The International Seismological Summary

1960 OCTOBER, NOVEMBER, DECEMBER

The 1960 number of the Summary includes a few modifications to the presentation due to the output format of the electronic computer and card-controlled typewriter.

No lower case letters are available so the letterpress is uniformly in capitals. Phases pP, sP, sS when available are therefore designated by *PP, *SP, *SS; the asterisk implying that the first letter of the pair is equivalent to lower case. An additional column is provided and used exclusively for the phase pP. Surface waves are no longer included in a separate column. Residuals are by comparison with the Jeffreys-Bullen tables; P is used up to 105°, PKP from 110°, S up to 95° and SKS from 95°. For P and PKP beyond the scope of the tables the dummy figure of 777 is placed to complete the residual column. The quantity called SE at the head of each earthquake is the standard error of the computed P residuals.

KEW OBSERVATORY
May 1967

The Director of the I.S.S. wishes to express his thanks to H.M. Treasury, to U.N.E.S.C.O. and I.C.S.U. acting through the agency of F.A.G.S., to the National Science Foundation of the United States, and to the International Association of Seismology which have covered the cost of preparation and printing of this volume.

He also thanks the Director-General of the Meteorological Office and the Superintendent of Kew Observatory for the hospitality extended to his staff, and the Director of the Atlas Computer Laboratory at the National Institute for Research in Nuclear Science for the services of the electronic computer.

U.N.E.S.C.O. Subvention 1966 AVS/414/22

OCTOBER 1 5.H 30.M 40.S EPICENTRE 35.25 26.04 DEPTH= 57.KM

A= 0.73543 B= 0.35932 C= 0.57449 D= 0.4390 E=-0.8985
G= 0.5162 H= 0.2522 K=-0.8185 HT= 0.0

DEPTH OF FOCUS= 0.004R

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	
ISTANBUL KA.	6.29	21.4	1	34	1						2	51	SG
HELWAN	6.98	138.7	1	40	-2	2	53	-8					
SOFIA	7.74	345.0	1	55	2	3	25	5			2	34	PG
KSARA	8.24	97.1	1	57	-3	3	23	-10					
JERUSALEM	8.41	111.7	1	59	-3	3	29	-8					
TARANTO	8.69	309.5	1	33	-33								
REGGIO CALA.	8.82	291.9	2	7	-1						3	35	
MESSINA	8.92	292.4	2	9	0	3	39	-10			4	14	S*
BELGRADE	10.48	337.6	2	30	0	4	28	1			2	57	
SIMFEROPOL	11.49	30.1	2	45	1								
LJUBLJANA	13.87	324.5	3	14	-2	5	42	-7			4	51	
TRIESTE	13.97	321.8				5	43	-8					
LWOW	14.64	354.8	3	28	2						6	53	
VIENNA-H.	14.85	334.0	3	32	4								
KRAKOW	15.45	345.1	3	37	1	6	27	1			3	43	PP
RACIBORZ	15.89	341.3	3	42	0						3	58	PP
TIFLIS	16.04	60.6	3	46	2	6	49	10					
SETIF	16.79	279.3	3	54	1	6	56	-1			4	7	PP
PRUHONICE	16.95	333.8	3	54	-1	6	58	-2					
ISOLA	17.09	307.2	3	57	0	7	12	9					
WARSAW	17.35	349.6	3	59	-1								
CHEB	17.86	330.3	4	17	11								
EBINGEN	18.10	320.8	4	10	1								
PLAUEN	18.27	330.7	4	10	-1								
STUTTGART	18.32	322.6	4	12	0	7	42	11					
MAKHACH-KALA	18.32	58.7	4	15	3	7	40	9					
BASLE	18.45	317.3	4	14	1	8	34	60					
NEUCHATEL	18.51	315.2	4	14	0	7	38	3					
SONNEBERG	18.58	329.0	4	13	-2								
COLLMBERG	18.60	333.6	4	14A	-1	7	55	18			4	27	PP
ALGIERS UNI.	18.66	281.4	4	14	-2	7	35	-4			4	30	PP
JENA	18.86	330.8	4	17	-1						4	33	PP
STRASBOURG	18.97	320.2	4	20A	0						6	57	
HEIDELBERG	19.01	323.3	4	18	-2								
HALLE	19.15	332.4	4	19	-3	7	56	7			4	36	PP
CLERMONT-FD.	20.28	308.2	4	30A	-4						5	10	
TEHERAN	20.64	81.2	4	40	3	8	27	7					
RELIZANE	20.75	278.8	4	40	1						5	0	PP
BENSBERG	20.80	324.8	4	48	9								
MUNSTER	21.28	327.4	4	43	-1								
TAMANRASSET	21.77	240.7	4	49K	0	8	49	8			5	7	PP
PARIS	22.02	315.2	4	51	0								
SHIRAZ	23.00	96.6	5	4A	3	9	8	5			5	12	
ALMERIA	23.08	282.3	5	4A	2	9	11	7			5	19	PP
GRANADA	23.95	283.3	5	39K	29								
TOLEDO	24.24	290.0	5	14	1	9	47	22					
GOTEBORG	24.36	341.6	5	13	-1								
MALAGA	24.63	282.4	5	19	2						5	56	PP
PULKOVO	24.70	5.2	5	18	1								
KEW	24.91	318.7	5	19A	0								
HELSINKI	24.95	358.7	5	18	-2								
UPPSALA	25.22	350.0	5	21	-1						6	3	
NURMIJARVI	25.30	358.4	5	21	-2						5	56	
ABERDEEN	28.96	328.0									7	10	
SKALSTUGAN	29.60	347.6	5	59	-3								
SVERDLOVSK	31.75	36.4	6	20	-1								
SODANKYLA	32.17	0.4	6	22	-3								
APATITY	32.63	5.3	6	27K	-2								
KIRUNA	32.79	356.1	6	28	-2								
STALINABAD	34.11	71.6	6	44	2								
QUETTA	34.61	86.6	6	47	1								
WARSAK DAM	37.22	78.4	7	9	1								
SIDA	39.12	330.7	7	24	0								
REYKJAVIK	40.82	330.1	7	40K	2								
NORD	48.95	352.4	8	40	-3								
SHILLONG	56.68	80.4	9	40K	0								
THULE	57.07	343.7	9	40	-3								

