTSK	62.88	343.0	10	17	0	18	37	0					
MIRNY	64.39	195.3	10	25	-2								
WARSAK DAM	68.23	310.8	10	52	1								
ALMATA-2	68.74	321.9	10	55K	0								
YAKUTSK	68.90	0.2	10	54A	-2								
FRUNSE	70.22	320.3	11	5K	1								
QUETTA	70.33	305.4	11	3A	-1								
DUZHANBE	72.19	314.2	11	16	1								
TASHKENT	73.01	316.9	11	20A	0								
MAWSON	74.63	201.4	11	29	-1								
HONOLULU	76.50	66.2	11	42	2								
KIPAPA	76.60	66.1	11	42	1								
TIKSI	78.56	359.8	11	50	-2								
VANNOVSKAYA	79.81	310.5	11	59	1								
TANANARIVE	80.02	252.1	12	2	3						13	9	
KIZYL-ARVAT	81.54	311.3	12	8A	1								
SVERDLOVSK	84.52	329.0	12	21K	-2								
BYRD STATION	86.65	170.6	12	33	0								
GORIS	89.12	309.8	12	46	1								
TIFLIS	90.63	311.8	12	52	0								
BAKURIANI	91.58	311.7	12	58	2								
CHILEKA	92.30	254.0	13	1A	1								
COLLEGE	93.32	25.1	13	1	-3								
APATITY	98.78	337.3	13	27A	-2								
KEVO	100.89	339.7	13	37	-2								
SODANKYLA	101.41	337.4	13	39	-2								
KAJAANI	101.44	333.9	13	38	-3								
MOULD BAY	101.85	13.2	13	41	-2								
KIRUNA	103.63	338.3	13	47	-4								
UMEA	104.72	334.3	13	53	-3								
COPPERMINE	106.02	20.9	14	1	777								
UZHGOROD	106.56	318.6	14	5	777								
BANGUI	111.09	272.0	18	22	1						19	7	PP
PRUHONICE	111.26	321.0									19	6	PP
BLUE MTS.	111.45	44.6	18	22	0						14	28	P
EDMONTON	111.75	35.0	18	23	1								
COLLMBERG	111.85	322.7	18	24	1						19	4	
KASPERSKE H.	112.09	320.3	18	24	1								
PASADENA	112.52	56.1	18	25	1								
EUREKA	113.46	50.1	18	28	2						14	41	P
BOZEMAN	115.53	42.5	18	30	0								
FLAMING GRGE	118.04	47.2	18	36	1								
UINTA BASIN	118.07	47.9	18	36	1						15	1	P

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.

TONTO FOREST	118.14	54.9	18 37	2		28 53 PKKP
TUCSON	118.89	57.1	18 38	2		
ALBUQUERQUE	121.86	53.1	18 42	0		
FROBISHER	122.02	9.3	18 42	0		
WICHITA MTS.	128.10	51.0	18 55	1		
TULSA	129.77	48.5	18 59	2		22 9 SKP
CUMBERLAND	137.24	43.4	19 12	1		22 31 SKP
SAN SALVADOR	141.54	77.0	19 22	3		
ANTOFAGASTA	143.81	148.3	19 23A	0		
M.BOUR	146.17	285.2	19 30	3		
NANA	147.77	125.9	19 32	2		
HUANCAYO	148.94	127.6	19 36	4		
CHINCHINA	155.06	93.4	19 44K	4		20 11 PKP2
BOGOTA	156.56	94.7	19 46	4		20 18 PKP2
SAN JUAN	161.20	51.9	19 48	0		20 34

DECEMBER 21 12.H 34.M 17.S EPICENTRE -21.33-175.41 DEPTH= 44.KM

A=-0.92933 B=-0.07466 C=-0.36161 D=-0.0801 E= 0.9968
G= 0.3605 H= 0.0290 K=-0.9323 HT= 4.3

DEPTH OF FOCUS= 0.002R

SE= 2.02

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
AFIAMALU	8.15	25.7	1 55	-4	3 15	-16	✓	
PORT VILA	15.75	280.3	3 46K	5				
NOUMEA	16.88	263.4	4 1K	6				
GISBORNE	18.17	196.7	4 6	-5	7 23	-6		
KOUMAC	18.99	268.6	4 23	2				
CHATEAU	19.43	201.6	4 25	-1	7 53	-4		
WELLINGTON	21.56	200.5	4 49	1	8 35	-4		
HONIARA	26.50	292.8	5 33	-3				
MONOWAI	28.07	205.7	5 51	1				
BRISBANE	29.55	251.9	6 2	-1	10 48	-6		
RIVERVIEW	32.01	239.9	6 27	2	11 33	1		13 24 SS
CANBERRA	34.10	238.1	6 43K	0	11 59	-6		8 20 PPP
CHARTERS TS.	35.82	264.9	6 57K	-1	12 15	-16		
TOOLANGI	37.40	235.6	7 10K	-1				7 37 *SP
MOORLANDS	37.69	227.3	7 13	0				
TARRALEAH	38.14	227.9	7 17	0				
ADELAIDE	42.32	241.1	7 50K	-2				20 13
HAWAII V.OB.	45.05	27.3	8 13	-1				
KIPAPA	45.76	22.9	8 19	0			8 41	
GUAM	52.22	307.9	9 7	-2			9 32	
MUNDARING	61.15	244.4	10 10	-3				
BYRD STATION	63.43	170.7	10 30	2				10 53
WILKES	64.27	205.5	10 32	-1	19 5	-1		
MIRNY	71.28	205.0	11 17	0	20 29	-1	12 1	
MATUSIRO	72.33	322.3	11 20K	-3	21 8	26		
PRIEST	77.10	42.7	11 52A	1				
BERKELEY	77.20	40.5	11 53A	1				34 43
LICK	77.24	41.2	11 53A	1				
PASADENA	77.50	45.6	11 54	1				
CALISTOGA	77.51	39.7	11 54A	1				
Y.-SAKHLINSK	77.80	332.1	11 53A	-2				
SHASTA	78.96	38.2	12 2A	1				12 26
MINERAL	79.19	38.9	12 3K	1				
BOULDER CITY	80.79	45.7	12 12	1			12 36	
HONG KONG	81.21	298.0	12 12	-1	21 59	-20		
TUCSON	81.54	50.7	12 17	2				
MAWSON	81.60	199.2	12 15K	0				
EUREKA	82.07	42.3	12 19	1			12 44	13 4
TONTO FOREST	82.30	48.7	12 21A	2			12 45	15 14 PP
LONGMIRE	83.23	33.9	12 24	0				
GLEN CANYON	83.52	46.3	12 27	2				
SEATTLE	83.57	33.0	12 24	-1				
VICTORIA	83.59	31.8	12 26	1				
BLUE MTS.	84.47	37.4	12 30	0	22 49	-2	12 52	15 42 PP
DUGWAY	84.48	43.1	12 30A	0				
SALT LAKE C.	85.41	43.0	12 36	2				
PRICE	85.45	44.4	12 37K	2				
ALBUQUERQUE	86.05	50.2	12 38	0			13 5	
UINTA BASIN	86.63	44.3	12 41A	1	23 17	5	13 6	16 23 PP
FLAMING GRGE	87.07	43.9	12 44	1			13 9	

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.

BUTTE	87.87	38.3	12	47	1				13	12		
N-LAZARVSKYA	88.01	182.4	12	47K	0							
COLLEGE	88.52	11.4	12	48	-2							
BOZEMAN	88.56	39.2	12	48	-2				13	10		
GOLDEN	89.11	46.5	12	53	1						13	17
BANFF	89.21	33.0	12	47	-6							
EDMONTON	91.58	32.0	13	3K	-1							
WICHITA MTS.	91.71	53.4	13	5	0	24	5	6	13	29	24	38
YAKUTSK	93.78	337.3	13	12K	-2							
TULSA	94.29	53.2	13	17K	1							
FAYETTEVILLE	95.55	53.5	13	19	-3							
YELLOWKNIFE	96.26	24.1	13	23A	-2							
COPPERMINE	99.17	19.5	13	37	-1							
LA PAZ	99.41	111.8	13	43	3							
MOULD BAY	103.09	11.8	13	57	1							
QUETTA	123.74	292.7	18	54	0							
SVERDLOVSK	126.04	325.7	18	58	0							
APATITY	130.36	345.9	18	57	-9							
VANNOVSKAYA	131.28	302.2	19	9	1							
SODANKYLA	131.90	348.7	19	8	-1							
KIRUNA	132.45	351.9	19	10	0							
KAJAANI	134.56	346.0	19	14	0						19	40
UMEA	136.25	350.0	19	14	-3						19	42
VIBORG	137.13	342.8	19	14	-5							
NURMIJARVI	138.38	345.2	19	11	-10						19	46
KIROVOBAD	139.82	308.3	19	22	-2						22	44 SKP
UPPSALA	140.41	349.7	19	19	-6							
BAKURIANI	141.51	310.9	19	23	-4							
KONGSBERG	141.55	355.9	19	21	-6							
BANDEIRA	142.99	194.1	19	30A	1							
KARLSKRONA	144.27	349.5	19	29	-3							
ADDIS ABABA	144.91	254.9	19	34	1							
SIMFEROPOL	146.17	321.1	19	37K	2							
DURHAM	146.29	6.4	20	5	30							
WARSAW	146.63	341.6	20	8	32						21	56
LWIRO	146.68	228.2	19	40K	4							
VALENTIA	147.35	17.1	19	39	2							
LWOW	147.67	336.2	19	40	3							
KISHINEV	147.71	328.3	19	40	2							
WITTEVEEN	148.52	357.6	19	43	4						20	8
KRAKOW	148.88	340.7									19	48 PKP2
UZHGOROD	149.29	336.7	19	45	5							
MUNSTER	149.33	356.3	19	45	5							
HALLE	149.34	351.0	19	46	6						20	23
RACIBORZ	149.36	342.7	19	45	5				20	11		
COLLMBERG	149.37	349.6	19	41	1							
KSARA	149.73	300.9	19	47	6							
JENA	149.95	351.2	19	46	5				20	11	22	15
PRAGUE	150.28	347.2	19	47	5							
PRUHONICE	150.34	347.0	19	47	5						20	14
BENSBERG	150.36	356.7	19	47K	5				20	12		
JERUSALEM	150.78	297.3	19	49K	7							
DOURBES	151.29	360.0	20	4	21							
KASPERSKE H.	151.35	347.6	19	49	6						20	15
BUDAPEST	151.42	339.3	20	18	35							
VIENNA-H.	151.52	343.4	19	45	2						20	10 PKP2
FOLINIERE	152.32	7.2	19	52	7							
STUTTGART	152.37	353.3	19	45	0						20	18
PARIS	152.53	3.0	20	18	33							
STRASBOURG	152.69	355.4	19	53	8				20	19		
LJUBLJANA	154.04	344.1	19	56	9				20	23		
GARCHY	154.08	2.4									21	59
CLERMONT-FD.	155.59	2.5	19	40	-9							
BANGUI	158.33	220.9	19	53	0						24	10 PP

DECEMBER 21 13.H 9.M 11.5 EPICENTRE 16.28 119.76 DEPTH= 57.KM

A=-0.47678 B= 0.83372 C= 0.27856 D= 0.8681 E= 0.4964
G=-0.1383 H= 0.2418 K=-0.9604 HT= 5.5

DEPTH OF FOCUS= 0.004R

SE= 2.61

	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
BAGUIO CITY	0.80	79.7	0	16	-1	0	27	-2				

MANILA	2.04	141.4	0	35	2	0	53	-5			
HENGCHUN	5.77	9.1	1	27	1						
TAWU	6.13	9.9	1	33	2						
TAITUNG	6.57	11.3	1	40	3	3	25	34			
TAINAN	6.70	3.6	1	42	3						
HSINKONG	6.95	12.3	1	39	-3	3	0	-1			
ALISHAN	7.27	7.5	1	39	-7						
HWALIEN	7.85	12.5	1	57	3	3	25	2			
TAICHUNG	7.88	6.1	1	51	-4						
HONG KONG	7.99	319.5	1	51	-5	3	9	-17			
TAIPEI	8.86	10.4	2	15	7						
ANPU	9.01	10.2	2	11	1						
NHATRANG	11.00	249.8	2	33	-5						
PHU-LIEN	13.24	291.8	3	6	-1						
ABUYAMA	23.31	34.5	5	4A	0						
GUAM	24.30	93.3	5	15	1						
DJAKARTA	25.72	210.8	5	35	8						10 6
MATUSIRO	25.99	35.6	5	29	-1	10	7	13			
PORT BLAIR	26.63	263.6	5	45	10						13 21
CHITTAGONG	27.03	287.3	5	40	1						
SHILLONG	27.60	294.2	5	46K	2						
CALCUTTA	30.22	286.9	6	20	12						
CHATRA	32.00	294.7	6	24K	1						
BOKARO	32.72	288.8	6	28	-2						16 56
ULAN-BATOR	33.29	344.2	6	34	-1						
ESEN BULAK	35.85	331.9	6	58	1						
Y.-SAKHLINSK	36.08	26.9	6	57	-1	12	33	0			
IRKUTSK	37.94	344.6	7	14	0	13	4	3			
RABAUL	37.96	119.7	7	14	0	13	3	1			
MADRAS	38.40	270.5	7	19	1	13	24	16			
HYDERABAD	39.50	277.8	6	28	-59						
DEHRA DUN	40.55	297.7	7	36K	0	13	40	-1			
NEW DELHI	41.00	294.9	7	37K	-2						16 13 55
CHARTERS TS.	44.54	143.3	8	6A	-2	14	29	-10			
BOMBAY	44.73	280.6	8	8	-2						15 14
ALMATA-2	44.90	315.8	8	13K	2						
YAKUTSK	46.23	6.5	8	23K	1	15	3	0			
SEMIPALATNSK	46.51	325.9	8	29	5						
FRUNSE	46.61	314.1	8	25K	0						
WARSAK DAM	46.63	301.6	8	25	0						
KHOROG	47.34	306.2	8	31K	1	15	23	4			
PETROPAVLOVK	47.65	30.9	8	33K	0						
MUNDARING	48.09	184.1	8	35	-1				8	52	
MAGADAN	48.79	20.4	8	41	-1	15	44	5			
DUZHANBE	49.70	307.0	8	48K	-1	15	59	7			
TASHKENT	49.94	310.6	8	51K	0	16	0	5			
QUETTA	50.06	295.9	8	51	0	16	2	5			
BRISBANE	53.94	143.2	9	18	-3	16	47	-3			
ADELAIDE	54.05	160.8	9	19A	-2	16	49	-3			
TIKSI	55.61	3.5	9	30A	-3	17	12	0			
ASHKABAD	57.73	304.8	9	50	2	17	49	9			
RIVERVIEW	58.12	149.3	9	49	-1	17	48	2			18 7 PS
CANBERRA	58.33	152.0	9	50A	-2				10	4	10 43 PCP
TOOLANGI	58.78	156.2	9	53	-2	17	49	-5	10	5	27 19
KIZYL-ARVAT	59.44	306.1	10	0K	0	18	10	7			
SVERDLOVSK	59.76	326.9	10	1A	-1	18	9	2			
SHIRAZ	62.58	295.3	10	20	-1	18	41	-2			
TEHERAN	63.26	302.1	10	24	-1	18	57	6			
TARRALEAH	63.27	158.1	10	25	0						
KIROVOBAD	67.10	307.7	10	49K	-1	19	45	7			
GORIS	67.15	306.4	10	50K	0						
TIFLIS	68.21	308.9	10	57	0	19	57	6			
BAKURIANI	69.17	308.9	11	5	2						
KHEYS	69.55	351.1	11	5K	0	20	12	5			
MOSCOW	72.30	324.0	11	22K	0	20	39	0			
APATITY	73.69	336.5	11	27	-3	20	53	-2			21 15 PS
MONOWAI	75.40	147.6	12	40	60						
SIMFEROPOL	75.64	313.0	11	41	0	21	19	2			
KEVO	75.81	339.0	11	42	0						12 40
PULKOVO	75.82	328.5	11	42	0	21	19	1			
CHATEAU	75.85	138.5	11	43	1						
KSARA	76.14	301.5	11	45K	1						
SODANKYLA	76.32	336.6	11	44K	-1						
KAJAANI	76.40	333.1	11	45K	0						12 6
VIBORG	76.43	329.6	11	46K	0						
COLLEGE	76.43	26.0	11	46	0						
JERUSALEM	77.07	299.6	11	50	1						
HONOLULU	77.11	71.4	11	52	3	21	49	16			26 59
GISBORNE	77.15	136.9	11	50	0						