RESOLUTE	63.77	345.3	10 27A	-2	
HALIFAX	66.06	308.6	10 46	3	
SEVEN FALLS	69.34	313.6	11 5	1	
SHAWINIGAN	70.78	313.8	11 13	0	
BREBEUF	71.83	313.1	11 20	1	
OTTAWA	73.13	313.9	11 28	1	
MORGANTOWN	79.00	310.9	12 1	1	
COLLEGE	80.10	357.3	12 5	-1	
MATUSIRO	84.73	48.5	12 30	1	
ST. LOUIS I	85.78	315.2	12 36	1	
RAPID CITY	88.56	326.1	12 49	1	
HUNGRY HORSE	89.47	334.6	12 53	1	13 12
FAYETTEVILLE	89.82	315.6	12 54A	0	
FLAMING GRGE	93.84	327.8	13 8	-5	13 32
SOUTH POLE	125.06	180.0	18 55	1	
CHARTERS TS.	125.69	90.5	18 59	3	
BYRD STATION	133.11	187.8	19 13	3	

OCTOBER 1 6.H 10.M 52.S EPICENTRE 51.79-172.40 DEPTH= 0.KM

A=-0.61565 B=-0.08214 C= 0.78373 D=-0.1322 E= 0.9912
G=-0.7768 H=-0.1036 K=-0.6211 HT= -6.1

SE= 2.72

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KLYUCHI	16.28	296.7	3 56	5				4 6 PP
PETROPAVLOVK	17.66	285.4	4 8	-1	7 19	-5		4 18 PP
COLLEGE	18.22	34.6	4 16	0	7 48	11		
SEVERO-KUR.	19.68	279.2	4 30	-3	8 9	-1		5 12
MAGADAN	21.91	305.2	5 0	4				9 4 PCP
SITKA	22.01	61.6	4 59	2				
ALBERNI	29.93	75.7	6 14	2				
VICTORIA	31.08	76.3	6 23K	1				
YAKUTSK	32.13	311.3	6 30	-1				7 46 PP
TIKSI	32.27	329.5	6 32	0	11 46	0		7 36 PP
KIPAPA	32.31	154.3	6 35	2				
HONOLULU	32.41	154.5	6 37	4	11 58	10		
CORVALLIS	32.98	82.9	6 37	-1				
ARCATA	34.50	89.0	6 54K	2				
SHASTA	35.65	88.0	7 0K	-1				
UKIAH	36.07	91.7	7 6	-1				
MINERAL	36.35	87.9	7 5K	-2				
HUNGRY HORSE	36.76	71.6	7 8	-3			7 23	7 33 PP
TUKUBASAN	36.83	264.0	7 10K	-1	12 56	0	7 26	8 31 PP
SAN FRANCSCO	37.37	92.0	7 17	1				
BERKELEY	37.43	91.7	7 14	-2	13 19	14		
CONCORD	37.48	91.4	7 19K	2				
RESOLUTE	37.70	25.1	7 16	-3	13 17	8		
MATUSIRO	37.80	266.0	7 16	-4	13 10	-1		8 54 PPP
VLADIVOSTOK	37.81	279.4	7 17	-3	13 10	-1		15 20 SS
RENO	37.93	87.6	7 19K	-2				
LICK	38.14	91.9	7 20K	-2				
VINEYARD	38.68	92.4	7 29	2				
BUTTE	38.77	74.2	7 29	1	13 31	5		
FRESNO	39.64	91.1	7 33	-2				
BOZEMAN	39.86	73.8	7 34	-3	13 53	11		
EUREKA	40.35	84.9	7 39	-2	13 16	-34		
ABUYAMA	40.51	266.2	7 40K	-2				
RUTH	41.11	84.5	7 46	-1				
CHANGCHUN	41.42	284.4	7 48	-2	14 9	4		9 30 PP
SALT LAKE C.	42.12	80.4	7 53	-2	17 57	221		
PASADENA	42.35	92.8	7 55	-2	14 37	18	8 28	10 1 PP
BOULDER CITY	43.23	88.1	8 6	2	14 36	4		
THULE	43.47	19.5	8 7	1				9 53 PP
FLAMING GRGE	43.53	78.6	8 3	-4	14 15	-21		9 54 PCP
GLEN CANYON	44.61	84.6	8 13	-3			8 29	10 25 PPP
KHEYS	44.91	349.7	8 14	-4				10 4 PP
NORD	46.22	4.8	8 29	1				11 0 PPP
TUCSON	48.18	88.9	8 41	-3	15 47	4		
TUCSON TELE.	48.19	88.8	8 41	-3				10 30 PP
IRKUTSK	48.47	305.4	8 43A	-3	15 42	-5		10 46 PP
PEKING	49.16	285.8	8 50	-1	15 59	2		
ULAN-BATOR	49.65	299.4	8 56	1				
GUAM	51.38	237.9	9 5	-3				
ZO-SE	51.98	273.7	9 11	-2	16 38	2		9 30 *SP

NANKING	52.80	276.3	9	16	-3	16	47	0	10	25 PCP
CHIHUAHUA	53.64	88.6	9	27	2	17	23	25	13	54
FAYETTEVILLE	55.78	73.5	9	40	-1	14	38	-169	10	40 PP
SCORESBY SD.	56.19	11.5	9	44A	0				10	40 PCP
FLORISSANT	56.20	68.6	9	43	-1	17	32	-1		
ST. LOUIS I	56.38	68.7	9	45K	0					
WUHAN	56.46	278.0	9	45	-1	17	39	3	10	1 *SP
SIAN	57.31	285.2	9	51	-1					
LITTLE ROCK	57.77	73.4	9	53	-2					
LANCHOW	59.08	290.1	10	1K	-3					
CLEVELAND	59.33	60.9	10	6K	0	18	16	2		
APATITY	59.41	348.8	10	2	-4	17	54	-21	13	57 PPP
OTTAWA	59.65	54.2	10	8	0					
SODANKYLA	60.30	351.6	10	9	-4				10	58 PCP
SHAWINIGAN	60.30	51.6	10	12	-1					
KIRUNA	60.31	354.4	10	9	-4				39	40 PKPPKP
SEVEN FALLS	60.83	50.0	10	17	1					
SEMIPALATNSK	61.07	315.7	10	15	-3					
MORGANTOWN	61.49	61.4	10	21K	0	18	46	5		
PENNSYLVANIA	61.78	59.2	10	22	-1	18	46	1	10 32	
CANTON	62.56	273.0	10	27	-1	18	58	3	10	44 *SP
HONG KONG	62.63	271.8	10	27	-1	18	46	-10		
CHENGTU	62.78	285.6	10	28	-1	19	0	2	10	46 *SP
BAGUIO CITY	63.07	262.3	10	38	7	19	4	3		
RABAUL	63.40	220.3	10	33	0				11	0
WASHINGTON	63.57	60.2	10	31	-3				12	53 PP
PALISADES	63.71	56.6	10	36K	1	19	10	1	10 48	23 46 SS
WESTON	64.03	54.0	10	34K	-4	19	28	15		
TACUBAYA	64.65	90.6	10	42K	0	19	33	12	14	43 PPP
SKALSTUGAN	64.91	357.7	10	43	0					
COLUMBIA	64.92	66.5	10	44	1	19	36	12	20	52
AFIAMALU	65.43	179.3	10	48	1	19	44	13		
HALIFAX	66.07	47.7	10	52A	1					
VERA CRUZ	66.70	88.3	10	48	-7				11	56
NURMIJARVI	67.21	350.9	10	55	-3	19	53	1	13	30 PP
PULKOVO	67.29	347.8	10	58	0	19	50	-3	13	30 PP
HELSINKI	67.52	350.7	10	57	-3					
KUNMING	67.58	282.4	10	58A	-2	20	0	3	13	34 PP
OAXACA	67.95	90.3							17	30
BERGEN	68.15	1.2							20	15 PS
UPPSALA	68.42	354.6	11	3	-3				39	0 PKPPKP
FRUNSE	69.36	313.6	11	10	-1	20	21	3	15	32 PPP
MERIDA	69.42	82.1	11	12K	0	20	14	-5	13	53 PP
SUVA	70.10	189.3				20	58	31		
PORT MORESBY	70.17	222.9	11	13	-3	20	29	2	11	30 PCP
GOTEBORG	70.81	357.5	11	21	1					
LHASA	71.10	293.9	11	21	-1	20	42	4		
ABERDEEN	71.11	5.6				21	18	40	16	3
COPENHAGEN	72.82	357.1	11	33K	1	21	12	14		
TASHKENT	72.93	316.1	11	31	-2	20	59	0	14	22 PP
DURHAM	73.53	5.5	11	38	2	20	59	-7	21	40 SKS
SHILLONG	73.72	290.6	11	34K	-3	21	3	-5		
DUZHANBE	75.41	314.8	11	44	-3				25	32 SS
CHATRA	75.44	294.8	11	43A	-4	21	29	2	14	43 PP
WARSAW	75.74	351.5	11	46	-3	21	31	0	21	52 SKS
WITTEVEEN	75.76	0.6	11	50	1					
POTSDAM	76.10	356.5	11	50	-1	21	35	0	12	16 PP
CHITTAGONG	76.20	288.5	11	54	2	21	38	2	14	50 PP
DE BILT	76.46	1.5	11	58	5	21	43	5	26	38 SS
MUNSTER	76.61	360.0	11	55	1					
KEW	76.90	5.1	11	56	0	21	39	-4	22	11 PS
HALLE	77.02	357.2	11	58	2	21	37	-8	14	20 PP
COLLMBERG	77.18	356.5	11	57K	0	21	57	11	14	59 PP
JENA	77.60	357.4	12	0	1	21	53	2	27	8 SS
BENSBERG	77.63	0.3	12	1	1	21	53	2		
DEHRA DUN	77.65	303.5	12	0	0	21	50	-1		
WARSAK DAM	77.90	310.2	12	3	2					
KRAKOW	78.00	351.9	12	2	0	22	7	12	14	30
PLAUEN	78.02	357.0	12	0	-2					
CALCUTTA	78.08	291.1	12	3	1	21	58	2		
RACIBORZ	78.11	353.0	12	3	1	22	0	4	14	51 PP
PRAGUE	78.35	355.5	12	3	-1	22	14	15	14	55 PP
CHEB	78.43	356.9	12	6	2	21	59	-1	27	8 SS
PRUHONICE	78.43	355.4	12	5K	1	22	0	0	27	18 SS
SKALNATE PL.	78.83	351.6	12	8	2				22	58
HEIDELBERG	79.18	359.3	12	9K	1					
PARIS	79.68	3.4	12	13	2					
STUTTGART	79.81	358.9	12	8	-3	22	15	1	15	17 PP