HELSINKI	78.40	329.4	11	56	-1							
NURMIJARVI	78.48	329.8	11	56K	-1	21	49	2			22	35 PS
KIRUNA	78.55	337.5	11	57	0	21	52	4				
KISHINEV	78.90	315.8	12	8	9							
TANANARIVE	79.17	246.6	12	3	2							
UMEA	79.68	333.6	12	2	-1	21	57	-3				
ISTANBUL UN.	80.07	309.8	12	17A	11	22	6	2				
HAWAII V.OB.	80.12	72.6	12	8	2							
MOULD BAY	81.24	12.0	12	12	0							
LWOW	81.37	319.3	12	12	0	22	18	1				
ALERT	81.39	0.3	12	13A	0							
UPPSALA	82.04	330.1	12	15	-1	22	21	-3				
WARSAW	82.54	322.2	12	16	-2	22	36	7	12	32		
WILKES	82.66	183.7	12	19	0				12	29	26	43
UZHGOROD	82.78	318.5	12	20	0							
SKALSTUGAN	83.11	334.5	12	16	-5						12	36
KRAKOW	83.85	320.3	12	25	0				12	39		
KARLSKRONA	84.30	327.0	12	26	-1							
ATHENS	84.79	307.9	12	28K	-2						23	9
RACIBORZ	84.89	320.7	12	31	1				12	44		
MIRNY	84.96	190.4	12	32	1	22	51	-2	13	20		
BUDAPEST	85.23	318.0	12	33	1							
GOTEBORG	85.56	329.1	12	32	-2						13	3
KONGSBERG	85.87	331.4	12	35	0	23	7	5				
RESOLUTE	86.65	8.7	12	39A	0							
VIENNA-H.	86.65	319.4	12	40	1							
PRUHONICE	87.13	321.4	12	41	0	23	18	4				
PRAGUE	87.17	321.5	12	39	-3							
COPPERMINE	87.26	18.1	12	41A	-1							
COLLMBERG	87.54	323.0	12	43	0						16	14 PP
KASPERSKE H.	88.04	320.9	12	45	-1							
JENA	88.51	323.0	12	47	-1	23	25	-2			16	25 PP
LJUBLJANA	88.62	317.8	13	2	14							
TRIESTE	89.27	317.6				23	17	-17			24	52 SP
YELLOWKNIFE	90.75	22.2	12	59A	1							
STUTTGART	90.77	321.7	12	59	0							
MESSINA	90.82	310.2				23	47	-1			24	1 S
LWIRO	91.55	268.1	13	3	1							
DOURBES	92.86	324.3	13	23	15							
PARIS	94.70	323.9	13	18	1							
GARCHY	95.15	322.4	13	17	-2							
BULAWAYO	96.52	251.0									13	38 PCP
EDMONTON	97.02	28.9	13	29	2							
BANGUI	99.44	277.4	13	39	1						17	47 PP
MINERAL	99.91	42.9	13	47K	7							
FROBISHER	99.99	3.7	13	42	1							
BLUE MTS.	100.11	37.3	13	42	1	24	43	29			17	43 PP
BERKELEY	100.74	45.3									26	43
BOZEMAN	103.11	33.9	18	9	254							
EUREKA	104.01	41.2	14	3	5						18	16 PP
BOULDER CITY	106.76	43.7	18	34	777							
FLAMING GRGE	107.11	36.8	14	15	777							
UINTA BASIN	107.40	37.4	14	25	777	25	7	20			18	37 PP
GLEN CANYON	108.27	41.2	18	31	777							
TONTO FOREST	110.11	43.3	18	30	5						14	31 P
GOLDEN	110.21	35.6	18	25	-1							
TUCSON	111.63	44.8	18	33	5						29	30 PKKP
WICHITA MTS.	117.55	35.2	18	43	3						15	21 P
TULSA	118.14	32.4	18	44K	3						29	54 PS
FAYETTEVILLE	118.81	31.1	18	44	2							
CUMBERLAND	123.10	24.6	18	53	2						30	56 PS
FORT FRANCE	149.18	1.7	19	43	5				19	54		
TRINIDAD	153.22	2.5	19	50	6							
CHINCHINA	153.97	37.0	19	47	2							
BOGOTA	155.13	34.5	19	49	2						42	49 SS
NANA	163.35	77.3	20	2	6							
HUANCAYO	164.77	75.9	20	3	5							
LA PAZ	172.42	92.8	20	7	4						25	22 PP

DECEMBER 22 23.H 13.M 55.S EPICENTRE 6.83 -73.05 DEPTH= 159.KM

A= 0.28945 B=-0.94987 C= 0.11818 D=-0.9566 E=-0.2915
G= 0.0344 H=-0.1130 K=-0.9930 HT= 6.9

DEPTH OF FOCUS= 0.020R

SE= 1.34

	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	
FUQUENE	1.51	206.5	0	32K	1	0	55	0					
BOGOTA	2.42	204.8	0	43A	2	1	13	0					
CHINCHINA	3.15	234.2	0	50K	-1	1	25	-4					
GALERAZAMBA	4.49	331.0	1	7	-1	1	57	-3					
BALBOA HTS.	6.78	288.6	1	36	-2								
CARACAS	7.06	58.5	1	41K	-1	2	59	-2			3	49	SG
HOPE	11.67	342.3	2	45	2								
TRINIDAD	12.12	71.0	2	48	-1								
SAN JUAN	13.32	29.8	3	3	-1						5	23	
FORT FRANCE	14.08	55.1	3	13	-1	5	52	6					
ST. CLAUDE	14.39	49.6	3	2	-16	5	26	-27					
SAN SALVADOR	17.28	294.5	3	51	-2								
HUANCAYO	18.89	186.9	4	11	0								
NANA	19.07	191.4	4	12	-1								
LA PAZ	23.69	168.2	5	0	2	10	1	63					
CUMBERLAND	30.84	339.8	6	5A	2								
BLACKSBURG	30.97	348.5	6	6	1								
PALISADES	34.04	358.8	6	32	1								
PENNSYLVANIA	34.09	353.5	6	48	17								
FAYETTEVILLE	34.97	329.4	6	38	-1								
TULSA	35.66	327.4	6	45A	0								
WICHITA MTS.	36.38	323.2	6	50	-1	12	20	0			9	14	PCP
ANN ARBOR	36.55	346.8	6	53	1								
LONDON ONT.	36.77	350.0	6	55A	1								
LAWRENCE	37.75	331.2	7	2	0								
EAST MACHIAS	38.07	6.4	7	6	1								
MILO	38.42	4.6	7	9	1								
OTTAWA	38.49	357.0	7	9A	1								
BREBEUF	38.52	359.4	7	10A	1								
HALIFAX	38.53	10.9	7	10A	1								
CARIBOU	40.17	5.2	7	24	2								
ALBUQUERQUE	41.55	317.0	7	35	1								
TUCSON	43.30	310.8	7	49	1								
GOLDEN	43.73	323.4	7	52	1								
TONTO FOREST	44.58	313.1	7	59A	1	14	24	3			9	40	PCP
LARAMIE	44.89	325.0	8	1	1								
GLEN CANYON	46.14	316.2	8	12	2								
UINTA BASIN	46.66	321.3	8	15A	1						9	49	PCP
FLAMING GRGE	46.91	322.1	8	17	1								
PRICE	47.04	319.7	9	19	62								
BOULDER CITY	47.95	313.3	8	26	2				9	17	10	26	PP
SCHEFFERVLLE	48.12	4.9	8	26A	0								
SALT LAKE C.	48.34	320.4	8	29K	1								
DUGWAY	48.65	319.3	8	31A	1								
EUREKA	50.38	316.8	8	43	0								
BUTTE	51.79	325.6	8	54	0								
PRIEST	52.32	310.9	8	58K	0								
LICK	53.50	312.0	9	7K	1								
PARAISO	53.67	310.5	9	3	-5								
BLUE MTS.	53.92	322.1	9	8	-1						13	55	
BERKELEY	54.15	312.3	9	11A	0								
MINERAL	54.65	315.4	9	14A	-1								
CALISTOGA	54.67	313.1	9	15A	0								
SHASTA	55.34	315.5	9	17K	-3								
BANFF	56.44	329.3	9	27	-1								
EDMONTON	56.76	332.4	9	28A	-2								
FROBISHER	56.89	2.4	9	29A	-2								
LONGMIRE	57.59	322.2	9	36	0								
SEATTLE	58.31	323.0	9	36	-5								
YELLOWKNIFE	63.28	339.8	10	14K	0								
COPPERMINE	67.09	344.0	10	37A	-2								
RESOLUTE	68.96	353.9	10	49A	-1								
FOLINIERE	73.42	41.2	11	16	-1				11	22			
MOULD BAY	73.79	349.6	11	19A	0								
ALERT	75.78	1.4	11	30A	0								
COLLEGE	77.39	335.0	11	40	1								
STUTTGART	79.85	41.8	11	50	-2				12	33			
JENA	81.36	39.6	11	59	-1				12	40	14	30	
SKALSTUGAN	81.85	26.8	12	4	1								
KASPERSKE H.	82.68	41.4	12	7	0						12	35	
PRUHONICE	83.28	40.5	12	11	1						12	52	
TROMSOE	84.34	20.6	12	16	0								
UPPSALA	84.49	30.5	12	16K	0								
KIRUNA	85.04	22.4	12	20	1								
UMEA	85.38	26.4	12	20	-1								
SODANKYLA	87.46	22.4	12	31K	0								

KAJAANI	88.59	25.6	12	37K	1							
BANGUI	91.14	85.5	12	47	-1					16	18	PP
QUETTA	126.84	44.1	18	47	2					19	32	
WARSAK DAM	127.35	37.3	19	27	41							
CANBERRA	132.14	227.6	18	58	3					22	8	SKP

DECEMBER 24 3.H 0.M 59.5 EPICENTRE 45.52 151.33 DEPTH= 57.KM

A=-0.61689 B= 0.33732 C= 0.71110 D= 0.4798 E= 0.8774
G=-0.6239 H= 0.3412 K=-0.7031 HT= -3.7

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
KURILSK	2.46	264.5	0	48	10							
Y.-SAKHLINSK	6.16	287.2	1	31K	1							
PETROPAVLOVK	8.90	29.8	2	9	1	3	38	-10				
MIZUSAWA	9.88	233.4	2	17	-5	3	58	-14				
MATUSIRO	13.35	232.4	3	3	-5	4	36	-60				
MAGADAN	14.06	358.9	3	18	1							
YAKUTSK	20.72	330.6	4	38A	0							
TIKSI	28.31	345.2	5	43K	-7							
COLLEGE	37.88	37.4	7	13	0							
BAGUIO CITY	38.77	231.6	7	19	-1							
MOULD BAY	46.18	19.4	8	21A	0							
NHATRANG	48.75	240.7	8	41	0							
COPPERMINE	50.12	29.6	8	50A	-1							
SHILLONG	51.10	268.2	9	4A	5							
ALERT	51.11	5.4	8	57A	-2							
RESOLUTE	52.40	17.9	9	7A	-1							
YELLOWKNIFE	52.65	35.6	9	10	0							
CHATRA	53.63	272.8	9	16A	-1							
SVERDLOVSK	53.89	317.1	9	17	-2							
TASHKENT	57.25	297.5	9	43A	-1							
DEHRA DUN	57.85	282.0	9	50A	2							
GARM	57.92	294.7	9	48A	0							
EDMONTON	57.96	44.7	9	48A	-1							
APATITY	57.98	336.4	9	48	-1							
KEVO	58.08	340.2	9	48	-1							
DUZHANBE	59.14	295.1	10	0	3							
NEW DELHI	59.50	280.9	9	59A	0							
SODANKYLA	59.95	338.4	10	0	-2							
TROMSOE	59.99	342.6	10	2	-1							
HUNGRY HORSE	60.54	49.8	10	5	-1							
BLUE MTS.	60.80	54.6	10	8	0						10	39
MINERAL	60.92	60.9	10	9K	0							
KIRUNA	61.11	340.9	10	9A	-1							
KAJAANI	62.12	335.5	10	17	0							
UMEA	64.38	338.2	10	31	-1							
EUREKA	64.87	58.6	10	35	0				10	49		
QUETTA	65.46	288.7	10	40A	1							
NURMIJARVI	65.78	334.2	10	40K	-1							
HELSINKI	65.96	333.8	10	41K	-1							
DUGWAY	66.28	56.3	10	45K	1							
SKALSTUGAN	66.52	341.4	10	44	-2							
FROBISHER	66.64	18.1	10	45A	-1							
BOULDER CITY	67.81	60.9	10	58	4				11	12		
UINTA BASIN	68.08	54.5	10	55	0							
UPPSALA	68.37	336.9	10	56A	-1				11	9	13	47
GLEN CANYON	69.12	58.3	11	8	6							
TONTO FOREST	71.11	60.2	11	14	0				11	28	12	16
TEHERAN	71.65	302.4	11	19	2							
GOTEBORG	71.73	338.4	11	17	-1							
BAKURIANI	71.91	311.4	11	21	2							
KARLSKRONA	72.08	335.8	11	18	-2							
BRISBANE	72.57	178.6	11	22	-1							
TUCSON	72.76	61.5	11	38	14							
ALBUQUERQUE	73.54	56.8	11	42	14							
SCHEFFERVLLE	74.95	21.7	11	36	0							
KRAKOW	75.88	330.1	11	42A	0							
UZHGOROD	76.21	328.0	11	44	0							
RACIBORZ	76.46	331.1	11	45	0						11	51 PCP
COLLMBERG	77.07	334.6	11	49	1				12	4		
PRUHONICE	77.74	333.1	11	53A	1							

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.

JENA	77.82	335.3	11	52	-1							12	13	
WICHITA MTS.	78.21	52.2	11	54	-1							13	0	
KASPERSKE H.	78.80	333.2	11	59A	1									
BENSBERG	79.03	337.8	11	59A	0									
DOURBES	80.48	339.0	12	9	2									
STRASBOURG	81.02	336.5	12	11	1									
BREBEUF	81.05	30.2	12	10	0					12	23			
KSARA	81.81	310.6	12	16	2									
FOLINIERE	82.92	341.6	12	21	1									
JERUSALEM	83.73	309.7	12	26	2									
ROSELEND	83.98	336.0	12	26	1									
CUMBERLAND	84.32	43.3	12	26	-1									

DECEMBER 24 3.H 27.M 25.S EPICENTRE 45.55 151.01 DEPTH= 55.KM

A=-0.61468 B= 0.34056 C= 0.71146 D= 0.4846 E= 0.8747
G=-0.6223 H= 0.3448 K=-0.7027 HT= -3.8

DEPTH OF FOCUS= 0.004R

SE= 3.56

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KURILSK	2.24	263.0	0	38A	2	1	9	6				
Y.-SAKHLINSK	5.93	287.3	1	31K	3							
MIZUSAWA	9.72	232.2	2	19	-1	3	58	-11				
MATUSIRO	13.19	231.5	3	2K	-5						15	24
MAGADAN	14.03	359.6	3	19	1							
ABUYAMA	15.87	233.2	3	39A	-3							
YAKUTSK	20.58	330.8	4	38A	1							
TIKSI	28.22	345.4	5	48K	-2							
COLLEGE	38.00	37.4	7	13	-2							
BAGUIO CITY	38.61	231.2	7	29	9							
MOULD BAY	46.23	19.4	8	21A	-1							
NHATRANG	48.57	240.4	8	41	1							
COPPERMINE	50.20	29.5	8	50A	-3							
ALERT	51.10	5.3	8	57	-2							
RESOLUTE	52.44	17.8	9	7A	-2							
YELLOWKNIFE	52.76	35.6	9	10	-2							
SVERDLOVSK	53.72	317.0	9	17	-2							
TASHKENT	57.04	297.3	9	43A	0							
DEHRA DUN	57.63	281.8	9	49A	2							
GARM	57.70	294.5	9	48	0							
APATITY	57.86	336.3	9	49	0							
KEVO	57.98	340.1	9	49	-1							
EDMONTON	58.10	44.6	9	49A	-1							
NEW DELHI	59.28	280.7	9	58A	-1							
PORT BLAIR	59.68	254.9	9	37A	-24							
WARSAK DAM	59.82	289.1	10	5K	3							
SODANKYLA	59.84	338.3	10	2K	0							
TROMSOE	59.90	342.5	10	2	-1							
BLUE MTS.	60.96	54.4	10	8	-2						11	4
KIRUNA	61.01	340.8	10	8	-2							
MINERAL	61.10	60.7	10	15A	4							
CALISTOGA	61.52	62.8	10	25A	11							
KAJAANI	62.00	335.4	10	15	-2							
BERKELEY	62.18	63.3	10	30A	12							
LICK	62.90	63.4	10	34A	11							
PARAISO	63.06	64.7	10	40	16							
BOZEMAN	63.95	50.6	10	24	-6					10	39	
PRIEST	64.26	63.9	10	42A	10							
UMEA	64.27	338.1	10	31	-1							
EUREKA	65.05	58.5	10	36	-1					10	50	
QUETTA	65.24	288.5	10	40A	2							
CHARTERS TS.	65.46	184.9	10	39	-1							
NURMIJARVI	65.66	334.1	10	40K	-1							
HELSINKI	65.83	333.7	10	41K	-1							
DUGWAY	66.45	56.2	10	44A	-2							
FROBISHER	66.69	17.9	10	45A	-2							
FLAMING GRGE	67.94	53.7	10	57	2							
BOULDER CITY	67.99	60.8	10	55	-1					11	8	
UINTA BASIN	68.25	54.3	10	56	-1							
UPPSALA	68.25	336.7	10	56	-1							
TONTO FOREST	71.29	60.0	11	15	-1					11	29	11 36 PCP
TEHERAN	71.45	302.2	11	19	2							
GOTEBORG	71.62	338.2	11	17	-1							

BAKURIANI	71.72	311.2	11	22	4						
BRISBANE	72.60	178.4	11	23	-1						
TUCSON	72.94	61.3	11	36	10						
KRAKOW	75.75	329.9	11	43A	1						
UZHGOROD	76.07	327.8	11	39	-5						
NIEDZIKA	76.14	329.3	11	45	1						
RACIBORZ	76.32	330.9	11	46	1						
COLLMBERG	76.95	334.5	11	48A	-1				12	3	
PRUHONICE	77.62	332.9	11	53	1						
JENA	77.70	335.1	11	53	0						12 20
WICHITA MTS.	78.37	52.0	11	55	-1						
VIENNA-H.	78.51	331.0	11	59	2						
KASPERSKE H.	78.67	333.1	11	59A	1						
BENSBERG	78.91	337.7	12	0A	1						
STUTTGART	80.30	335.4	12	7	0						
STRASBOURG	80.91	336.3	12	11	1						
BREBEUF	81.14	30.0	12	10	-1						
KSARA	81.62	310.4	12	15	1						
FOLINIERE	82.82	341.4	12	21	1						
JERUSALEM	83.54	309.5	12	26A	2						
ROSELEND	83.86	335.8	12	25	0						
CUMBERLAND	84.45	43.1	12	27	-1						

DECEMBER 24 11.H 18.M 15.S EPICENTRE -13.17 166.72 DEPTH= 53.KM

A=-0.94797 B= 0.22378 C=-0.22642 D= 0.2297 E= 0.9733
G= 0.2204 H=-0.0520 K=-0.9740 HT= 6.1

DEPTH OF FOCUS= 0.003R

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
LUGANVILLE	2.37	170.3	0	36	-2							
PORT VILA	4.79	161.4	1	13	1							
HONIARA	7.61	298.6	1	49K	-2	3	13	-4				
KOUMAC	7.71	197.3	1	51K	-1	3	10	-9				
NOUMEA	9.08	181.6	2	11	0	3	48	-5				
RABAUL	16.91	300.5	3	57	3						4	36
BRISBANE	19.23	220.6	4	23	0	7	57	6				
CHARTERS TS.	20.76	247.9	4	39	0	8	29	7				
AFIAMALU	20.92	94.5	4	42	2	8	31	6				
RIVERVIEW	24.97	212.0	5	21A	1	9	42	5			5	46
KARAPIRO	25.88	163.9	5	29	0							
CANBERRA	27.24	212.9	5	41A	0	10	18	3	5	53		
GISBORNE	27.29	160.4	5	54	12							
WELLINGTON	28.87	167.4	5	59	3	10	39	-2				
TOOLANGI	30.81	214.2	6	13A	0				6	21	6	32 *SP
ROXBURGH	32.28	176.6	6	25	-1							
ADELAIDE	33.33	224.6	6	35A	0	11	57	6	6	46		
DARWIN	34.99	267.2	6	53	4							
MACQUARIE I.	41.68	186.8	7	46	1							
KIPAPA	48.79	45.6	8	57	15							
MUNDARING	49.77	239.2	8	48	-1	15	53	0				
BAGUIO CITY	54.26	301.5	9	22	-1	16	59	4				
ABUYAMA	56.18	329.2	9	35K	-2							
MATUSIRO	56.28	332.5	9	36	-2	17	23	1				
CAPE HALLETT	59.15	178.8	9	56	-2							
TANGERANG	59.53	270.6	9	58K	-2							
HONG KONG	62.41	304.0	10	20A	0	18	26	-15				
WILKES	64.79	201.8	10	33	-2	18	42	-29	10	54		
MIRNY	71.53	203.9	11	16	-1							
BYRD STATION	74.31	170.0	11	32	-2						11	58
ULAN-BATOR	80.69	323.9	12	8	-1							
CHITTAGONG	81.41	295.3	12	14	1							
SHILLONG	82.37	298.4	12	24A	6							
PARAISO	82.90	50.3	12	24	4							
MAWSON	83.12	202.0	12	20	-1							
BERKELEY	83.55	48.9	12	24K	0							
CALISTOGA	83.61	48.1	12	21K	-3							
LICK	83.81	49.5	12	25K	0							
PRIEST	84.11	51.0	12	28A	1							
MINERAL	84.96	46.7	12	31A	0							
COLLEGE	85.01	17.8	12	29	-2							
PASADENA	85.35	53.5	12	45	12							
CHATRA	86.78	298.3	13	38A	58							

BOULDER CITY	88.53	52.7	12	48	0				13	2	13 10	*SP
EUREKA	88.73	49.0	12	49	0				13	2	16 17	PP
BLUE MTS.	89.50	43.6	12	52	-1	23	55	18			25 9	PS
TUCSON	90.68	57.1	13	0	2						30 26	PKKP
TONTO FOREST	90.85	55.1	12	59	0				13	18	16 24	PP
DUGWAY	91.27	49.1	13	1K	0							
UINTA BASIN	93.69	49.6	13	12	0						17 14	PP
BOZEMAN	93.96	44.1	13	12	-1						30 13	PKKP
FLAMING GRGE	93.97	49.0	13	10	-3							
ALBUQUERQUE	94.86	55.4	13	16	-1							
DEHRA DUN	95.40	299.7	13	22	2							
NEW DELHI	95.77	297.9	13	20A	-1							
YELLOWKNIFE	96.41	27.3	13	22	-2							
COPPERMINE	97.69	22.0	13	28A	-2							
MOULD BAY	98.94	13.5	13	35	-1							
WICHITA MTS.	101.19	56.8									29 56	PKKP
QUETTA	104.85	298.0	14	3	1							
CUMBERLAND	111.88	56.8									29 22	PKKP
FROBISHER	116.76	24.2	18	37	-2							
SHIRAZ	117.32	296.7	18	43	3							
KAJAANI	121.77	340.2	18	48	0							
KIMBERLEY	124.41	221.0	18	55	2							
BULAWAYO	127.14	231.9	18	58K	-1							
KSARA	130.97	303.5	19	8	2						21 24	PP
LWIRO	135.52	252.9	19	17A	3							
COLLMBERG	136.43	336.2	19	18	2						22 7	PP
BANDEIRA	141.65	224.2	19	21K	-5				19	42		
FOLINIERE	142.96	345.9	19	27	-1							
BANGUI	147.32	257.4	19	36	1						23 13	PP
TOLEDO	152.18	344.7	19	51A	8						20 2	PKP2
AVERROES	159.26	346.0							20	26		

DECEMBER 24 12.H 55.M 45.S EPICENTRE 36.15 140.20 DEPTH= 59.KM

A=-0.62181 B= 0.51805 C= 0.58735 D= 0.6401 E= 0.7683
G=-0.4513 H= 0.3760 K=-0.8093 HT= -0.3

DEPTH OF FOCUS= 0.004R

SE= 3.42

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KAKIOKA	0.08	347.3	0	9A	-1	0	15	-2				
MITO	0.31	43.7	0	11A	-1	0	20	-1				
UTUNOMIYA	0.48	326.1	0	11K	-3	0	18	-6				
HONGO	0.56	218.5	0	12	-3	0	20	-6				
TOKYO C.M.O.	0.60	218.0	0	12A	-3	0	21	-5				
KUMAGAYA	0.66	270.0	0	12K	-4	0	20	-7				
TYOSI	0.68	129.2	0	15A	-1	0	24	-4				
YOKOHAMA	0.85	212.0	0	15A	-3	0	27	-4				
TITIBU	0.92	259.6	0	16	-2	0	26	-6				
MAEBASI	0.95	285.4	0	16K	-3	0	27	-5				
SHIRAKAWA	0.97	0.9	0	19K	0	0	32	-1				
ONAHAMA	0.97	35.1	0	20A	1	0	33	0				
MERA	1.27	193.9	0	36	13							
HUNATU	1.33	241.2	0	23	-1	0	38	-3				
OIWAKE	1.35	278.0	0	21	-3	0	36	-5				
KOHU	1.42	250.6	0	22K	-3	0	42	-1				
AJIRO	1.42	219.5	0	22K	-3	0	37	-6				
MISIMA	1.45	225.1	0	24	-1	0	36	-8				
OSIMA	1.53	206.2	0	23K	-3	0	40	-6				
HUKUSIMA	1.61	7.6	0	28K	1	0	49	1				
MATUSIRO	1.65	284.1	0	24K	-4	0	46	-3				
NAGANO	1.70	288.3	0	28	-1	0	47	-3				
MATUMOTO	1.81	273.7	0	29K	-1	0	49	-3				
TAKADA	1.83	301.6	0	29	-2	0	53	0				
NIIGATA	1.99	332.8	0	41K	8	1	15	18				
YAMAGATA	2.10	3.2	0	35K	1	1	1	2				
OMAESAKI	2.24	226.8	0	34	-2	1	0	-3				
TAKAYAMA	2.39	270.8	0	36	-2	0	53	-14				
ISINOMAKI	2.44	21.1	0	39K	0	1	9	1				
HAMAMATU	2.48	235.5	0	38	-2	1	6	-3				
TOYAMA	2.48	283.6	0	40	0	0	53	-16				
SAKATA	2.76	354.0	0	46	3	1	25	9				
NAGOYA	2.81	250.5	0	43	-1	1	13	-4				
GIHU	2.89	255.9	0	44	-1	1	15	-4				

KANAZAWA	2.89	278.5	0	45	0						
WAZIMA	2.92	295.8	0	44	-2						
MIZUSAWA	3.06	13.6	0	50	2	1	24	0			
HATIDYOZIMA	3.06	186.5	0	44	-4	1	19	-5			
HUKUI	3.22	269.3	0	59	9	1	39	12			
KAMEYAMA	3.31	248.0	0	57	6	1	31	1			
HIKONE	3.33	255.8	0	52	0	1	31	1			
TU	3.34	245.3	0	57	5	1	44	14			
TSURUGA	3.39	262.7	0	48	-4	1	33	1			
AKITA	3.56	358.7	1	0	5	1	42	6			
MORIOKA	3.62	11.9	0	58	2	1	37	-1			
MIYAKO	3.76	21.3	0	59	1	1	51	10			
KYOTO	3.82	254.1	0	55	-3	1	52	10			
NARA	3.86	248.9	0	57	-2	1	44	0			
OWASE	3.88	238.8	1	9	10	1	53	9			
MAIZURU	3.97	261.5	0	59	-1						
ABUYAMA	3.99	252.6	0	58A	-3	1	56	9			
OSAKA	4.10	249.9	1	12	10	2	5	15			
KOBE	4.36	251.7	1	5	-1						
TOYOOKA	4.42	263.5	1	7	0						
HATINOHE	4.49	13.0	1	8	0	2	10	11			
SIOMISAKI	4.53	234.8				2	22	22			1 45
WAKAYAMA	4.54	246.5	1	18	10						
AOMORI	4.68	5.4	1	14	4						
SUMOTO	4.69	248.9	1	16	5	2	20	16			
TOTTORI	4.93	264.3	1	13	-1						
HIMEJI	5.02	252.5	1	32	17	2	21	8			
TOKUSIMA	5.05	247.4	1	18	2						
OKAYAMA	5.34	255.8	1	15	-4	2	17	-3			
TAKAMATU	5.36	251.8	1	36	16	2	44	23			
TSURUGISAN	5.58	247.5	0	57	-26						
YONAGO	5.62	264.6	1	47	24	2	52	25			
HAKODATE	5.67	4.2	1	26K	2	2	50	21			
MUROTO	5.74	241.5	1	49	24	3	1	30			
MORI	5.95	2.6	1	36	8						
KOTI	6.07	246.6	1	44	14	2	55	16			
MURORAN	6.19	5.4									3 0
URAKAWA	6.31	17.7	1	35	2	2	46	1			
MATUYAMA	6.51	251.4	1	52	16	3	15	25			
HIROO	6.58	20.6	1	37	0						
HIROSIMA	6.60	256.6									3 14
HAMADA	6.75	261.7				3	25	30			2 15
SAPPORO	6.96	7.0	1	45	3						
OBIHIRO	7.14	18.0	1	58	13						
KUSIRO	7.55	24.1	1	46	-4	3	10	-5			8 1
OOITA	7.65	250.1									3 45
SIMONOSEKI	7.91	256.6	2	5	10						
NEMURO	8.28	28.4	1	58	-2	3	26	-7			
HUKUOKA	8.47	255.2									4 24
KUMAMOTO	8.52	249.8	1	53	-11						
SAGA	8.65	253.3									4 22
Y.-SAKHLINSK	11.02	9.0	2	37A	-1						
MAGADAN	24.41	13.1	5	14	0						
HONG KONG	26.48	245.7									6 31 PP
YAKUTSK	26.71	349.0	5	33K	-3						
TIKSI	36.04	353.9	6	56	-2						
SHILLONG	42.43	269.6	7	53A	2						
ALMATA-2	47.85	298.8	8	33A	-1						
DARWIN	49.07	192.2	8	44	0						
FRUNSE	49.91	298.9	8	49A	-1						
COLLEGE	50.36	31.8	8	54	1						
DEHRA DUN	51.54	282.5	9	2	0						
NEW DELHI	52.94	280.9	9	9A	-4						
DUZHANBE	55.48	295.6	9	32	1						
CHARTERS TS.	56.23	173.1	9	35	-2						
MOULD BAY	57.65	16.2	9	46A	-1						
QUETTA	60.28	287.3	10	2A	-3						
ALERT	61.07	3.3	10	9A	-1						
COPPERMINE	62.27	24.5	10	17A	-1						
APATITY	63.09	335.6	10	22K	-2						
RESOLUTE	63.70	14.1	10	27	-1						
KEVO	63.91	339.1	10	28	-1						
BRISBANE	64.30	167.6	10	30	-2						
YELLOWKNIFE	65.06	29.6	10	36	-1						
SODANKYLA	65.40	337.0	10	37	-2						
KAJAANI	66.95	333.8	10	46	-3						
KIRUNA	66.99	339.0	10	47	-2						
VIBORG	68.51	330.5	10	58K	-1						

UMEA	69.69	335.8	11	4	-2				
NURMIJARVI	70.26	331.7	11	6	-3				
HELSINKI	70.36	331.3	11	7	-3				
EDMONTON	70.54	37.5	11	12	1				
ADELAIDE	70.77	181.3	11	13	1				
SHIRAZ	71.48	293.5	11	15	-2				
CANBERRA	71.58	172.4	11	22	5				
SKALSTUGAN	72.38	338.3	11	20	-2				
MINERAL	73.11	52.2	11	17K	-9				
BLUE MTS.	73.24	46.5	11	28	1			11 41	12 26
UPPSALA	73.32	333.6	11	25	-2			11 42	
BOZEMAN	76.33	43.1	11	44	-1			11 57	
EUREKA	77.16	50.4	11	52	3			12 5	
FROBISHER	77.88	12.6	11	53A	0				
UZHGOROD	79.15	323.3	11	59	-1				
BOULDER CITY	79.98	52.7	12	7	2			12 19	
UINTA BASIN	80.53	46.7	12	9	1				
KSARA	80.87	305.2	11	44	-26				
COLLMBERG	81.38	329.6	12	11	-1			12 25	
KASPERSKE H.	82.78	327.9	12	18	-1				
TONTO FOREST	83.31	52.2	12	24	2			12 37	12 57
STUTTGART	84.85	329.9	12	29	-1				
TUCSON	84.89	53.6	12	32	2				
ALBUQUERQUE	85.90	49.1	12	36	1				
WICHITA MTS.	90.71	44.8	13	1	3				
CHILEKA	111.25	265.8							24 1
LA PAZ	148.13	59.6	19	41	5				

DECEMBER 26 7.H 58.M 16.S EPICENTRE 76.53 23.46 DEPTH= 0.KM

A= 0.21508 B= 0.09332 C= 0.97213 D= 0.3980 E=-0.9174
G= 0.8918 H= 0.3870 K=-0.2345 HT=-13.1

SE= 2.49

	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	
TROMSOE	7.06	193.0	1	45	-2								
KHEYS	7.85	43.0	1	56	-2								
KIRUNA	8.79	187.5	2	8	-3	3	41	-11					
SODANKYLA	9.26	172.3	2	13	-5	3	48	-16					
APATITY	9.51	156.3	2	16K	-5	3	59	-11			2	34	PP
KAJAANI	12.59	171.4	2	58	-5								
UMEA	12.82	186.4	3	3	-3	5	15	-16			5	31	SS
SKALSTUGAN	13.51	201.8	3	13	-3								
SCORESBY SD.	13.86	267.9	3	21	1								
ALERT	15.01	329.5	3	33	-2								
VIBORG	15.99	170.4	3	52	4								
NURMIJARVI	16.10	177.9	3	44	-5	6	31	-18			4	31	
HELSINKI	16.45	177.3	3	49	-5	6	36	-21			7	0	
UPPSALA	16.88	190.2	3	55	-4	6	52	-15			4	4	PP
PULKOVO	17.01	168.1	4	5	4	7	16	6					
BERGEN	17.36	211.2	4	7	2								
KONGSBERG	17.62	203.6	4	8	-1	7	37	13			4	17	PP
GOTEBORG	19.36	198.8	4	31	1								
KARLSKRONA	20.66	192.5	4	41K	-3	8	26	-5					
COPENHAGEN	21.33	197.3	4	50	-1								
MOSCOW	21.53	157.8	4	51	-2	8	52	5					
GODHAVN	22.01	292.1	5	18A	20								
DURHAM	23.74	217.5	5	22A	7								
SVERDLOVSK	23.83	124.7	5	19A	4	9	31	2					
WARSAW	24.42	183.6				9	49	10			8	12	
RESOLUTE	24.83	326.1	5	26	1								
HALLE	25.52	196.8	5	31	-1	10	0	2					
TIKSI	25.55	45.1	5	32	0								
COLLMBERG	25.65	195.3	5	32	-1						6	13	PP
MOULD BAY	25.96	340.7	5	36K	0								
JENA	26.12	197.2	5	38	1	10	24	16			7	41	
CHORZOW	26.40	186.5	5	43	3						6	36	PPP
BENSBERG	26.45	203.5	5	42	2						6	12	
KRAKOW	26.62	185.1	5	41	-1	10	32	16			10	55	
RACIBORZ	26.63	187.6	5	42	0						11	7	
KEW	26.79	214.0	5	46	2								
PRAGUE	26.80	193.0									13	56	
LWOW	26.81	179.2	5	56	12								
PRUHONICE	26.88	192.8	5	45	1						10	52	
CHEB	26.91	195.9	5	39	-6						14	57	