STRASBOURG	80.01	359.9	12	14	1	22	20	4		12	24 PCP
TUBINGEN	80.05	359.0	12	14	1						
VIENNA-H.	80.06	354.1	12	14K	1					15	11 PP
BRATISLAVA	80.09	353.6	12	16A	3						
CHARTERS TS.	80.17	219.1	12	9	-4	22	14	-4			
ASHKABAD	80.25	321.6	12	16	2	22	26	7			
HURBANOVO	80.30	352.8								23	20
EBINGEN	80.40	359.1	12	16	1						
BACAU	80.62	346.6	12	23	7						
SIMFEROPOL	80.96	341.3	12	19K	1						
BASLE	81.06	0.0	12	20K	2						
TIFLIS	81.42	332.8	12	22	2	22	33	2			
NEUCHATEL	81.59	0.4	12	22	1						
CHUR	81.73	358.7	12	24A	2						
TOLMEZZO	82.08	356.2	12	24	1					13	17
CAMPULUNG	82.16	347.7	12	27	3	23	1	22			
LJUBLJANA	82.36	355.1	12	26A	1					12	36 PCP
CLERMONT-FD.	82.74	3.2	12	29K	2						
TRIESTE	82.80	355.7	12	29	2	22	48	3			
BUCHAREST	82.84	346.8	12	26K	-1	22	48	2		13	13
GORIS	83.01	330.8	12	30	2	22	49	2			
PADOVA	83.11	357.0	12	38	9	22	50	2		13	43
BELGRADE	83.13	350.8	12	30A	1	22	51	2		23	52 PPS
QUETTA	83.23	311.4	12	27K	-2	22	47	-3	12 42	15	41 PP
PORT BLAIR	83.93	281.0				22	55	-2			
ISOLA	84.41	0.4	12	35	0	23	3	2			
BRISBANE	84.56	210.7	12	55	19	23	3	0			
TEHERAN	84.78	325.6	12	39	2	23	1	-4			
MONACO	84.86	0.1	12	38	0					12	49 PCP
SOFIA	84.90	348.4	12	40	2	23	3	-3		16	0 PP
SAN JUAN	85.40	66.1	12	37	-3				12 54		
ISTANBUL KA.	85.65	343.9	12	44	2	23	9	-4			
ISTANBUL UN.	85.69	343.9	12	40	-2						
GALERAZAMBA	85.99	77.8	12	52	9	23	17	0		24	12 PS
SERRA PILAR	86.39	12.2	12	37K	-8				13 1	15	59 PP
ROME	86.59	356.4	12	48K	2	23	16	-7		16	10 PP
KARACHI	87.69	308.5	12	52	0				12 59		
HYDERABAD	87.78	295.5	12	50	-2	23	17	-17		28	32 SS
ONERAHI	87.96	190.7	12	56	3						
TOLEDO	88.14	8.9	12	53	-1	23	22	-15	13 7	29	29 SS
LISBON	88.68	13.0	13	1K	5						
LEMBANG	89.16	257.9	13	15	16					16	25
POONA	89.41	299.7	13	1K	1	23	28	-21		24	28 PS
ATHENS	89.51	347.3	13	0A	0						
BOMBAY	89.66	300.7	13	5	4	23	32	-19		30	38 SS
SHIRAZ	89.83	322.1	13	1K	-1	23	30	-23		16	48 PP
KARAPIRO	89.97	189.5	12	59	-3						
MESSINA	90.11	353.7	12	43	-20	23	59	4		16	37 PP
CHINCHINA	90.32	81.6	13	2	-2	24	9	12			
GRANADA	90.86	8.9	13	11K	5					18	6
RIVERVIEW	91.06	209.6	13	19K	12	23	48	-16		24	14 S
FUQUENE	91.09	79.8	13	9K	1						
FORT FRANCE	91.13	64.4	13	9	1						
CARACAS	91.21	71.5	13	10	2	23	42	-23			
KSARA	91.21	336.8	13	10K	2	24	4	-1	13 38	25	19 PS
CHATEAU	91.22	189.3	13	6	-2						
MALAGA	91.24	9.6	13	11A	3	24	2	-3		16	44 PP
ALMERIA	91.29	8.1	13	9A	1	23	43	-23			
BOGOTA	91.55	80.6	13	12	2	24	19	11		25	18 PS
ALGIERS UNI.	91.72	3.7	13	11	1	23	44	-26			
ST. VINCENT	92.33	65.4	13	13	0						
SETIF	92.36	1.8	13	14	1					16	51 PP
RELIZANE	92.61	5.7	13	14	-1					16	55 PP
CANBERRA	93.10	210.7	13	20	3						
BARBADOS	93.31	64.1	13	10	-8						
JERUSALEM	93.32	336.7	13	18	0					17	5 PP
WELLINGTON	93.36	189.7				23	48	-36			
KODAIKANAL	94.14	292.1				23	51	-40			
TRINIDAD	94.30	67.0	13	22	0						
COLOMBO	95.41	288.2				23	57	-6			
HELWAN	96.06	339.4	13	32	2	24	8	1			
ROXBURGH	98.16	192.9				24	20	2		26	50 PPS
HUANCAYO	103.73	92.0								18	12
TAMANRASSET	105.73	2.0	14	15	777	24	55	1		18	33 PP
MBOUR	110.73	25.5				25	29	14		19	25 PP
ADDIS ABABA	113.75	326.0	18	35	-5						
CAPE HALLETT	124.40	186.4	19	0	-1					20	48 PP
LWIRO	127.53	332.9	19	11	4						