KASPERSKE H.	27.78	194.0	5	52	-1	14	44	
UZHGOROD	28.01	181.6	5	59	4			
STUTTGART	28.44	199.9	5	59	1			
VIENNA-H.	28.53	189.9	6	2	3	12	18	SSS
FROBISHER	29.88	296.8	6	10K	-2			
LJUBLJANA	30.81	192.2	6	20	0			
ISOLA	33.18	201.8	6	43	3			
COPPERMINE	33.62	333.0	6	44	0			
SEMIPALATNSK	33.99	106.7	6	48	1			
YAKUTSK	34.28	53.5	6	48	-2			
ISTANBUL UN.	35.67	172.8	7	21	19			
BAKURIANI	35.96	154.1	7	5	1			
KIROVOBAD	37.33	150.8	7	15	-1			
SCHEFFERVLLE	37.61	288.5	7	17K	-1			
ATHENS	38.66	179.7				16	1	
TOLEDO	38.66	214.7	7	29	2			
COLLEGE	38.73	354.1	7	28	0			
YELLOWKNIFE	38.74	330.3	7	27	-1			
ULAN-BATOR	42.49	81.6	8	0	1			
EDMONTON	47.47	326.2	8	39K	0			
BREBEUF	47.87	289.8	8	41	-1			
SHIRAZ	48.94	145.9	8	51	1			
QUETTA	50.69	129.6	9	7	4			
SEATTLE	54.18	332.0	9	35	6			
NEW DELHI	54.23	119.1	9	32K	2			
BUTTE	54.57	323.6	9	32	0		9	56
BOZEMAN	54.70	322.2	9	33	0			
LONGMIRE	55.02	331.4	9	35	-1			
BLUE MTS.	56.35	327.3	9	45	0	23	20	SS
BLACKSBURG	57.28	292.9	9	51	-1			
CHATRA	58.05	109.2	9	58K	1			
FLAMING GRGE	59.09	319.7	10	4	-1			
GOLDEN	59.66	315.9	10	8	0			
UINTA BASIN	59.72	319.7	10	8	-1	12	18	
CUMBERLAND	59.94	297.1	10	8	-2			
DUGWAY	60.31	322.4	10	13A	0			
SHILLONG	60.32	104.8	10	12A	-1			
SHASTA	61.06	330.8	10	16K	-2			
FAYETTEVILLE	61.18	305.0	10	11	-8			
MINERAL	61.31	330.1	10	20A	0			
EUREKA	61.46	325.0	10	21	0	11	3	
TULSA	61.66	306.4	10	21A	-1			
CALISTOGA	63.11	330.6	10	32K	0			
GLEN CANYON	63.31	320.7	10	33	0			
WICHITA MTS.	63.34	308.6	10	33	0	11	10	PCP
BERKELEY	63.84	330.2	10	38K	2			
LICK	64.29	329.6	10	40A	1			
ALBUQUERQUE	64.48	315.7	10	41	0			
BOULDER CITY	64.74	323.4	10	43	1	11	16	PCP
PRIEST	65.35	328.5	10	48K	2			
TONTO FOREST	65.89	319.9	10	50	0	11	26	PCP
TUCSON	67.82	319.1	11	1	-1			
BANGUI	72.14	185.1	11	26	-2	14	6	PP
SAN JUAN	72.16	274.0	11	29	0			
TRINIDAD	78.51	267.5	12	6	1			
LWIRO	78.73	174.6	12	6	0			
MAWSON	145.94	154.2	19	42	1			

DECEMBER 26 20.H 50.M 21.5 EPICENTRE 36.38 71.17 DEPTH= 144.KM
A= 0.26046 B= 0.76378 C= 0.59059 D= 0.9465 E=-0.3228
G= 0.1906 H= 0.5590 K=-0.8070 HT= -0.4

DEPTH OF FOCUS= 0.018R

SE= 1.35

	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
KHOROG	1.13	14.7	0	28A	2	0	47	1				
KULYAB	1.89	323.6	0	34K	0	0	59	-1				
WARSAK DAM	2.40	172.4	0	41	0	1	10	-1				
OBI-GARM	2.59	333.6	0	43K	0							
GARM	2.70	345.5	0	44K	-1	1	15	-3				
DZERGETAL	2.83	0.9	0	47K	1	1	19	-2				
MURGAB	2.96	47.1	0	50	2	1	25	1				
FERGANA	4.02	6.7	1	1K	-1	1	48	-1				

ANDIJAN	4.46	11.8	1 8K	0	1 57	-2		
NAMANGAN	4.61	4.7	1 9	0	1 59	-4		
SAMARKAND	4.66	316.0	1 10K	0	2 2	-2		
TASHKENT	5.15	343.9	1 16K	-1	2 11	-5		1 52 *SP
LAHORE	5.49	150.5	1 20	-1	2 20	-4		
TCHIMKENT	6.03	348.8	1 27	-1				2 29
FRUNSE	6.97	21.4	1 41K	0	2 57	-2		
QUETTA	7.12	210.9	1 43K	0	3 1	-2		
FABRICHNAYA	7.86	29.4	1 52	-1				
ALMATA	8.19	31.1	1 58	1	3 30	1		
DEHRA DUN	8.35	134.5	2 2A	3	3 28	-4		2 9 PP
ALMATA-2	8.37	32.8	1 59	-1				
CHILIK	9.08	35.5	2 7	-2				
NEW DELHI	9.30	145.1	2 9K	-3	3 49	-6		
ASHKABAD	10.35	282.5	2 24	-2	4 16	-4		
VANNOVSKAYA	10.55	282.4			4 23	-2		
KARACHI	12.05	198.3	2 47A	-1				
KIZYL-ARVAT	12.12	287.9	2 47	-2	4 55	-7		3 51
TEHERAN	16.01	273.6	3 42	3	6 44	13		
SHIRAZ	17.01	252.1	3 52A	1	6 59	5		
BOMBAY	17.48	174.8	3 58	2	7 11	7		4 42
BOKARO	17.77	130.7	4 2	2	7 14	4		
GORIS	19.82	286.5	4 22	0				8 3
KIROVOBAD	19.88	289.9	4 21A	-1				
SHILLONG	20.72	115.5	3 38K	-53				6 28
TIFLIS	21.12	292.7	4 37	2				
SVERDLOVSK	21.65	344.2	4 39	-1				
MOSCOW	29.83	321.1	5 56	0				6 44 *SP
BODAYBO	35.46	39.0	6 44	0				
UZHGOROD	37.43	304.7	7 1	0				
HELSINKI	37.75	323.9	7 4	0				
APATITY	37.78	337.4	7 4A	0				
NURMIJARVI	38.00	324.3	7 6K	0				8 33
KAJAANI	38.01	330.6	7 6K	0			7 39	8 22
KRAKOW	39.00	307.0	7 15K	1				7 47
SODANKYLA	39.90	335.0	7 22	0				
UMEA	40.98	328.3	7 31	1				
UPPSALA	41.25	322.0	7 32A	-1				
KARLSKRONA	41.87	316.2	7 37A	-1				
KIRUNA	42.25	334.1	7 41	0				
PRUHONICE	42.47	307.0	7 42	-1				8 32
LJUBLJANA	42.88	301.2	8 19	33				
KASPERSKE H.	43.16	305.8	7 52	4				8 37
COLLMBERG	43.37	309.0	7 50	0			8 23	
TROMSOE	43.43	336.3	7 50	0				
YAKUTSK	44.00	35.4	7 56	1				
JENA	44.29	308.6	7 57	0				9 39 PP
SKALSTUGAN	44.38	326.8	7 57	-1				
TIKSI	45.83	21.9	8 8K	-1			8 42	
ISOLA	48.43	300.1	8 32	2				
FOLINIERE	52.34	307.5	8 59	0				
MATUSIRO	52.87	68.5	9 3	0				
TOLEDO	57.62	298.2	9 37K	0			10 12	
BANGUI	57.72	249.4	9 36	-2				11 47 PP
ALERT	59.19	353.6	9 48	0				
TANANARIVE	59.36	206.2	9 53	3				
MOULD BAY	67.46	2.7	10 42A	-1				
RESOLUTE	68.83	356.1	10 50	-1				
BULAWAYO	69.12	222.9	10 3	-50				10 53
COLLEGE	74.56	16.2	11 24	-1				
COPPERMINE	76.00	2.4	11 32	-1				
PIETERMZBURG	76.01	215.9	11 33	0				
YELLOWKNIFE	81.36	2.7	12 2A	0				
CHARTERS TS.	90.37	114.7	12 46	0				13 26
EDMONTON	90.52	2.7	12 49	2				
TONTO FOREST	109.65	2.1						19 28 PP

DECEMBER 28 5.H 45.M 20.S EPICENTRE -5.08 153.54 DEPTH= 65.KM

A=-0.89174 B= 0.44391 C=-0.08799 D= 0.4456 E= 0.8952
G= 0.0788 H=-0.0392 K=-0.9961 HT= 7.0

DEPTH OF FOCUS= 0.005R

SE= 1.80

	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	1.62	302.7	0	29	2	0	50	3					
HONIARA	7.69	124.5	1	50	-1								
CHARTERS TS.	16.51	204.8	3	51	3	6	59	10					
LUGANVILLE	16.91	128.8	3	52K	-1								
KOUMAC	18.59	146.8	4	11A	-3						8	25	
PORT VILA	19.16	132.2	4	19K	-1								
GUAM	20.39	334.7	4	33	0						4	55	
NOUMEA	21.19	145.1	4	39	-3	9	1	33					
BRISBANE	22.20	181.8	4	53A	1	8	54	7					
RIVERVIEW	28.69	184.1	5	53A	0	10	40	5	6	13	6	26	*SP
CANBERRA	30.38	187.3	6	8A	0	11	5	3	6	30			
ADELAIDE	32.75	202.8	6	29A	1	11	40	1	6	49			
TOOLANGI	33.16	191.7	6	32	0	11	46	0			10	52	
AFIAMALU	35.27	106.9	6	52	2						14	40	
MANILA	37.69	301.8	7	10	0	13	10	15					
KARAPIRO	38.35	151.5	7	16	0				7	32			
BAGUIO CITY	38.97	303.9	7	21	0	13	16	1					
GISBORNE	40.13	149.8	7	33	2	14	9	37	7	47			
WELLINGTON	40.74	155.3	7	36	0	14	0	19	7	53	9	12	PP
ROXBURGH	42.53	163.6	7	51	1						17	34	SS
MATUSIRO	43.82	342.1	7	58	-3	14	18	-8					
MUNDARING	43.98	227.9	8	2	0	14	29	0					
TANGERANG	46.68	266.3	8	23A	-1								
HONG KONG	47.16	306.8	8	28K	1	15	16	2	8	50	10	18	PP
PHU-LIEN	52.72	300.8	9	10	0				9	36			
Y.-SAKHLINSK	52.75	350.7	9	8	-2								
HONOLULU	54.17	59.3	9	22	1	16	54	3					
KIPAPA	54.29	59.2	9	21	0								
HAWAII V.OB.	55.94	62.6	9	32	-1								
PETROPAVLOVK	58.04	3.6	9	47	-1								
PORT BLAIR	62.73	285.8	10	50	30						18	45	
MAGADAN	64.47	358.5	10	33	1								
ULAN-BATOR	66.74	327.8	10	44	-2								
SHILLONG	67.09	300.3	10	49K	1	19	40	4			13	28	PP
CAPE HALLETT	67.94	174.6	10	22	-32								
WILKES	68.01	197.3	10	53	-1	19	46	-1			11	14	PCP
YAKUTSK	69.38	348.3	11	1	-1	20	1	-2					
IRKUTSK	70.70	330.5	11	9K	-2	20	19	1					
CHATRA	71.50	300.3	11	16K	1	20	30	2			21	10	
BOKARO	71.93	296.9	11	18	0	20	35	3			14	5	PP
ESEN BULAK	72.00	322.2	11	19	1								
SCOTT BASE	73.06	177.1	11	24	0	20	52	7			11	48	
MIRNY	73.94	201.3	11	27	-3	20	57	2	12	12			
MADRAS	75.02	284.8	11	37	1	21	10	3			14	18	PP
TIKSI	78.25	352.2	11	52	-2								
DEHRA DUN	80.12	301.8	12	7	3	22	3	1			23	4	PS
NEW DELHI	80.50	299.9	12	6K	0	22	6	0					
COLLEGE	81.85	21.6	12	10	-3								
BOMBAY	82.89	289.7	12	16	-3	22	25	-5					
SEMIPALATNSK	83.35	321.9	12	16	-5								
ALMATA-2	83.46	314.4	12	22	1								
LAHORE	83.49	302.4	12	21	-1	22	35	-1					
BYRD STATION	84.50	169.9	12	25	-2								
FRUNSE	85.34	313.6	12	31K	0	22	58	3					
WARSAK DAM	86.19	304.5	12	35A	0								
PARAISO	88.23	53.5	12	51	6								
CALISTOGA	88.37	51.2	12	48A	2								
BERKELEY	88.52	52.0	12	48A	2	23	4	-21			16	22	PP
LICK	88.94	52.6	12	51K	3						16	16	PP
TASHKENT	89.01	311.4	12	48K	-1	23	32	3					
DUZHANBE	89.05	308.7	12	49	0								
MINERAL	89.35	49.6	13	9	19								
QUETTA	89.58	300.2	12	52	1	23	40	5					
PRIEST	89.58	53.8	12	52K	1						15	56	PP
PASADENA	91.41	56.0	13	0	0	23	49	-2	13	19			
BLUE MTS.	92.95	45.4	13	6	-1	24	8	4	13	31	16	43	PP
EUREKA	93.58	50.8	13	11	1				13	31	16	49	PP
BOULDER CITY	94.27	54.4	13	16	3						17	1	PP
COPPERMINE	95.19	22.4	13	15A	-2								
YELLOWKNIFE	95.33	27.8	13	17A	-1								
HUNGRY HORSE	95.38	42.0	13	11	-7								
SVERDLOVSK	95.81	326.5	13	19	-1								
EDMONTON	95.89	37.0	13	19	-1								
GLEN CANYON	96.92	53.5	13	50	25								
TONTO FOREST	97.12	56.2	13	29	3				13	49	30	19	PKKP
VANNOVSKAYA	97.38	307.5	13	27	0								

BOZEMAN	97.39	44.7	13	24	-3						
TUCSON	97.45	58.3	13	36	9						
UINTA BASIN	98.52	50.1	13	32	0	24	2	-1	13 51	17 31	PP
FLAMING GRGE	98.65	49.5	13	33	0						
N-LAZARVSKYA	100.14	192.0	13	38	-2						
ALBUQUERQUE	101.09	55.5	13	53	9					17 2	PP
SHIRAZ	102.06	299.1	13	48	0						
TEHERAN	102.81	305.4								17 1	
GORIS	106.48	309.6	18	36	777						
WICHITA MTS.	107.56	55.3				24	49	4	14 39	18 18	PKP
KAJAANI	109.59	337.8	14	45	777						
TULSA	109.69	53.8								28 49	PS
UMEA	112.45	339.6								28 50	PS
CUMBERLAND	117.89	52.3	18	38	-1				19 3	19 47	PP
BROKEN HILL	122.18	249.5	18	48K	1						
BREBEUF	122.61	37.7	19	12	24						
COLLMBERG	123.46	331.4	18	53A	3					20 57	PP
PRUHONICE	123.53	329.5								19 9	PP
JENA	124.37	331.8								20 34	
KASPERSKE H.	124.56	329.1	18	53	1						
PALISADES	124.56	42.6	19	17	25						
BENSBERG	126.35	334.2	18	58	3						
STUTTGART	126.93	331.1	18	57	1					19 20	
DOURBES	128.08	335.0								19 27	
HUANCAYO	128.52	109.7	19	4	5						
AREQUIPA	130.60	116.6	19	5	2						
GARCHY	130.89	333.6	19	28	24					22 23	
CHINCHINA	131.04	87.8	19	3	-1					22 55	PKS
ISOLA	131.20	328.1	19	7	3					22 25	SKP
CLERMONT-FD.	132.00	332.3								19 33	
BOGOTA	132.57	88.4	19	12	5					21 52	PP
LA PAZ	133.55	118.4	19	10	1					22 36	PKS
BANGUI	135.07	271.1	18	54	-18						
BANDEIRA	135.86	242.7	19	7	-6				19 21		
SAN JUAN	139.10	67.8	19	19	0					22 48	PP
CARACAS	139.57	79.8	19	18	-2					22 16	PP
TOLEDO	139.89	332.9							19 44	22 32	PP
MOKA	144.93	268.6	19	29A	0					19 56	
TRINIDAD	144.97	78.7	19	27	-2						
AVERROES	146.79	330.1	19	34	1				19 56	23 21	*PPP
M.BOUR	166.86	315.3								25 7	PP

DECEMBER 28 9.H 3.M 55.S EPICENTRE -32.91-178.83 DEPTH= 51.KM

A=-0.84101 B=-0.01725 C=-0.54075 D=-0.0205 E= 0.9998
G= 0.5406 H= 0.0111 K=-0.8412 HT= 0.8

DEPTH OF FOCUS= 0.003R

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	
GISBORNE	6.27	203.2	1	31	-1	2	41	-2			15	34	SCS
TUAI	6.72	207.9	1	38	0	2	52	-2					
KARAPIRO	6.80	221.0	1	41	2								
WAIRAKEI	7.08	214.9	1	47	4						2	27	
TARATA	8.34	219.4	2	3	2								
WELLINGTON	9.79	209.6	2	16	-5	4	0	-10			2	47	P*
KAIMATA	12.31	216.0	2	55	0	4	59	-12			15	28	SCS
GEBBIES PASS	12.67	209.3	2	55	-4	5	7	-13			15	32	SCS
ROXBURGH	15.53	212.7	3	35	-2	6	17	-10			12	2	SCP
NOUMEA	16.77	305.4	3	56	4	7	24	28					
PORT VILA	19.04	319.5	4	21	1								
KOUMAC	19.44	305.1	4	25A	1	8	13	17					
AFIAMALU	19.98	20.4	4	27	-3	7	51	-16					
LUGANVILLE	21.50	320.3	4	46K	0								
RIVERVIEW	25.05	259.6	5	23A	2	9	42	3	5	40	10	52	SS
BRISBANE	25.12	275.1	5	23	2	9	39	-1					
CANBERRA	26.69	255.8	5	37A	1	10	6	0	5	46	8	57	PCP
TOOLANGI	29.40	250.8	6	1A	1	10	48	-1			7	8	PP
HONIARA	30.49	315.3	6	8	-2								
CHARTERS TS.	33.60	283.5	6	37	0	11	47	-8					
ADELAIDE	35.09	254.6	6	50A	0	12	9	-9			8	5	
RABAUL	39.37	310.3	7	25	-1						7	55	
CAPE HALLETT	39.88	185.2	7	41	11								
SCOTT BASE	45.49	184.2	8	19	3	15	3	10					

BYRD STATION	52.60	169.1	9	13	3						
MUNDARING	54.02	252.1	9	18	-3	16	46	-6			
HAWAII V.OB.	56.71	26.8	9	40	0				9	53	
HONOLULU	57.43	23.1	9	45	0	18	13	36		10	6
KIPAPA	57.56	23.1	9	46	0					10	5
MIRNY	59.58	207.6	10	0	-1	18	1	-4	10	35	
ARGENTINE I.	69.92	155.9	11	7	0						
TANGERANG	73.70	273.2	11	26	-4						
BAGUIO CITY	75.85	300.4	11	40	-2	21	8	-11			
N-LAZARVSKYA	76.33	183.6	11	45K	0	21	23	-2			
TUKUBASAN	78.77	327.2								27	11 55
ABUYAMA	79.85	323.4	12	2A	-2						
HONG KONG	84.24	301.0				22	37	-10			
SANTA LUCIA	85.58	127.2	12	33	-1	22	49	-11		13	1
PARAISO	86.77	42.4	12	43	4					13	9
PRIEST	87.61	43.5	12	45K	1						
PASADENA	87.72	46.3	12	44	0	23	5	-15			
LICK	87.89	42.1	12	46K	1						
BERKELEY	87.92	41.4	12	46K	1	23	11	-11			
CALISTOGA	88.29	40.6	12	47K	0						
SHASTA	89.87	39.3	12	54K	0					13	18
MINERAL	90.04	40.0	12	54K	-1				13	5	
BOULDER CITY	90.98	46.8	13	0	0					30	24 PKKP
TUCSON	91.15	51.8	13	1	1					30	21 PKKP
ANTOFAGASTA	91.57	119.5	13	3	1	23	23	-32			
TONTO FOREST	92.14	50.0	13	6K	1					16	45 PP
EUREKA	92.60	43.6	13	8	1					17	7 PP
NANA	93.40	106.5	13	12	1						
GLEN CANYON	93.62	47.7	13	14	2						
TUMWATER	94.12	34.6	13	14	0						
LONGMIRE	94.46	35.3	13	15	0						
HUANCAYO	94.58	107.4	13	11	-5						
VICTORIA	94.96	33.3	13	16	-2						
AREQUIPA	95.06	113.1	13	20	2						
BLUE MTS.	95.43	38.9	13	19K	-1	23	52	2		17	8 PP
ALBUQUERQUE	95.68	51.9	13	21	0					17	11 PP
UINTA BASIN	96.93	46.1	13	27K	0	23	56	-2		17	22 PP
FLAMING GRGE	97.41	45.7	13	29	0					30	6 PKKP
LA PAZ	97.62	115.1	13	32	2	24	1	-1			
BOZEMAN	99.35	41.1	13	36	-2						
HUNGRY HORSE	99.43	37.7	13	37	-1						
COLLEGE	100.43	12.9	13	40	-3						
BANFF	100.49	34.9	13	42	-1						
WICHITA MTS.	100.90	55.8	13	44	-1	24	16	-2		17	53 PP
EDMONTON	102.92	34.0	13	52	-2						
TULSA	103.47	56.0								18	11 PP
CHINCHINA	103.77	93.0								25	9 SKKS
BOGOTA	104.88	94.2	14	13	11	24	42	5		18	35 PP
TIKSI	110.47	344.5	18	24	-2	25	3	2			
CUMBERLAND	110.62	60.4	18	25	-1					19	22 PP
COPPERMINE	111.04	21.4	18	25A	-2						
CARACAS	113.98	92.9				25	11	-4		19	25 PP
KIMBERLEY	114.71	202.8	18	35	1						
MOULD BAY	115.01	13.2	18	33K	-2						
NEW DELHI	115.85	288.5	18	36K	-1						
RESOLUTE	119.84	17.7	18	40K	-4						
BULAWAYO	121.09	210.4	18	47K	0						
PALISADES	121.15	58.7	18	46	-1						
ALMATA	121.35	304.0	18	46	-1						
CHILEKA	121.87	219.1	18	51	3						
WARSAK DAM	122.39	292.1	18	49	0						
BREBEUF	122.65	53.7	18	49A	-1						
FRUNSE	122.86	302.9	18	50K	0						
QUETTA	124.70	286.1	18	54K	0	25	50	-1			
MILO	125.72	55.0	18	55	-1					22	11
ALERT	125.83	8.4	18	54A	-2						
DUZHANBE	125.95	296.5	18	56	0						
BROKEN HILL	126.16	213.4	18	58K	1						
TASHKENT	126.30	299.9	18	55A	-2						
EAST MACHIAS	126.69	55.9	18	57	-1						
CARIBOU	126.70	53.1	18	57	-1					22	10
KHEYS	127.51	350.0	18	58	-1	25	56	-4			
FROBISHER	127.91	31.9	18	58K	-2						
SCHEFFERVLLE	128.59	43.3	19	0	-1						
HALIFAX	129.39	56.7	19	2A	-1						
BANDEIRA	131.07	195.6	19	10K	4					21	29 PP
VANNOVSKAYA	133.95	293.0	19	9	-2						
KIZYL-ARVAT	135.59	294.4	19	15	1					22	37 SKP

SHIRAZ	136.35	280.0	19	16	0						
TEHERAN	138.80	288.4	19	22	2						
KEVO	140.39	346.2	19	17	-6					22	51 SKP
APATITY	140.58	341.2	19	17	-7					22	49 PKS
TROMSOE	141.91	350.0	19	22	-4					22	54 PP
SODANKYLA	142.42	344.2	19	21	-6					22	54 SKP
GORIS	143.28	293.4	19	25K	-3						
KIRUNA	143.29	347.9	19	23	-5					22	57 PP
KIROVOBAD	143.34	295.4	19	24	-4						
TIFLIS	144.52	297.1	19	28	-2	26	32	-1			
KAJAANI	144.73	340.1	19	28A	-3					23	0 SKP
MOSCOW	145.96	323.1	19	33A	0						
VIBORG	146.85	335.4	19	32A	-2						
UMEA	146.86	344.6	19	32	-2					23	5 PP
PULKOVO	146.95	333.1	19	35	0						
BANGUI	147.27	213.6	19	29	-6					23	30 PP
NURMIJARVI	148.39	337.9	19	35A	-2					23	9 SKP
SKALSTUGAN	148.53	350.5	19	36A	-1					23	9 PP
HELSINKI	148.55	337.3	19	35	-2					23	10 SKP
MOKA	149.76	195.0	19	41	2						
UPPSALA	150.93	342.9	19	39	-2						
KSARA	151.08	281.4	19	46A	5						
JERUSALEM	151.28	277.1	19	48	7						
SIMFEROPOL	151.89	305.0	19	49A	7						
BERGEN	152.37	355.6	19	49	6					20	11 PKP2
KONGSBERG	152.67	350.6	19	50	7					20	12 PKP2
GOTEBORG	154.14	346.7	19	53A	8						
KARLSKRONA	154.69	341.0	19	53A	7					20	29 PKP2
M.BOUR	155.24	133.9	19	51	4					20	17 PKP2
COPENHAGEN	155.91	344.3	19	48A	0						
LWOW	156.07	321.7	19	48	0					20	47
UZHGOROD	157.69	321.0	19	49	-1						
KRAKOW	157.95	326.5	19	50	0					20	24 PKP2
DURHAM	158.06	4.3	20	24K	33						
RACIBORZ	158.71	328.7	19	51	0					20	26 PKP2
COLLMBERG	159.68	338.2	19	53	1					32	33
PRUHONICE	160.27	333.7	19	52	-1					20	56
MUNSTER	160.38	348.1	19	56	3						
VIENNA-H.	160.87	327.7	19	53	-1					20	38
BELGRADE	160.91	314.1	20	59K	65					22	6 PKP2
ATHENS	160.96	291.7	19	53	-1						
KASPERSKE H.	161.33	333.8	19	53A	-1					20	35
BENSBERG	161.43	348.0	19	52	-2					21	0
STUTTGART	163.03	341.4	19	55	-1						
LJUBLJANA	163.35	325.9	19	56	0					20	29
STRASBOURG	163.58	344.3	19	57	1					20	36 PKP2
TRIESTE	164.01	326.3	19	55	-2						
WELSCHBRUCH	164.03	347.4	20	48	51						
PARIS	164.09	356.8	19	56	-1					20	50
FOLINIERE	164.11	4.0	19	57	0						
AQUILA	166.50	317.7								23	35 PKS
CLERMONT-FD.	167.07	353.9	20	0	1					21	6
TOLEDO	171.87	29.7	20	3A	1					25	21 PP
AVERROES	172.78	84.6	20	4A	1					25	24 *SPP
GRANADA	174.21	41.3	20	4K	1					25	31 PP
ALMERIA	175.06	36.3	20	6A	2						

DECEMBER 28 17.H 58.M 26.S EPICENTRE -60.45 -51.50 DEPTH= 0.KM

A= 0.30859 B=-0.38792 C=-0.86850 D=-0.7826 E=-0.6225
G=-0.5407 H= 0.6797 K=-0.4957 HT= -9.1

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
G. G. VIDELA	6.82	225.2	1	50	6	3	11	8				
ARGENTINE I.	7.56	225.0	1	52	-2						3	30
N-LAZARVSKYA	26.73	138.8	5	44	1	9	53	-25				
BYRD STATION	27.43	200.6	5	49	0						10	36
SANTA LUCIA	29.78	326.5	6	12	1	11	4	-3			7	6 PP
ANTOFAGASTA	39.02	331.8	7	29A	-1	13	28	-2			8	57 PP
SCOTT BASE	39.98	191.8	7	39	1	13	52	8				
MAWSON	43.63	149.6	8	9	1							
CAPE HALLETT	44.46	196.9	7	2	-73							
LA PAZ	45.51	337.4	8	23	0	15	9	4				

AREQUIPA	46.25	333.0	8	29	0							
MIRNY	50.62	162.5	9	3	0	16	16	-1			11	11 PP
HUANCAYO	51.41	329.6	9	10	1							
NANA	51.86	327.8	9	12	0							
WILKES	52.82	171.0	10	23	64	16	49	2				
KIMBERLEY	58.75	93.8	9	59	-3							
BANDEIRA	64.79	75.2	10	41K	-2							
BOGOTA	67.25	335.5	10	58A	0	19	58	5				
BULAWAYO	67.83	91.8	10	59	-3							
CHINCHINA	67.91	333.9	11	0A	-3	20	2	1				
FUQUENE	68.00	336.0	11	2A								
ROXBURGH	69.31	209.4	11	10	-1							
CARACAS	71.78	344.0	11	27A	1	20	46	0			25	10 SS
WELLINGTON	71.79	215.0	11	28	2	20	46	0			25	28 SS
BROKEN HILL	72.60	88.6	11	30	-1							
GISBORNE	73.25	218.5	11	36	1							
KARAPIRO	74.66	216.9	11	42	-1							
M.BOUR	79.55	34.0	12	12	2							
SAN SALVADOR	79.80	322.8	12	12	0							
TOOLANGI	81.34	193.6	12	19	-1				12	30		
CANBERRA	83.10	196.8	12	30	1						12	32 PCP
LWIRO	83.26	82.7	12	31	1							
BANGUI	84.13	70.5	12	33	-1						23	19
RIVERVIEW	84.23	198.8	12	41	6	22	54	-6			23	1 SKS
ADELAIDE	84.56	188.4	12	35A	-1							
MUNDARING	87.37	169.6	12	48	-2							
BRISBANE	90.25	201.4	13	4	0						23	52
AFIAMALU	92.02	237.0									25	34
CHARTERS TS.	98.46	196.8	13	43	2						32	1
CUMBERLAND	99.70	332.4	13	45	-2						17	40 PP
WICHITA MTS.	102.38	321.9	13	58	-1						18	9 PP
PALISADES	102.76	342.8				24	34	-6				
TONTO FOREST	106.29	311.8									18	26 PP
TOLEDO	107.26	36.4									28	7 PS
UINTA BASIN	111.06	315.9	14	43	-232						19	14 PP
FLAMING GRGE	111.54	316.4	18	57	21							
MESSINA	112.49	51.7									28	56
EUREKA	112.62	310.8	18	31	-7						29	26 PKKP
ROME	114.55	47.5									35	34 SS
AQUILA	115.28	47.9									27	34
ATHENS	115.60	57.9									28	12
BLUE MTS.	117.77	312.8	18	48	0						20	7 PP
KASPERSKE H.	121.17	44.1	18	54	-1							
SHIRAZ	122.14	85.9	18	50	-7							
PRUHONICE	122.23	44.2	18	56	-1							
COLLMBERG	122.82	42.4	19	11	13							
EDMONTON	123.74	320.6	18	57	-3							
UZHGOROD	123.92	50.2	19	0	0							
FROBISHER	124.53	350.9	19	1	-1							
GORIS	127.05	73.8	19	4	-2							
BAKURIANI	127.47	70.0	19	4	-3							
QUETTA	129.71	98.2	19	11	-1						22	34
UPPSALA	131.34	38.9	19	14	-1							
VANNOVSKAYA	131.55	84.4	19	16	1							
NEW DELHI	133.31	109.4	19	16	-2							
NURMIJARVI	134.11	42.0	19	18	-2						39	54 SS
UMEA	135.19	36.7	19	20	-2						40	38 SS
VIBORG	135.66	43.9	19	21	-2							
SHILLONG	137.06	127.7	19	26A	1							
KAJAANI	137.67	39.9	19	23	-3							
KIRUNA	138.17	32.8	19	20	-7							
SODANKYLA	139.58	35.7	19	24	-6							
APATITY	141.73	38.1	19	27K	-7							
ALERT	142.83	357.6	19	32K	-3							
MOULD BAY	142.98	338.4	19	33	-3							
FRUNSE	143.44	93.9	19	35A	-2							
ALMATA-2	145.12	96.0	19	37	-2							
SVERDLOVSK	145.91	65.3	19	40	-1							
MATUSIRO	155.28	198.9	20	1	6	27	25	25				
TIKSI	168.77	359.4	20	4	-5						21	19 PKP2
YAKUTSK	178.32	340.0									22	0 PKP2

DECEMBER 29 17.H 15.M 41.S EPICENTRE -18.33 -69.54 DEPTH= 125.KM

A= 0.33199 B=-0.88999 C=-0.31256 D=-0.9369 E=-0.3495
G=-0.1092 H= 0.2928 K=-0.9499 HT= 5.1

DEPTH OF FOCUS= 0.014R

SE= 1.62

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
LA PAZ	2.26	36.8	0	40	2								
AREQUIPA	2.63	314.7	0	42	-1								
ANTOFAGASTA	5.41	188.6	1	11K	-9	2	5	-16					
HUANCAYO	8.38	317.4	1	59	-1	4	17	44					
NANA	9.45	310.8	2	12	-2	4	11	12					
SANTA LUCIA	15.08	183.5	3	27	-1	5	45	-27					
BOGOTA	23.24	348.5	4	59	2	9	4	8					
CHINCHINA	23.91	344.9	5	5	2	9	15	7					
FUQUENE	24.00	349.7	5	5	1								
CARACAS	28.76	5.3	5	47A	-1	10	27	0			11	45	SS
BALBOA HTS.	28.86	339.1	5	51A	2								
SAN JUAN	36.63	5.5	6	53	-3						7	41	
COLUMBIA	53.17	348.1	9	8	1								
CHAPEL HILL	54.70	350.5	9	21	3								
CUMBERLAND	55.73	344.2	9	25K	-1	17	3	2			17	10	SP
BLACKSBURG	56.18	349.6	9	29	0	17	10	3					
FAYETTEVILLE	58.94	336.8	9	48	0								
PALISADES	59.17	356.2	9	49	-1	17	45	-1					
PENNSYLVANIA	59.33	352.7	9	51	0								
TULSA	59.39	335.3	9	51K	-1	17	56	7					
WICHITA MTS.	59.55	332.4	9	52	-1	17	53	2	10	18	19	31	SCS
ST. LOUIS 1	59.90	341.4	9	53	-2	18	6	11					
FLORISSANT	60.09	341.3	9	55K	-1								
M.BOUR	61.16	61.5	10	2	-2	18	14	3					
ANN ARBOR	61.71	348.2	10	6	-1								
LAWRENCE	61.87	337.5	10	7	-1								
LONDON ONT.	61.99	350.4	10	8	-1								
HALIFAX	62.88	4.8	10	14K	-1								
ALBUQUERQUE	63.54	326.6	10	20	1								
BREBEUF	63.63	356.8	10	20A	0				10	47			
TUCSON	63.97	321.5	10	23	1								
BYRD STATION	65.52	188.4	10	31	-1								
TONTO FOREST	65.69	322.8	10	34K	1	20	15	67	11	5	39	46	PKPPKP
GLEN CANYON	67.80	324.6	10	48	1								
LARAMIE	68.09	331.5	10	46	-2								
BOULDER CITY	68.95	321.9	10	55	1				11	19	11	55	
UINTA BASIN	69.23	328.3	10	56K	1	19	55	5	11	23	20	43	SCS
RAPID CITY	69.32	334.7	10	57	1								
PRICE	69.32	327.0	10	57K	1								
FLAMING GRGE	69.60	328.8	10	58	0								
PASADENA	69.75	318.4	10	59	0				11	26			
SALT LAKE C.	70.72	327.2	11	5	1								
DUGWAY	70.80	326.2	11	6K	1								
EUREKA	72.01	323.9	11	13	1						13	55	PP
PRIEST	72.59	318.7	11	17K	2								
SCHEFFERVLLE	72.89	1.7	11	17K	0								
PARAISO	73.79	317.9	11	20	-3								
LICK	73.96	319.1	11	25K	2								
BOZEMAN	73.98	331.1	11	25	1				11	52			
BERKELEY	74.67	319.2	11	29K	1						11	55	
BUTTE	74.95	330.5	11	30	1				11	57			
MINERAL	75.83	321.6	11	52A	18								
BLUE MTS.	76.44	327.2	11	38K	0	21	19	8	12	6	22	4	PS
SHASTA	76.52	321.5	11	37K	-1						12	3	
HUNGRY HORSE	77.34	331.4	11	44	1				12	7			
AVERROES	78.39	49.1	11	47A	-1				11	53	12	25	*SP
BANDEIRA	78.81	102.1	11	50A	-1				12	19			
SCOTT BASE	78.83	190.3	11	50	-1								
MOKA	79.88	83.1	11	56K	0				12	25			
BANFF	80.06	332.6	11	56	-1								
EDMONTON	80.78	335.1	12	0K	-1								
TUMWATER	80.80	326.2	12	2	1								
FROBISHER	81.79	0.5	12	6A	0								
VICTORIA	82.02	327.2	12	8	0								
GRANADA	83.04	47.3	12	15K	2						13	47	
TOLEDO	84.05	44.7	12	19A	1	22	37	7	12	49	23	59	PS
YELLOWKNIFE	88.01	340.8	12	37A	0								
BANGUI	89.56	85.3	12	43	-1						14	50	PP
FOLINIERE	90.56	38.2	12	48	-1								