SCOTT BASE	130.02	185.6	19 12	0		19 26	21 25 PP
WILKES	131.38	211.6					21 47 PP
BROKEN HILL	139.16	328.1	19 22A	-7			
SOUTH POLE	141.60	180.0	19 23	-10			
BULAWAYO	144.39	324.6	19 35	-3			
MAWSON	149.26	218.0	19 48	2			20 16
PRETORIA	149.66	321.1	20 24	37			
WINDHOEK	149.92	342.3	19 51	4			
PIETERMZBURG	152.12	313.8	19 59A	9			
KIMBERLEY	153.64	324.2	19 54	1			

OCTOBER 2 4.H 37.M 41.S EPICENTRE -61.18 -23.72 DEPTH= 0.KM

A= 0.44360 B=-0.19492 C=-0.87477 D=-0.4023 E=-0.9155
G=-0.8009 H= 0.3519 K=-0.4845 HT= -9.3

SE= 4.08

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SOUTH POLE	28.98	180.0	6 6	2				12 3
BYRD STATION	31.48	199.4	6 27	1				
SCOTT BASE	41.06	183.4	7 49	2				
MIRNY	44.40	149.3	6 27	-107				
KIMBERLEY	45.53	67.2	8 25	2				
WINDHOEK	47.72	54.8	8 40	-1				
WILKES	48.40	157.3	8 52A	6	15 59	12		10 47 PP
PRETORIA	49.64	68.7	9 34	38				
LA PAZ	54.62	304.6	9 27	-6	17 11	-1		
BULAWAYO	54.72	65.7	9 31K	-3				
BROKEN HILL	59.69	62.4	10 6K	-3				
HUANCAYO	61.59	299.3	10 18	-4			10 39	
MBOUR	75.50	6.8	11 50	2	21 43	15		
BOGOTA	76.22	307.8	11 57	5	21 26	-10		22 14 PS
FUQUENE	76.87	308.4	12 10	14				
CHINCHINA	77.14	305.5	11 52	-5	21 20	-26		22 14 PS
CHATEAU	78.74	195.2	12 6K	0				12 32
TONGARIRO	78.74	195.1	12 5	-1				
CARACAS	79.11	316.7	12 19	11	22 29	22		
KARAPIRO	79.99	195.4	12 11K	-2				
ADELAIDE	83.12	165.5	12 30	1				
RIVERVIEW	85.24	175.7	12 35	-5	23 12	2		28 47 SS
PALISADES	109.70	321.9			25 13	2		28 21 PS
QUETTA	116.26	74.9	18 45	-1				
FLAMING GRGE	122.90	295.9	19 24	25				
UPPSALA	124.86	24.0	18 58	-4				
VINEYARD	124.96	283.8	19 1	-2				
LICK	125.56	284.0	19 2A	-2				
BERKELEY	126.28	283.9	19 2	-3				
RENO	126.47	287.0	19 4	-2				
HELSINKI	126.70	27.9	19 3	-3				
NURMIJARVI	126.94	27.6	19 2	-4				
SKALSTUGAN	127.37	19.3	19 3	-4				
MINERAL	127.95	286.3	19 5A	-3				
SHASTA	128.59	285.9	19 7	-3				
HUNGRY HORSE	130.80	298.2	19 9	-5				22 41
KIRUNA	132.64	21.1	19 13	-4				
SODANKYLA	133.39	24.2	19 15	-4				
RESOLUTE	143.30	335.1	19 28	-9				
COLLEGE	155.09	302.9	20 15	20				21 0