BULAWAYO	91.12	111.5						12	51 PCP
CLERMONT-FD.	91.44	41.9	12	54	1				
GARCHY	92.04	40.6	12	56K	0				
COPPERMINE	92.10	344.3	12	56	0				
ISOLA	93.36	44.5	13	3	1			13	53
MONACO	93.44	45.0	13	2	0				
DOURBES	94.13	38.4	13	4	-2			13	39
RESOLUTE	94.19	353.4	13	5	-1				
WILKES	95.59	180.0	13	13	1				
BENSBERG	95.97	38.2	13	13	-1				
STUTTGART	96.46	40.8	13	15	-1	13	47		
LWIRO	97.21	94.8	13	21A	1				
MOULD BAY	99.01	349.3	13	28A	0				
KASPERSKE H.	99.26	41.4	13	28	-1			17	29
COLLMBERG	99.55	39.1	13	31K	1			18	7
PRUHONICE	100.11	40.7	13	31	-2			17	33
COLLEGE	101.55	334.7	13	39	0				
TEHERAN	125.38	58.9						20	36
SHIRAZ	126.36	66.3	18	50	2				
CHARTERS TS.	128.12	224.3	18	53K	1			22	53
RABAUL	133.19	245.5	19	2	1			22	21
QUETTA	138.84	64.9	19	6	-6				
WARSAK DAM	142.01	58.0	19	20	3				
LAHORE	144.86	61.0	19	22	0				
GUAM	146.71	266.7	19	28	2				
NEW DELHI	147.93	65.3	19	32A	4				
DEHRA DUN	148.26	61.8	19	35A	7				
MATUSIRO	149.57	312.2	19	33	3			23	31 PP
MADRAS	150.39	95.9	19	47	16				
TANGERANG	155.37	170.8	20	2	24				
CHATRA	156.92	64.3	20	9	29				
SHILLONG	161.33	64.0	19	51K	6				
BAGUIO CITY	170.15	260.4	20	10	18				

DECEMBER 30 1.H 15.M 24.S EPICENTRE 21.60 144.44 DEPTH= 110.KM

A=-0.75710 B= 0.54114 C= 0.36601 D= 0.5815 E= 0.8136
G=-0.2978 H= 0.2128 K=-0.9306 HT= 4.3

DEPTH OF FOCUS= 0.012R

SE= 2.56

	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	8.03	176.7	1	58	5	3	30	-6				
ABUYAMA	15.35	331.4	3	33A	2							
MATUSIRO	15.84	341.3	3	38	1	6	38	8				
BAGUIO CITY	23.13	261.2	4	58	1	9	9	13				
Y.-SAKHLINSK	25.40	357.2	5	16	-2							
PETROPAVLOVK	33.21	15.7	6	29A	1							
DARWIN	36.32	202.8	6	57	3							
MAGADAN	38.18	5.2	7	11	1	13	56	61				
CHARTERS TS.	41.47	177.4	7	37	0	13	38	-6				
YAKUTSK	41.65	349.6	7	39K	1							
LUGANVILLE	43.08	147.0	7	46	-4							
KOUMAC	46.17	153.8	8	14	-1							
TANGERANG	46.22	237.6	8	16A	1							
SHILLONG	48.09	285.5	8	32K	2							
NOUMEA	48.63	152.5	8	33K	-1							
BRISBANE	49.37	170.2	8	39	-1						18	20
TIKSI	50.85	353.7	8	47K	-4	15	58	1				
CHATRA	52.13	287.8	9	1K	0							
KIPAPA	53.25	78.9	9	0	-9							
ADELAIDE	56.52	185.6	9	33A	0							
CANBERRA	56.77	175.5	9	34K	0						10	33 PCP
SEMIPALATNSK	57.28	316.8	9	33	-5							
TOOLANGI	58.86	179.0	9	48	-1				10	20		
ALMATA	59.33	308.3	9	50	-2							
MUNDARING	59.74	207.7	9	55	0							
NEW DELHI	60.61	291.4	9	59A	-2							
FRUNSE	61.05	307.9	10	3	-1							
COLLEGE	61.21	26.8	10	4	-1							
KHOROG	63.94	302.2	10	25	2	18	51	3				
WARSAK DAM	64.46	298.4	10	26	-1							
TASHKENT	65.15	306.6	10	32K	1	19	6	3				

DUZHANBE	65.94	303.7	10	36	0	19	16	3				
KARAPIRO	66.04	153.5	10	36	-1							
SVERDLOVSK	68.85	324.1	10	53	-1	19	47	-1				
QUETTA	69.05	295.1	10	55	0	19	52	2				
HONOWAI	70.29	163.0	11	3	0							
MOULD BAY	70.66	14.6	11	3	-2							
COPPERMINE	74.07	22.8	11	23A	-2							
VANNOVSKAYA	74.27	305.0	11	30	4							
ALERT	75.32	3.5	11	32A	0							
KIZYL-ARVAT	75.32	306.6	11	35	3						21	5
VICTORIA	75.50	43.3	11	34	1							
YELLOWKNIFE	75.99	28.0	11	35	-1							
TUMWATER	76.26	44.7	11	38	0							
SEATTLE	76.47	44.0	11	42	3							
RESOLUTE	76.90	13.6	11	40	-1							
LONGMIRE	77.06	44.8	11	42	0							
APATITY	77.89	338.5	11	46	-1							
SHASTA	78.54	50.8	11	52	2							
CALISTOGA	79.06	52.8	11	55A	2							
MINERAL	79.22	50.9	11	54K	0							
BANFF	79.49	39.1	11	53	-2							
BERKELEY	79.55	53.4	11	57K	-4							
EDMONTON	79.90	36.5	11	58	0							
PARAISO	79.97	55.0	12	3	5							
TEHERAN	80.07	304.4	12	9	10	21	54	2				
LICK	80.19	53.8	12	0K	1							
SODANKYLA	80.24	339.7	11	59	-1							
BLUE MTS.	80.66	45.5	12	1	-1	21	59	1	12	29	15	26 PP
TROMSOE	81.17	343.2	12	4	0							
SHIRAZ	81.20	298.3	12	4	-1	22	1	-3				
PRIEST	81.34	54.7	12	7K	2							
HUNGRY HORSE	81.45	41.4	12	7	1				14	32		
KAJAANI	81.68	336.6	12	6	-1				12	39		
KIRUNA	81.89	341.5	12	6	-2							
KIROVOBAD	82.09	310.5	12	9	0	22	8	-5				
GORIS	82.52	309.4	12	13	2	22	18	1				
VIBORG	83.07	333.5	12	14	0							
BUTTE	83.29	43.1	12	16	1				12	46		
EUREKA	83.58	50.2	12	17	0				12	46		
PASADENA	83.96	55.8	12	19	0							
UMEA	84.49	338.4	12	21	0							
NURMIJARVI	84.87	334.5	12	17	-6							
HELSINKI	84.95	334.1	12	22	-2							
DUGWAY	85.52	48.5	12	27K	1	22	40	-7				
LOGAN	85.57	46.8	12	28	1							
BOULDER CITY	85.78	53.0	12	29	1				12	55		
SALT LAKE C.	85.95	47.7	12	29	1							
PRICE	87.17	48.4	12	36K	2							
FLAMING GRGE	87.56	46.8	12	37	1							
UINTA BASIN	87.71	47.4	12	38	1	23	8	0	13	8	16	5 PP
GLEN CANYON	87.75	51.1	12	39	2							
TONTO FOREST	89.13	53.4	12	46	2	23	26	5	13	15	16	16 PP
TUCSON	90.35	55.0	12	51	2							
GOLDEN	90.85	46.4	12	53	1	23	14	-23				
FROBISHER	91.14	14.0	12	52	-1							
ALBUQUERQUE	92.37	51.0	12	57	-2							
WICHITA MTS.	98.05	47.9	13	25	0	23	48	-3	13	55	17	23 PP
CUMBERLAND	105.98	40.5									27	41 SP
BULAWAYO	120.42	258.7	18	39	1							
BANGUI	121.02	289.4	18	41	2						22	4
CHINCHINA	132.69	60.7									22	23 PP
FUQUENE	133.92	58.7									22	24 PP
BOGOTA	134.15	59.9									22	26 PP
AREQUIPA	145.70	87.7	19	30	5							
ANTOFAGASTA	147.80	100.5	19	34A	5							

DECEMBER 30 13.H 29.M 25.S EPICENTRE 45.46 150.67 DEPTH= 36.KM

A=-0.61355 B= 0.34475 C= 0.71042 D= 0.4899 E= 0.8718
G=-0.6193 H= 0.3480 K=-0.7038 HT= -3.7

DEPTH OF FOCUS= 0.000R

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

KURILSK	1.99	264.3	0	34K	2	0	58	2			
NEMURO	4.22	241.5	1	3A	-1	1	51	-1			
ABASHIRI	4.77	254.7	1	13K	2	2	16	10			
KUSIRO	5.14	243.4	1	17A	0	2	13	-3			
OBIHIRO	5.94	247.3	1	29A	1	2	37	1			
ASAHIGAWA	6.16	257.1	1	35A	4	2	45	4			
HIROO	6.19	241.7	1	31A	0	2	37	-5			
WAKKANAI	6.33	272.8	1	37	4	2	17	-28			
URAKAWA	6.60	242.7	1	38K	1	2	51	-1			
RUMOE	6.62	260.0	1	41	4						
SAPPORO	7.10	253.6	1	46A	2	3	10	5			
TOMAKOMAI	7.13	249.8	1	46	1	3	18	13			
MURORAN	7.67	249.2	1	51A	-1	3	17	-2			
SUTTSU	7.97	254.2	1	53	-3	3	40	14			
MORI	8.04	248.9	1	59	2	3	31	3			
HAKODATE	8.06	246.6	1	56A	-1	3	24	-4			
HATINOHE	8.31	236.8	1	58K	-3	3	25	-10			
AOMORI	8.59	240.8	2	4	-1	3	35	-6			
MIYAKO	8.65	230.9	2	2	-4	3	33	-10			
MORIOKA	9.07	233.9	2	10	-1	3	42	-11			
PETROPAVLOVK	9.18	31.7	2	15	2	4	1	5			
MIZUSAWA	9.48	231.5	2	15	-2	3	55	-9			
AKITA	9.67	237.3	2	21	1	4	7	-1			
ISINOMAKI	9.89	228.0	2	19	-4	4	3	-11			
SAKATA	10.37	234.6	2	29	0						
YAMAGATA	10.54	230.5	2	29	-3	4	17	-12			
HUKUSIMA	10.84	228.3	2	33	-3	4	27	-10			
ONAHAMA	11.24	224.2	2	42	1	4	40	-7			
SHIRAKAWA	11.45	226.9	2	42	-2	4	16	-36			
NIIGATA	11.49	233.1							4	7	
MITO	11.90	223.9	2	47A	-3	4	51	-12			
UTUNOMIYA	12.06	226.2	2	50	-2	4	54	-13			
KAKIOKA	12.16	224.3	2	51	-3	5	0	-9			
TYOSI	12.25	220.8	2	52K	-3						
TAKADA	12.52	232.5	2	54	-4						
MAEBASI	12.59	228.1	2	57	-2	4	58	-21	3	36	
KUMAGAYA	12.62	226.5	2	58A	-2	5	12	-8			
TOKYO C.M.O.	12.81	224.1	3	1	-1	5	15	-9			
TITIBU	12.91	226.8	3	2	-2	5	17	-10			
OIWAKE	12.92	229.3	3	3	-1						
MATUSIRO	12.95	230.8	3	1A	-3	5	27	-1			
YOKOHAMA	13.06	223.7	3	12	6	5	22	-8			
MATUMOTO	13.29	230.6	3	10	1	5	32	-4			
TOYAMA	13.40	233.9	3	4	-6				3	25	
KOHU	13.42	227.4	3	11	1	5	32	-7			
HUNATU	13.44	226.4	3	13	2	5	33	-7			
AJIRO	13.63	224.3	3	10	-3	5	32	-12			
MISIMA	13.65	224.9	3	26	13	5	35	-10			
SHIZUOKA	14.04	226.0	3	29	11						
MAGADAN	14.11	0.3	3	20A	1						
HUKUI	14.41	234.3	3	21	-2						
OMAESAKI	14.42	225.5	3	40	17						
GIHU	14.58	231.2	3	25	0						
HAMAMATU	14.59	227.1	3	33	7						
NAGOYA	14.64	230.2	3	20	-6	6	15	7			
TSURUGA	14.78	233.6	3	25	-3						
HATIDYOZIMA	14.93	218.0							6	2	
HIKONE	14.96	232.1	3	29	-1						
KAMEYAMA	15.15	230.5	3	36	3				4	59	
KYOTO	15.43	232.7	3	34	-3	6	38	11			
TOYOOKA	15.59	236.0	3	37	-2						
NARA	15.63	231.6	3	37	-2						
ABUYAMA	15.63	232.7	3	37A	-2						
OSAKA	15.81	232.2	3	33	-8						
WAKAYAMA	16.32	232.0	2	54	-54						
SUMOTO	16.39	232.8	3	52A	3	6	59	10			
SIOMISAKI	16.59	228.8	3	56	5	7	6	13			
TOKUSIMA	16.77	232.9	3	58	4						
TAKAMATU	16.89	234.6	3	53	-2	7	11	11			
MUROTO	17.60	231.9	4	8	4						
HAMADA	17.66	239.8	4	6K	1	7	31	13			
KOTI	17.75	233.8	4	5	-1						
HIROSIMA	17.80	237.9	4	7	1	7	31	10			
MATUYAMA	17.97	236.0	4	12	3				5	31	
OOITA	19.08	236.8	4	23	1	8	16	26			
HUKUOKA	19.58	239.7	4	28	0	8	18	17			
SAGA	19.86	239.2	4	32K	1						
KUMAMOTO	19.92	237.6	4	32	1	8	20	12			
MIYAZAKI	20.15	234.5	4	36	2						

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.

NAGASAKI	20.47	238.8	4	38A	1	8	28	9					
YAKUTSK	20.54	331.3	4	35	-3	8	9	-12					
KAGOSIMA	20.90	235.4	4	43K	1						5	38	
YAKUSIMA	21.76	233.4	4	51	1								
TIKSI	28.24	345.6	5	48	-4	10	27	-7					
ULAN-BATOR	29.83	290.7	6	5	-1								
IRKUTSK	30.80	299.7	6	11	-3								
ESEN BULAK	37.23	291.5	7	10	0								
HONG KONG	37.63	244.4	7	13A	0	12	41	-19					
COLLEGE	38.21	37.4	7	18	0								
BAGUIO CITY	38.37	230.8	7	19	0	13	11	0					
MANILA	39.55	228.6	7	30	1	13	46	17					
SEMIPALATNSK	45.83	302.8	8	19	-1								
MOULD BAY	46.39	19.3	8	24A	-1								
KIPAPA	48.10	102.3	8	39	1								
HONOLULU	48.13	102.5				15	49	15			19	15	
RABAUL	49.46	178.0	8	50	1	15	56	4					
COPPERMINE	50.40	29.4	8	55A	-1								
SHILLONG	50.64	267.8	8	58A	0	16	9	1			10	55	PP
ALMATA-2	50.73	295.4	8	59A	1								
ALERT	51.21	5.3	9	0A	-2								
RESOLUTE	52.59	17.7	9	12A	0								
FRUNSE	52.70	296.2	9	11	-2								
YELLOWKNIFE	52.97	35.4	9	15A	0								
CHATRA	53.16	272.3	9	17A	0	16	43	0					
SVERDLOVSK	53.62	316.9	9	17K	-3								
HONIARA	55.27	168.8	9	33	1	17	10	-2					
VICTORIA	55.67	53.4	9	34	-1								
TASHKENT	56.86	297.2	9	42	-1	17	33	0					
DEHRA DUN	57.41	281.6	9	47A	0	17	39	-1					
KHOROG	57.59	292.3	9	49	0	17	42	0					
APATITY	57.84	336.2	9	48A	-2	17	40	-6			21	19	SS
KEVO	57.98	340.0	9	51	0						10	42	PCP
EDMONTON	58.33	44.4	9	54A	0								
BANFF	58.49	47.5	9	53K	-2								
DUZHANBE	58.75	294.8	9	55A	-2								
NEW DELHI	59.06	280.6	9	58A	-1	17	58	-3					
LAHORE	59.22	285.1	9	59	-1	18	0	-3					
PORT BLAIR	59.43	254.7	10	1A	0								
WARSAK DAM	59.62	289.0	10	1	-2								
SODANKYLA	59.83	338.2	10	2	-2						10	48	PCP
TROMSOE	59.91	342.4	10	2	-3				10	15			
DARWIN	60.30	202.4	10	7	0								
SHASTA	60.66	60.6	10	10	0								
KIRUNA	61.01	340.7	10	9	-3								
UKIAH	61.08	62.4	10	14	1				10	24			
BLUE MTS.	61.21	54.2	10	13A	0	18	35	6			11	58	PP
MINERAL	61.35	60.5	10	14A	0								
CALISTOGA	61.77	62.6	10	17A	0								
KAJAANI	61.98	335.3	10	17K	-2						10	57	PCP
BERKELEY	62.44	63.1	10	22A	0								
LUGANVILLE	62.50	162.1	10	22A	0								
BUTTE	63.14	50.9	10	26	0						10	50	
LICK	63.15	63.2	10	26A	0								
PARAISO	63.31	64.5	10	31	3								
GODHAVN	64.21	9.3	10	32A	-1								
SCORESBY SD.	64.25	357.3	10	33A	-1								
UMEA	64.26	338.0	10	33	-1	19	2	-5	10	44			
PULKOVO	64.35	331.0	10	33	-1								
PRIEST	64.51	63.7	10	36A	1								
MOSCOW	64.53	324.8	10	37	2								
TANGERANG	64.71	229.9	10	39K	2								
QUETTA	65.04	288.3	10	39A	0	19	11	-6					
EUREKA	65.30	58.3	10	41	1						12	46	PP
CHARTERS TS.	65.36	184.6	10	40A	-1	19	21	0					
NURMIJARVI	65.63	333.9	10	41	-2						13	17	PP
VANNOVSKAYA	65.79	300.0	10	43	-1								
HELSINKI	65.80	333.6	10	42	-2								
KIZYL-ARVAT	66.09	302.1	10	46A	1								
LOGAN	66.28	54.1	10	47	0								
SKALSTUGAN	66.42	341.1	10	46	-2						11	15	PCP
DUGWAY	66.70	55.9	10	50A	1	19	40	3					
FROBISHER	66.84	17.8	10	48A	-2								
KOUMAC	66.86	166.1	10	50A	0								
SALT LAKE C.	66.89	55.0	10	51	1								
MADRAS	67.18	265.4	10	54K	2						13	21	PP
PASADENA	67.35	64.0	10	53	0	19	34	-11	11	5	11	16	*SP
FLAMING GRGE	68.19	53.5	10	59	0								

UPPSALA	68.24	336.6	10	56	-3					11	23	PCP
BOULDER CITY	68.24	60.5	11	0A	1			11	12	11	21	*SP
PRICE	68.25	55.3	10	59	0							
BOMBAY	68.35	275.2	10	59	-1	19	56 -1			11	24	PCP
UINTA BASIN	68.49	54.1	11	1A	0	20	1 3			13	41	PP
NOUMEA	68.95	164.3	11	4A	1							
RAPID CITY	69.42	47.7	11	7	1							
LARAMIE	70.05	51.1	11	9	-1							
KONGSBERG	70.48	340.2	11	13	0							
KIROVOBAD	70.83	308.7	11	15	0	20	24 -2					
TIFLIS	70.92	310.4	11	16	1		26 -1					
GOLDEN	71.28	52.2	11	18	0							
TEHERAN	71.29	302.0	11	19	1	20	33 2			21	23	SCS
TONTO FOREST	71.54	59.8	11	10	-9					11	33	PCP
BAKURIANI	71.59	311.1	11	20	1							
BRISBANE	72.53	178.0	11	26	1	20	51 5					
TUCSON	73.20	61.1	11	29	0							
COPENHAGEN	73.25	336.8	11	30A	1	21	15 21					
SIMFEROPOL	73.93	318.6	11	32A	-1							
LWOW	74.38	327.3	11	36	0							
KISHINEV	74.69	322.9	11	36A	-2							
SHIRAZ	74.76	296.7	12	29	51	21	9 -2					
IASI	75.07	323.8	11	36	-4					13	26	
SCHEFFERVLLE	75.17	21.3	11	40A	0							
KRAKOW	75.70	329.7	11	43A	0					12	5	PCP
UZHGOROD	76.01	327.6	11	45	-1							
RACIBORZ	76.28	330.7	11	47	0					11	56	PCP
COLLMBERG	76.92	334.3	11	49K	-1			11	57			
HALLE	77.06	335.0	11	49	-2							
DURHAM	77.40	344.0	11	51A	-2							
PRAGUE	77.54	332.8	11	53	-1							
PRUHONICE	77.58	332.7	11	53	-1	22	4 23					
JENA	77.67	334.9	11	53	-1					12	46	
MUNSTER	77.87	337.6	11	56	0							
VIENNA-H.	78.47	330.8	11	59A	0							
WICHITA MTS.	78.61	51.8	12	0A	0	21	53 1			22	35	SP
KASPERSKE H.	78.63	332.9	11	59A	-1					13	12	
BENSBERG	78.90	337.5	12	1A	0					13	12	
RIVERVIEW	78.92	179.6	12	1	0	22	2 6			22	46	PS
TULSA	79.24	49.2	12	3A	0	21	58 -1			27	17	SS
ISTANBUL UN.	79.33	319.1	12	4A	0	21	59 -1					
FLORISSANT	79.80	44.0	12	6A	0							
HEIDELBERG	79.87	335.9	12	6A	-1							
BELGRADE	79.88	326.5	12	6A	-1	21	49 -17			31	38	
FAYETTEVILLE	79.95	48.1	12	7	0							
ST. LOUIS 1	80.00	44.0	12	7	0							
ANN ARBOR	80.11	37.7	12	8	0							
KEW	80.25	342.1	12	8A	-1							
STUTTGART	80.28	335.2	12	8A	-1							
KARLSRUHE	80.31	335.9	12	10	1							
DOURBES	80.36	338.6	12	2	-7							
SOFIA	80.48	323.5	12	7	-3					12	27	
LONDON ONT.	80.54	35.8	12	10	0							
TUBINGEN	80.55	335.3	12	11A	1							
ADELAIDE	80.79	189.9	12	12A	1							
STRASBOURG	80.89	336.1	12	11A	-1					12	47	
LJUBLJANA	81.01	330.8	12	11A	-2					12	36	
RAVENSBURG	81.06	334.6	12	13A	0							
BREBEUF	81.33	29.8	12	13A	-1			12	26			
FELDBERG	81.45	335.6	12	15A	-1							
KSARA	81.49	310.2	12	16	1			12	28			
TRIESTE	81.62	331.0	12	14	-2					32	57	
PARIS	82.08	339.4	12	18A	0							
PADOVA	82.46	332.1	13	15	55					23	25	SKKS
TOOLANGI	82.78	184.1	12	23	1	22	37 1			12	42	
FOLINIERE	82.83	341.2	12	22K	0							
MUNDARING	83.17	209.0	12	24	0							
GARCHY	83.35	338.4	12	25A	0							
JERUSALEM	83.41	309.3	12	26	1							
PENNSYLVANIA	83.76	34.9	12	27	0							
ATHENS	84.21	320.6	12	28A	-1							
AQUILA	84.63	329.7	12	32	1	23	5 11	13	12	32	25	SSS
CUMBERLAND	84.67	42.9	12	31A	0	22	55 0			28	40	SS
CLERMONT-FD.	84.74	337.8	12	32	0							
ISOLA	85.08	334.6	12	33	0							
PALISADES	85.12	32.2	12	31	-2							
ROME	85.35	330.0	12	35A	0					23	15	SKKS
BLACKSBURG	85.71	38.5	12	37	1							

KARAPIRO	85.98	160.5	12	39	1				13	0		
CHAPEL HILL	87.39	38.3	12	48	3							
MESSINA	87.44	326.2	12	43	-2							
COLUMBIA	88.11	40.7	12	48	0							
WELLINGTON	89.01	162.1	12	52	0	23	41	5			29	29 SS
TOLEDO	92.06	340.8	13	7K	0	23	53	-10			30	11 SS
TANANARIVE	112.34	265.4	18	44	12						19	25
BANGUI	114.59	305.5	18	37	1						19	41 PP
CHILEKA	118.99	277.1	18	46K	1							
BULAWAYO	126.45	278.1	19	1A	2							
NANA	127.72	65.8	19	3	1							
HUANCAYO	128.73	64.4									22	22
AREQUIPA	134.48	64.5	19	18	3							
LA PAZ	136.61	61.1	19	21	3							
ANTOFAGASTA	140.37	70.8	19	24	-1						21	16
SANTA LUCIA	146.27	83.8	19	37	1						20	11
N-LAZARVSKYA	147.76	204.1	19	42	4							
ARGENTINE I.	152.53	148.5	19	52	7							

DECEMBER 30 15.H 4.M 19.5 EPICENTRE 9.36 125.87 DEPTH= 148.KM

A=-0.57830 B= 0.79966 C= 0.16160 D= 0.8103 E= 0.5860
G=-0.0947 H= 0.1309 K=-0.9869 HT= 6.6

DEPTH OF FOCUS= 0.018R

SE= 1.85

	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
BAGUIO CITY	8.71	324.2	2	2	-2	3	59	18				
NHATRANG	16.61	281.3	3	47	1							
HONG KONG	17.08	320.2	3	51	-1	7	1	6			4	24 PP
GUAM	18.93	75.8	4	17	5							
DARWIN	22.15	167.1	4	46	1	8	37	3				
TANGERANG	24.61	231.9	5	9	1							
ABUYAMA	26.90	17.8	5	29K	0							
PORT BLAIR	32.67	277.0	6	20K	-1							
CHARTERS TS.	35.48	145.7	6	43A	-1	12	6	-2				
SHILLONG	36.07	300.9	6	50	1	12	20	3			8	10 PP
HONIARA	38.72	117.9	8	15	63							
Y.-SAKHLINSK	40.17	17.9	7	22	-2							
CHATRA	40.47	300.6	7	27K	1	13	3	-20				
ULAN-BATOR	41.64	340.8	7	35	-1							
MUNDARING	42.12	192.3	7	38	-2							
BRISBANE	44.88	145.2	8	0	-2	14	24	-3				
MADRAS	44.93	279.0	8	5A	3	14	35	7			15	29
ADELAIDE	45.73	165.2	8	8K	0	14	40	0			13	24
LUGANVILLE	47.76	120.8	8	24A	0							
KOUMAC	48.07	128.5	8	27K	0							
DEHRA DUN	49.15	302.1	8	36K	1	15	31	3				
RIVERVIEW	49.21	152.0	8	36A	1	15	32	4			19	17 SS
NEW DELHI	49.46	299.6	8	35K	-2						9	56
CANBERRA	49.52	155.0	8	38K	0	15	37	4	9	4	10	31 PP
TOOLANGI	50.17	159.7	8	43K	0						9	48 PCP
NOUMEA	50.71	128.9	8	45	-2							
BOMBAY	52.15	286.6	8	57	-1							
YAKUTSK	52.64	2.3	9	1K	0							
ALMATA-2	53.99	317.4	9	12K	1							
SEMIPALATNSK	55.54	326.3	9	20	-2							
FRUNSE	55.68	316.0	9	23	0							
KHOROG	56.25	309.0	9	28	0							
KARACHI	57.89	293.4	9	40	1							
QUETTA	58.54	299.6	9	44K	0	17	41	7				
TASHKENT	58.97	312.8	9	46K	-1							
TIKSI	62.24	1.1	10	7K	-2	18	22	1				
KARAPIRO	66.04	138.7	10	34	1				11	0		
MONOWAI	66.43	149.4	10	35	-1							
ASHKABAD	66.60	307.3	10	37	0							
VANNOVSKAYA	66.79	307.2	10	40	2							
GISBORNE	68.06	138.2	10	45	-1							
KIZYL-ARVAT	68.35	308.4	10	49	1	19	44	9				
SVERDLOVSK	68.77	327.6	10	49	-1							
MACQUARIE I.	69.45	160.1	10	55	1							
SHIRAZ	71.00	298.1	11	4	0							
TEHERAN	72.02	304.5	11	11	1							
KIPAPA	73.77	70.4	11	22	2							

KIROVOBAD	76.05	309.6	11 33K	0					
BAKURIANI	78.14	310.7	11 46	1					
MIRNY	79.42	192.8	11 51	-1				12 14	
COLLEGE	80.02	25.6	11 54	-1					
TANANARIVE	82.13	249.4	12 7K	1					
APATITY	82.35	337.2	12 7K	0				12 37	
KEVO	84.34	339.8	12 17	0					
KSARA	84.86	303.3	12 22	2					
SODANKYLA	84.97	337.5	12 19A	-1					
KAJAANI	85.21	334.1	12 22A	1				13 7	
VIBORG	85.36	330.7	12 22A	0					
MOULD BAY	86.69	12.6	12 29K	0					
KIRUNA	87.15	338.5	12 30A	-1					
HELSINKI	87.33	330.6	12 32	0					
NURMIJARVI	87.39	330.9	12 32	0					
ALERT	88.19	1.1	12 36K	0					
UPPSALA	90.94	331.3	12 48A	-1					
SKALSTUGAN	91.84	335.8	12 52A	-1					
COPPERMINE	91.85	19.4	12 52K	-1					
UZHGOROD	91.88	319.8	12 54	1					
RESOLUTE	92.46	10.0	12 57K	1					
NIEDZIKA	92.89	321.0	12 58	0					
CHILEKA	93.34	254.7	12 48K	-12					
ATHENS	93.74	309.3	13 27	26					
YELLOWKNIFE	94.74	23.9	13 6	0					
PRUHONICE	96.22	322.8	13 14	1				13 51	
COLLMBERG	96.61	324.4	13 15	0				17 10	PP
KASPERSKE H.	97.13	322.2	13 17	0				13 54	
LWIRO	97.34	268.9	17 19A	241					
BLUE MTS.	101.72	40.4	13 39	1	24 7	6	14 8	29 43	PKKP
BYRD STATION	103.34	170.6	13 46	1					
PARIS	103.75	325.4						19 27	
BANGUI	106.24	277.3	18 9	777				19 13	
UINTA BASIN	108.90	41.7	18 15	777	25 33	60		29 21	PKKP
TONTO FOREST	110.65	48.0	18 19	4			18 45	29 12	PKKP
WICHITA MTS.	119.25	41.4	18 34	2				28 46	PKKP
CUMBERLAND	126.34	31.9	18 47	1			19 19		
SAN JUAN	150.00	23.2	19 31	3					
HUANCAYO	159.00	99.2	19 45	5					
LA PAZ	164.62	118.9	19 51	5					

DECEMBER 30 22.H 6.M 16.S EPICENTRE 6.99 94.66 DEPTH= 139.KM

A=-0.08062 B= 0.98940 C= 0.12081 D= 0.9967 E= 0.0812
G=-0.0098 H= 0.1204 K=-0.9927 HT= 6.9

DEPTH OF FOCUS= 0.017R

SE= 1.53

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
PORT BLAIR	5.03	337.8	1 14A	-1					
MADRAS	15.46	293.9	3 32K	1	6 24	5		3 42	PP
TANGERANG	17.70	137.3			7 9	0			
SHILLONG	18.67	352.1	4 7K	-3				11 56	
CHATRA	20.98	341.0	4 32	-1					
BOMBAY	24.32	301.2	5 9	3				5 38	
NEW DELHI	27.08	324.6	5 31K	0					
DEHRA DUN	27.96	328.2	5 40	1				10 14	SSS
QUETTA	34.77	315.1	6 39K	0				12 43	
ALMATA-2	39.21	339.9	7 23	7					
DARWIN	40.78	118.0	7 27	-2					
TASHKENT	40.97	330.5	7 31	1					
MUNDARING	43.86	153.2	7 53	-1					
SHIRAZ	45.55	305.1	8 7	0				14 34	
ABUYAMA	46.72	47.7	8 19A	2					
MATUSIRO	49.38	47.0	8 38A	1					
SVERDLOVSK	56.42	338.3	9 28	-1					
CHARTERS TS.	57.43	119.1	9 34	-2				12 48	
ADELAIDE	58.88	138.2	9 45A	-1					
CHILEKA	63.24	248.6	10 13K	-3					
TOOLANGI	64.86	137.1	10 26A	0				10 58	PCP
BRISBANE	65.74	124.1	10 31	-1				14 4	
CANBERRA	66.19	133.4	10 34A	-1					
LWIRO	66.36	264.5	10 37K	1					
RIVERVIEW	67.09	131.1	10 40K	0					

TIKSI	67.98	11.1	10	44A	-2					
BROKEN HILL	69.00	251.7	10	53A	1					
BULAWAYO	70.29	245.8	11	0A	0					
PULKOVO	71.23	331.2	11	5	-1					
VIBORG	72.25	331.9	11	11	-1					
APATITY	72.84	339.4	11	15K	0					
KAJAANI	73.78	335.1	11	19A	-2			11	49	
HELSINKI	73.92	330.8	11	21	-1					
NURMIJARVI	74.16	331.1	11	22	-1					
NIEDZIKA	74.54	319.3	11	25	0					
KRAKOW	74.88	319.9	11	27	0					
SODANKYLA	75.22	338.2	11	28A	-1					
BANGUI	75.64	272.7	11	31	0			21	2	
KEVO	75.84	340.6	11	33K	1					
UMEA	76.91	334.0	11	38	0					
UPPSALA	77.48	329.7	11	43A	1					
KIRUNA	77.63	338.0	11	42A	0					
MAWSON	77.77	191.9	11	43	0					
LJUBLJANA	78.16	315.5	11	45A	0					
TROMSOE	78.53	339.7	12	7	20					
KASPERSKE H.	78.92	318.6	11	49	0					
COLLMBERG	79.37	320.8	11	52	0					
SKALSTUGAN	80.39	333.3	11	57	0					
ISOLA	83.47	313.7	12	13	0					
ALERT	90.04	357.1	12	45A	0					
MOULD BAY	94.58	7.7	13	6A	0					
BLUE MTS.	120.94	26.0	18	36	0			20	8	PP
EUREKA	125.77	29.1	18	48	3	19	4			
FLAMING GRGE	127.45	22.9	18	51	3					
UINTA BASIN	127.90	23.4	18	51	2					
PASADENA	128.63	35.1	18	54	3					
TONTO FOREST	132.18	29.2	18	56	-1			22	14	SKP
ALBUQUERQUE	133.77	24.2	19	4	4					
TUCSON	134.04	30.5	19	4	3					
TULSA	136.22	12.3	19	8	3					
WICHITA MTS.	136.67	16.0	18	56	-10			21	46	PP
CUMBERLAND	137.65	0.3	19	5	-3					
TRINIDAD	150.42	306.1	19	38	9					
LA PAZ	160.69	239.2	19	46	3					