OCTOBER 2 11.H 53.M 36.S EPICENTRE -38.99 -91.71 DEPTH= 0.KM

A=-0.02328 B=-0.77895 C=-0.62666 D=-0.9996 E= 0.0299
G= 0.0187 H= 0.6264 K=-0.7793 HT= -1.3

SE= 2.17

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SANTA LUCIA	17.87	78.4	4 10A	-2	7 24	-6		
LA PAZ	30.45	49.2	6 17	0	11 24	6		
HUANCAYO	30.53	32.9	6 18	1				7 14 PP
BYRD STATION	42.50	186.9	7 58	-1				

BOGOTA	46.36	24.7	8	29	-1	15	23	5			
FUQUENE	47.27	24.7	8	37	0	15	8	-23			
SOUTH POLE	51.20	180.0	9	8	1					12	55
GALERAZAMBA	51.83	20.7				16	40	6			
CARACAS	54.38	30.5	9	33	2	17	6	-3			
SCOTT BASE	54.59	194.8	9	32	-1						
CAPE HALLETT	55.72	201.5	9	41	0	17	34	7		21	18 SS
VERA CRUZ	58.03	355.1								11	50 PP
TACUBAYA	58.51	351.7								10	46 PCP
SAN JUAN	61.90	27.7	10	20	-4						
TERRE ADELIE	67.03	200.1	10	57	0						
WELLINGTON	67.93	234.3				20	6	5			
CHATEAU	68.57	236.5	11	9	2					11	35
ROXBURGH	68.91	228.1				20	20	7		20	54
KARAPIRO	69.27	237.6	11	13	2						
TUCSON	73.07	343.1	11	33	-1						
TUCSON TELE.	73.14	343.3	11	36	2					18	39
COLUMBIA	73.30	9.3	11	34	-1						
WILKES	73.61	189.2				21	9	2		28	24 SSS
FAYETTEVILLE	74.75	357.9	11	42A	-2				12 5	11	56 PCP
PASADENA	76.79	337.7	11	54	-1	21	43	1		26	18 SS
GLEN CANYON	77.78	343.8	12	0	-1						
FRESNO	79.71	337.4	12	17	6						
LICK	80.80	336.2	12	17A	0						
FLAMING GRGE	81.16	346.5	12	18	-1					18	28
PALISADES	81.26	13.5				22	24	-6		27	46 SS
BERKELEY	81.49	336.0	12	20	-1	22	40	8		28	0 SS
RENO	82.28	338.4	12	26	1						
UKIAH	82.94	335.8	12	30	2					12	50
HERMANUS	82.97	128.9								23	30
MINERAL	83.56	337.5	12	31	0						
SHASTA	84.12	337.0	12	35	1						
NOUMEA	84.93	245.5	12	37	-1						
BOZEMAN	86.05	346.5	12	44	0						
BUTTE	86.68	345.6	12	45	-2						
RIVERVIEW	87.06	227.9	12	42	-7					24	30 PS
CANBERRA	87.20	225.6	12	50	0						
MBOUR	87.47	69.4	12	52	1	23	38	7			
HUNGRY HORSE	89.19	345.3	13	2	3						
WINDHOEK	89.61	119.0	13	6	5						
KIMBERLEY	90.31	128.2								15	2
BRISBANE	90.67	233.4	12	41	-25	23	44	-17			
TAMANRASSET	109.38	76.1				25	11	1		18	57 PP
ALGIERS UNI.	115.18	62.2	14	31	-253					29	24 PPS
STUTTGART	124.63	52.1	19	1	-1					20	44 PP
TRIESTE	126.32	57.0								21	15 PP
JENA	126.77	50.2								20	59
COLLMBERG	127.74	50.2	19	19	11					21	17 PP
PRUHONICE	128.28	52.1								21	12 PP
COPENHAGEN	128.64	44.7								21	15 PP
KRAKOW	131.63	53.3								22	41 PKS
SOFIA	131.80	63.6	18	27	-49					20	40
HELWAN	132.81	83.0	19	29	11					22	48
KIRUNA	133.73	29.1	19	34	15						
LWOW	134.16	54.4	19	32	12					22	55 SKP
ISTANBUL KA.	135.37	67.6	19	36	14						
KSARA	137.98	80.2	19	30	3	26	39	3		22	18 PP
PULKOVO	138.56	40.4								40	54 SS
SIMFEROPOL	139.92	63.4								29	19 SKKS
MATUSIRO	140.86	282.5								41	14 SS
TIKSI	141.44	340.7	19	35	2						
MOSCOW	142.77	46.3	19	44	8						
TIFLIS	147.01	71.1	19	46	3						
GORIS	147.71	75.6	19	58	14					30	6 SKKS
SHIRAZ	149.19	96.6	19	49	3				21 27	22	35 PP
TEHERAN	150.62	84.7	19	54	5						
SVERDLOVSK	154.54	36.4								20	15 PKP2
QUETTA	160.39	110.2	20	6	5						
DUZHANBE	164.77	85.4	20	21	15						
TASHKENT	165.28	74.9	20	6	0					24	46 PP
FERGANA	167.20	78.6	20	22	14					31	48 SKKS
SEMIPALATNSK	167.25	23.9	20	13	5						
FRUNSE	168.97	65.3	20	20	11					25	8 PP
ALMATA	170.44	59.8	20	24	14					32	5 SKKS

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OCTOBER 2 18.H 8.M 10.S EPICENTRE 18.44 94.95 DEPTH= 72.KM