DECEMBER 31 17.H 37.M 27.S EPICENTRE -56.46 -25.87 DEPTH= 0.KM

A= 0.49949 B=-0.24219 C=-0.83178 D=-0.4363 E=-0.8998
G=-0.7484 H= 0.3629 K=-0.5551 HT= -7.7

SE= 1.92

	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	
G. G. VIDELA	19.70	229.8	4	35	1	7	45	-26					
ARGENTINE I.	20.34	228.8	4	41	0						10	53	
LA PLATA	30.64	301.1	6	18	0	11	33	12					
BYRD STATION	35.62	197.4	7	1	-1								
HERMANUS	37.63	73.5	7	18	-1	13	6	-3			8	40	PP
SANTA LUCIA	38.21	287.8	7	22A	-1						8	51	PP
MAWSON	39.38	142.9	7	33	0	13	34	-2					
SCOTT BASE	45.72	183.7	8	25	0	15	3	-6					
ANTOFAGASTA	45.97	296.6	8	26	-1	14	57	-15			10	14	PP
PIETERMZBURG	47.36	79.9	8	35	-3								
MIRNY	49.08	152.4	8	51	0	15	52	-4			10	46	PP
LA PAZ	51.03	303.9	9	5	-1	16	20	-3					
BANDEIRA	51.06	51.7	9	5	-1	16	21	-2			19	45	SS
AREQUIPA	52.65	300.4	9	18	0								
WILKES	53.21	159.7	9	24	1								
LUANDA	56.44	48.4	9	47A	1	17	35	-1			21	27	SS
HUANCAYO	58.30	299.1	10	0	1						13	33	
NANA	59.09	297.6	10	3	-2								
TANANARIVE	65.29	87.1	10	49	3	19	41	12					
MOKA	65.89	38.3	10	51	1	19	37	0					
LWIRO	69.32	60.6	11	11	-1						24	45	
MACQUARIE I.	69.33	183.0	11	12	0								
BANGUI	70.62	47.8	11	16	-4						21	25	
M.BOUR	70.96	9.1	11	20	-2	20	40	3					
BOGOTA	72.41	308.8	11	30A	0	20	57	3			14	12	PP
FUQUENE	73.02	309.5	11	28K	-6								
TRINIDAD	73.06	323.3	11	35	1								
CHINCHINA	73.40	307.5	11	36A	0	20	58	-7					

CARACAS	74.87	318.0	12	17A	32	21	18	-3			26	15 SS
FORT FRANCE	76.80	325.0	11	56	0						21	49 PP
ROXBURGH	77.63	190.9	12	0	0	22	21	29			27	45 SS
ST. CLAUDE	78.20	324.9	12	4A	1	21	57	-1				
GALERAZAMBA	78.44	310.4	12	6	1							
BALBOA HTS.	78.69	305.7	12	6	0							
MOORLANDS	81.30	174.8	12	20	0							
SAN JUAN	81.86	321.7	12	22A	-1							
ADDIS ABABA	83.96	63.8	12	38	4	23	3	6				
KARAPIRO	84.23	196.9	12	34	-1							
HOPE	85.54	312.2	12	43	2							
TOOLANGI	86.05	173.1	12	43A	-1	23	16	-2			15	53 PP
MUNDARING	86.21	148.4	12	44	-1	23	7	-12				
SANTIAGO MA.	86.81	300.1	12	55	7							
SAN SALVADOR	87.32	299.6	12	50	0							
ADELAIDE	87.99	167.4	12	53	0	23	25	-11			29	25 SS
CANBERRA	88.48	175.8	12	56A	0	23	40	-1	13	9	16	24 PP
RIVERVIEW	90.03	177.5	13	3A	0	23	55	0			16	38 PP
AVERROES	90.77	15.4	13	7A	0	23	35	-27	13	16	16	37 PP
PONTA DELGDA	93.83	0.1	13	24	3						25	49 PS
BERMUDA	94.43	327.9	13	21	-2						16	23 PP
ALMERIA	95.05	18.6	13	33A	7	24	7	5			17	21 PP
GRANADA	95.18	17.7	13	48K	21						17	33 PP
BRISBANE	96.48	178.8	13	33	0	24	51	42				
ALICANTE	96.87	19.8	13	23A	-12	24	14	3			17	34 PP
TOLEDO	97.74	16.8	13	40	2	24	17	1			17	31 PP
SERRA PILAR	98.31	13.1	13	43K	2	24	18	-1				
BARCELONA	100.34	21.0									27	52
MESSINA	100.62	32.0	13	59	8	24	33	3			18	19 PP
NOUMEA	100.86	191.6	13	51A	-2							
ATHENS	103.01	38.1	14	4A	2	24	40	-2			27	24
ROME	103.20	28.4	14	5K	2	24	43	0			18	13 PP
CHARTERS TS.	103.46	172.4	14	3	-1						25	37
AQUILA	103.87	28.9	14	5	-1	24	38	-8			18	20 PP
KSARA	104.01	49.1	14	11	4	24	45	-1			18	31 PP
AFIAMALU	104.34	214.2				24	45	-3			18	29 PP
CUMBERLAND	104.69	313.3									18	24 PP
PRATO	104.70	26.7	13	49	-21	24	45	-4				
PALISADES	105.24	324.3	14	14	777						18	32 PKP
PAVIA	105.46	24.9									18	22 PP
TITOGRAD	105.61	33.0	17	50	777	24	50	-4			18	56 PP
KODAIKANAL	105.83	95.4	18	29	777						24	41
PENNSYLVANIA	106.38	321.4									18	43 PP
TANGERANG	106.50	130.1	18	10	777							
TRIESTE	107.03	27.9	14	26	777	24	59	-1			18	43 PP
LUGANVILLE	107.47	193.1	18	26	777						19	24
ISTANBUL UN.	107.60	40.5	14	27	777	25	0	-2				
LJUBLJANA	107.60	28.3									18	42 PP
BELGRADE	108.15	32.8	18	6	777	25	2	-3			18	56 PP
STRASBOURG	108.36	22.8	14	13	777	25	3	-3			18	59 PP
STUTTGART	108.87	23.7	14	27	777	25	1	-7			19	5 PP
DOURBES	109.16	20.2	15	47	777	25	4	-5				
BREBEUF	109.20	326.5	18	59	777						20	0 PP
ST. LOUIS 1	109.22	311.6									18	58 PP
BUCHAREST	109.58	36.8									26	7 SKKS
MADRAS	109.60	96.1	19	3	777							
KEW	109.62	16.6				26	5	54			26	53 S
WICHITA MTS.	109.62	303.4	14	31	777	25	14	3			18	54 PP
BUDAPEST	110.14	30.7									19	8
KASPERSKE H.	110.22	26.4	18	11	-23						19	7 PP
BENSBERG	110.49	21.6									19	3 PP
POONA	110.59	87.4	19	6	31							
CHICAGO JSA.	110.94	315.2									19	26 PP
DE BILT	111.18	19.9									28	53 PS
PRUHONICE	111.25	26.7	18	21	-15						19	27 PP
PRAGUE	111.30	26.6									19	15
JENA	111.42	24.4									19	9 PP
HALLE	112.03	24.4	18	29	-8						19	12 PP
COLLMBERG	112.09	25.2	18	44	6						19	53 PP
TEHERAN	112.59	59.3	14	48	-231	26	28	65			19	33 PKP
SIMFEROPOL	112.86	41.9	14	54	-225	25	21	-3			19	33 PP
GORIS	113.31	53.3				25	23	-3				
ALBUQUERQUE	113.57	297.9	18	38	-3							
TUCSON	113.60	292.9	18	42	1						19	32
HONIARA	114.17	186.3	14	52	-230						19	31 PP
TIFLIS	114.45	50.9				25	26	-4			26	39 SKKS
PORT BLAIR	115.30	107.9									19	54
TONTO FOREST	115.44	293.9	18	44	0	25	35	1			15	37 P

SCHEFFERVLLE	115.82	335.1	18	45K	0					
COPENHAGEN	116.03	23.0							19	49 PP
QUETTA	116.08	74.4	18	46	1	25	37	1	15	4 P
GOLDEN	116.82	301.8	18	47	0				29	58
ASHKABAD	117.72	62.7	18	52	3	25	41	-1	20	2 PP
BOULDER CITY	118.58	292.6	18	51	1				20	7 PP
PASADENA	118.90	288.8	18	52	1				20	22 PP
UINTA BASIN	119.31	299.4	18	53	1	25	47	-1	15	19 P
PRICE	119.37	298.0	18	53K	1					
RABAUL	119.52	177.8	18	51	-1				30	3
NEW DELHI	120.41	83.4	18	54	0				20	31 PP
SALT LAKE C.	120.77	298.1	18	55	0				20	8 PP
DUGWAY	120.80	297.1	18	56K	1					
UPPSALA	120.98	23.9	18	55	0				30	18 PS
LAHORE	121.13	79.0	18	55	0					
BOKARO	121.46	93.9							20	34
WARSAK DAM	121.50	75.1	19	1	5					
PRIEST	121.73	288.5	18	57K	1					
EUREKA	121.84	294.4	18	58	1				20	35 PP
CALCUTTA	121.84	97.0							20	32
DEHRA DUN	122.23	82.8	19	0	3					
PARAISO	122.78	287.4	18	57	-1				22	34
MOSCOW	123.08	37.2	18	57	-2				20	42 PP
LICK	123.15	288.7	19	1A	2					
NURMIJARVI	123.25	27.2	18	59	0	25	59	-2	20	59 PP
BERKELEY	123.87	288.7	19	3K	2				20	45
BOZEMAN	124.08	302.5	19	2	1				19	38
KHOROG	124.11	72.3	19	1	0				20	52 PP
PULKOVO	124.13	30.5				26	1	-3	20	58 PP
FROBISHER	124.27	338.6	18	59	-2					
CHATRA	124.58	92.9	19	3K	1					
CALISTOGA	124.61	289.1	19	3A	1					
BUTTE	125.05	301.8	19	3	0					
UMEA	125.08	23.0	19	3	0	25	51	-15	20	49 PP
MINERAL	125.37	291.2	19	8K	5					
TASHKENT	125.78	67.6	19	4	0				21	1 PP
SHILLONG	126.18	97.9	19	5A	0				21	3 PP
BLUE MTS.	126.48	297.8	19	4	-2				15	50 P
SCORESBY SD.	126.67	1.6	19	8	2					
GODHAVN	127.01	348.0	19	6	-1					
KAJAANI	127.03	26.3	19	6K	-1				21	18 PP
HUNGRY HORSE	127.43	302.9	19	5	-2	25	18	-55	21	1 PP
KIRUNA	128.61	20.6	19	9K	-1				22	31 PKS
SODANKYLA	129.51	23.4	19	11K	0					
FRUNSE	129.62	69.9	19	11	-1				21	30 PP
PHU-LIEN	130.13	115.6	19	15	2				21	32 PP
EDMONTON	130.65	307.9	19	10	-4					
APATITY	131.23	26.0	19	14K	-1	26	15	-8	21	34 PP
MANILA	131.27	135.4	19	17	2				21	43
KEVO	131.54	21.8	19	17	2				21	37 PP
VICTORIA	132.05	297.4	19	16	0					
SVERDLOVSK	132.55	48.1	19	16	-1					
BAGUIO CITY	132.66	133.8	19	18	1				22	43 PKS
HONG KONG	135.06	122.6	19	23	1	26	38	7	22	0 PP
YELLOWKNIFE	136.97	317.1	19	25	0					
SEMIPALATNSK	137.54	65.6	19	18	-8				22	14 PP
RESOLUTE	138.51	338.0	19	18	-10					
ALERT	139.98	353.0	19	24	-7					
COPPERMINE	140.05	323.8	19	30	-1					
ESEN BULAK	143.58	80.8	19	36	-1					
KHEYS	144.18	16.2	19	36	-2				29	34 SKKS
MOULD BAY	144.65	335.6	19	37K	-2					
ULAN-BATOR	150.35	86.4	19	48	0					
IRKUTSK	151.20	77.0	19	49	-1					
COLLEGE	151.35	310.9	19	46	-4					
ABUYAMA	154.97	141.8	19	54A	-1					
HONGO	157.07	148.8							18	31 PP
MATUSIRO	157.37	145.0	19	57	-1				24	4 PP
TUKUBASAN	157.64	149.0	19	58A	0	26	54	-9	24	3 PP
YAKUTSK	166.37	55.8	20	4	-3				25	1 PP
Y.-SAKHLINSK	168.21	138.5	20	8	0				25	5 PP
PETROPAVLOVK	175.67	219.1	20	12	0					
MAGADAN	176.43	28.4	20	10	-2					

DECEMBER 31 19.H 16.M 58.S EPICENTRE -17.31-174.14 DEPTH= 105.KM

A=-0.95026 B=-0.09759 C=-0.29578 D=-0.1022 E= 0.9948
G= 0.2942 H= 0.0302 K=-0.9553 HT= 5.3

DEPTH OF FOCUS= 0.011R

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	
AFIAMALU	4.07	34.2	0	59	-3	1	33	-16					
PORT VILA	16.74	266.0	3	54K	4								
LUGANVILLE	18.06	273.0	4	7K	1								
NOUMEA	18.92	251.7	4	15K	0	8	36	57					
KARAPIRO	22.45	201.8	4	52K	1								
HONIARA	26.38	283.9	5	30	1								
ROXBURGH	31.30	202.7	6	18	5								
BRISBANE	32.11	245.9	6	18	-2								
RIVERVIEW	35.16	235.4	6	45K	-1								
RABAUL	35.49	287.6	6	48	-1								
CANBERRA	37.32	234.0	7	2	-2						16	20	
CHARTERS TS.	37.56	259.4	7	4A	-2								
TOOLANGI	40.73	232.1	7	31	-1						8	35	PP
HONOLULU	41.47	22.9	7	41	3								
KIPAPA	41.61	22.9	7	41	2								
ADELAIDE	45.38	237.8	8	8A	-2								
DARWIN	53.28	267.3	9	9	-2								
SCOTT BASE	61.30	184.5	10	7	0								
MUNDARING	64.01	242.4	10	23	-2								
MATUSIRO	69.95	320.7	11	2	0						11	35	
PARAISO	72.37	41.7	11	2	-15								
PRIEST	73.35	42.8	11	23K	1								
BERKELEY	73.39	40.5	11	24A	1								
LICK	73.45	41.3	11	23K	0								
UKIAH	73.59	39.0	11	25	1						11	56	
CALISTOGA	73.67	39.7	11	24K	0								
PASADENA	73.85	45.7	11	25	0				11	50			
MINERAL	75.33	38.8	11	35A	1								
BOULDER CITY	77.14	45.7	11	45	1				12	16			
TANGERANG	77.94	267.2	11	49	1								
TUCSON	78.08	50.7	11	50	1				12	15			
EUREKA	78.31	42.2	11	54	0				12	18			
TONTO FOREST	78.76	48.7	11	53	0	22	3	23			15	4	PP
LONGMIRE	79.24	33.6	11	56	1								
SEATTLE	79.56	32.7	11	56A	-1								
GLEN CANYON	79.89	46.2	12	0	1								
BLUE MTS.	80.57	37.1	12	2	-1				12	33			
DUGWAY	80.74	42.9	12	2K	-2								
SALT LAKE C.	81.66	42.8	12	9	1								
PRICE	81.75	44.2	12	10K	1								
SPOKANE	82.25	34.8	12	12	1								
ALBUQUERQUE	82.57	50.0	12	12	-1								
UINTA BASIN	82.93	44.1	12	15	0				12	44	15	26	PP
FLAMING GRGE	83.35	43.6	12	17	0								
BUTTE	83.98	38.0	12	20	0				12	51			
COLLEGE	84.37	11.0	12	21	-1								
BOZEMAN	84.70	38.9	12	22	-2				12	52			
MAWSON	85.76	198.8	12	28	-1								
EDMONTON	87.55	31.6	12	36	-2								
WICHITA MTS.	88.36	52.9	12	41	0				13	13			
TULSA	90.92	52.7	12	54	0								
HUANCAYO	94.69	104.1	13	15	4								
COPPERMINE	95.00	19.1	13	12	0								
CUMBERLAND	98.74	55.5	13	29	0								
MOULD BAY	98.93	11.4	13	29	-1								
QUETTA	123.22	295.0	18	46	1								
KAJAANI	130.95	347.5	19	1	1								
NURMIJARVI	134.79	347.0	19	8	1								
HELSINKI	135.03	346.6	19	10	3								
BULAWAYO	136.60	211.9									29	54	
MUNSTER	145.39	358.1	19	29	3								
KRAKOW	145.43	344.0	19	28	2						20	2	
CHORZOW	145.45	345.1	19	28	2						20	4	
HALLE	145.55	353.3	19	28	2				19	44			
KEW	145.57	6.8	19	28	2								
COLLMBERG	145.62	352.1	19	28A	2						19	35	PKP2
RACIBORZ	145.84	345.8	19	29	2						20	12	
JENA	146.15	353.5	19	29	2				20	5	22	44	PP
BENSBERG	146.42	358.5	19	31A	3				20	6	20	17	*SPKP

PRUHONICE	146.67	349.8	19	31	3					
ADDIS ABABA	146.96	259.8	19	35	6					
BANDEIRA	147.16	193.4	19	30	1			34	39	PS
DOURBES	147.28	1.5	19	24	-5					
KASPERSKE H.	147.65	350.5	19	32	2			20	12	
VIENNA-H.	147.97	346.7	19	35	5					
FOLINIERE	148.20	8.0	19	35	4			20	9	PKP2
KARLSRUHE	148.32	356.8	19	38	7	20	13			
PARIS	148.47	4.3	19	37	6			20	12	
KSARA	148.48	307.2	19	37	6					
STUTTGART	148.50	355.7	19	32	1					
STRASBOURG	148.78	357.6	19	38A	6	20	14	20	33	*SPKP
JERUSALEM	149.78	303.9	19	41K	8					
BELGRADE	149.97	339.0	19	39A	6			32	3	
GARCHY	150.03	3.8	19	41A	8			19	48	
LWIRO	150.17	231.5	19	42	8			19	43	
LJUBLJANA	150.45	347.7	19	36A	2			20	27	
TRIESTE	150.99	348.6	19	37	2			20	26	
CLERMONT-FD.	151.54	4.0	19	39	3					
ISOLA	153.20	358.1	19	48	10					
TOLEDO	155.92	18.9	19	46	4			20	12	PKP2
BANGUI	162.07	225.7	19	50	1			24	28	PP

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.

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.