A=-0.08188 B= 0.94576 C= 0.31438 D= 0.9963 E= 0.0863
G=-0.0271 H= 0.3132 K=-0.9493 HT= 5.0

DEPTH OF FOCUS= 0.006R

SE= 2.53

	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	
CHITTAGONG	4.88	323.6	1	12	-1	2	7	-2			1	20	PP
PORT BLAIR	7.07	198.0	1	42	-1	2	57	-6					
CALCUTTA	7.39	304.5	1	44	-3	2	54	-17					
SHILLONG	7.65	338.6	1	49K	-2	3	5	-12					
TOCKLAI	8.27	358.9	2	2	2	3	30	-2					
KUNMING	9.83	46.1	2	25A	4	4	20	10					
VIZIANAGRAM	10.93	270.1				5	23	46			5	40	SS
CHATRA	11.01	320.7	2	36K	-1	4	34	-5			2	43	PP
LHASA	11.71	343.0	2	45	-1	4	49	-7					
CHENGTU	14.69	32.4	3	26	1	6	10	4					
MADRAS	15.21	251.3	3	28A	-4						8	20	
MEDAN	15.21	165.7	3	33	1						8	29	
HYDERABAD	15.73	268.9				6	45	14					
CANTON	17.81	71.8	4	7	3	7	27	9					
HONG KONG	18.42	74.7	4	14	2	7	41	10					
KODAIKANAL	18.78	246.6	4	1A	-15								
LANCHOW	19.22	22.3	4	21A	0	7	53	4					
DEHRA DUN	19.38	310.8	4	26	3						4	51	PPP
POONA	20.01	273.6	4	32	3	7	59	-6			4	51	PP
SIAN	20.08	35.6	4	31	1	8	19	12					
BOMBAY	20.97	274.8	5	2	23						8	31	
MANILA	25.32	94.6	5	50	28						9	50	
NANKING	25.39	53.1	5	23A	1	9	45	4					
WARSAK DAM	26.00	311.2	5	31K	3								
ZO-SE	26.87	57.0	5	32	-4						10	56	
DJAKARTA	27.13	153.3	5	41K	3						16	12	
QUETTA	27.99	300.0	5	47K	1								
LEMBANG	28.05	152.4	5	45	-2						16	18	
PEKING	28.25	36.0	5	49A	1	10	32	4					
ANDIJAN	29.50	323.7	6	0	0								
NAMANGAN	30.05	323.3	6	6	2								
STALINABAD	30.34	316.8	6	7	0								
ULAN-BATOR	30.98	15.7	6	13	0								
IRKUTSK	34.55	10.2	6	45A	1								
CHANGCHUN	35.93	38.6	6	56A	1	12	29	1					
VLADIVOSTOK	39.68	43.6	7	27A	0								
SHIRAZ	40.12	294.3	7	32A	2				7	56	10	24	PP
MATUSIRO	42.00	55.6	7	46	0	14	10	11	8	6			
TEHERAN	42.06	303.2	7	36	-10	14	0	0					
MAKHACH-KALA	46.79	312.1	8	32	8								
MUNDARING	54.11	157.6	9	21	1								
KSARA	54.52	298.7				16	50	-5	9	46	11	20	PP
JERUSALEM	55.09	296.2	9	29	2				9	44			
SIMFEROPOL	56.64	312.1	9	54	16								
MOSCOW	56.69	325.3	9	40	2								
TIKSI	56.78	12.2	9	32	7								
PORT MORESBY	58.46	113.8	9	54	3	17	53	6					
HELWAN	58.52	294.2	10	14	23						11	13	
ISTANBUL KA.	60.06	307.2	10	4	2								
ISTANBUL UN.	60.12	307.2	10	3	1						12	32	
RABAUL	60.68	105.9	10	3	-3				10	30			
PULKOVO	61.51	328.7	10	12A	0	18	25	-1					
BUCHAREST	62.31	311.0	9	34	-43								
APATITY	62.35	337.6	10	17A	0	18	35	-1	10	33			
LWOW	63.86	317.0	10	29	2						20	48	
HELSINKI	64.23	328.6	10	31	1								
KHEYS	64.24	353.7	10	31	1								
ATHENS	64.28	303.8	10	34A	4								
SOFIA	64.33	309.1	9	32	-58				9	54	11	39	PP
NURMIJARVI	64.43	328.9	10	31	0								
SODANKYLA	64.81	336.6	10	34	1								
KIRUNA	67.23	336.6	10	50	1								
ADELAIDE	67.44	142.0	10	53	3						11	10	PP
UPPSALA	67.88	327.9	10	53	0								
LWIRO	68.20	259.8	11	13	18								
BRATISLAVA	68.45	315.3	11	0	4				11	14			
VIENNA-H.	68.93	315.4	11	17	18								
PRUHONICE	69.98	317.4	11	8	2						13	54	PP

LJUBLJANA	70.39	313.2	11	10A	2					11	27 PCP
SKALSTUGAN	70.41	331.9	11	9	1						
COLLMBERG	70.84	318.8	11	13	2			11	36	14	8 PP
GOTEBORG	70.88	325.7	11	12	1						
TRIESTE	70.98	312.8	11	28	16						
HALLE	71.47	319.1	11	16	1	20	29 3			14	10 PP
JENA	71.77	318.6	11	17	0	20	32 2			13	55 PP
MELBOURNE	73.09	140.6	11	28A	4						
BROKEN HILL	73.20	248.1	11	27	2						
STUTTGART	73.55	316.5	11	28	1			11	52		
HEIDELBERG	73.81	317.2	11	30	1						
CANBERRA	74.05	136.5	11	32K	2					11	50 PCP
BULAWAYO	75.50	242.7	11	40	2						
MONACO	75.74	311.6	12	4	24						
ISOLA	75.91	312.2	11	43	2	21	28 12				
TARRALEAH	76.85	143.4	11	44K	-2					12	2 PCP
FORT NELSON	77.76	143.5	11	49K	-2					12	6 PCP
PARIS	77.94	317.5	11	54	2			12	21		
PRETORIA	78.35	237.8								12	17 PCP
SETIF	78.99	304.5	12	0	2			12	33	15	3 PP
ALGIERS UNI.	80.67	305.6	12	3	-4			12	30		
TAMANRASSET	82.54	291.4	12	19	3			12	43	15	35 PP
COLLEGE	84.33	22.4	12	26	1					15	42 PP
MIRNY	84.74	180.8	12	46	18						
THULE	84.80	356.1	12	29	1			13	0		
WINDHOEK	86.29	244.9	12	39	4						
RESOLUTE	86.88	2.6	12	40	2						
KARAPIRO	94.00	128.6	13	15	4						
TONGARIRO	94.43	129.7	13	33	20						
CHATEAU	94.43	129.7	13	15	2						
SOUTH POLE	108.32	180.0	16	15	777						
HUNGRY HORSE	108.65	19.9	17	18	777					18	32 PP
SHASTA	111.69	29.8	19	4	38						
MINERAL	112.34	29.5	19	12	44						
LICK	114.69	31.5	19	38	66						
EUREKA	115.55	26.2	19	37	63						
FLAMING GRGE	116.76	20.5	18	39	3						
GLEN CANYON	119.47	24.3	18	45	4					20	6 PP
TUCSON TELE.	123.84	26.2	18	55	5						
TUCSON	123.88	26.3	18	54	4						
CARACAS	146.14	326.7	19	38	-6						
HUANCAYO	168.67	302.7	20	22	24						

OCTOBER 3 0.H 49.M 14.S EPICENTRE 29.83 68.23 DEPTH= 36.KM

A= 0.32232 B= 0.80693 C= 0.49495 D= 0.9287 E=-0.3709
G= 0.1836 H= 0.4596 K=-0.8689 HT= 1.9

DEPTH OF FOCUS= 0.000R

SE= 2.45

	DEL'TA 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	
QUETTA	1.16	287.7	0	20A	0	0	38	3					
WARSAK DAM	5.02	33.4	1	17	2								
KARACHI	5.09	192.2	1	15K	-1	2	20	5					
LAHORE	5.53	70.4	1	18	-4	2	20	-6					
DEHRA DUN	8.53	84.3	2	12	8	3	38	-2			2	20	PP
STALINABAD	8.73	2.8	2	6	-1								
NAMANGAN	11.47	13.2	2	44	-1								
POONA	12.36	154.3	2	52	-5						6	20	
SHIRAZ	13.65	273.1	3	12K	-2	7	40	115	3	30	6	41	PCP
TEHERAN	15.33	297.0	3	37	1	6	31	6					
BOKARO	16.78	106.7				6	55	-3			8	55	
CHATRA	16.95	95.6	3	56	0	7	11	9			4	13	PP
VIZIANAGRAM	18.13	126.6				7	48	19					
CALCUTTA	19.47	107.2				8	16	17			10	11	
MADRAS	20.08	144.0									10	30	
NAKHACH-KALA	21.15	313.9	4	46A	2	8	50	17					
KODAIKANAL	21.33	154.2									6	4	
SHILLONG	21.35	95.8	4	46	-1								
TIFLIS	22.33	308.4	4	57	1	9	8	13					
CHITTAGONG	22.43	103.8	4	59	2								
COLOMBO	25.31	152.0				9	35	-11					
SVERDLOVSK	27.51	350.9	5	46	0								

KSARA	27.71	286.7	5	52	5					6	32 PP
JERUSALEM	28.36	282.4	5	55	2						
SIMFEROPOL	30.75	308.9	6	14A	0	11	18	4			
ISTANBUL KA.	33.55	300.3	6	42	3						
ISTANBUL UN.	33.61	300.2	6	37	-2						
MOSCOW	33.77	328.8	6	42	1						
ULAN-BATOR	34.66	47.7	6	50	2						
BUCHAREST	36.19	305.5	7	12A	11						
ATHENS	37.53	294.6	7	12	-1						
SOFIA	37.98	302.3	7	19	2					9	14 PPP
LWOW	38.68	313.7	7	23	1					8	52
PULKOVO	39.30	330.6	7	28	1						
BELGRADE	40.25	305.3	7	37K	2	13	44	4			
HELSINKI	41.84	329.1	7	49	1						
NURMIJARVI	42.13	329.4	7	50	-1						
APATITY	43.03	341.3	7	58K	0						
VIENNA-H.	43.38	310.1	8	2	1						
LJUBLJANA	44.49	306.8	8	10	0						
PRUHONICE	44.74	312.4	8	12A	0					10	4 PP
SODANKYLA	44.94	338.7	8	13	-1						
TRIESTE	45.02	306.2	8	14	0						
UPPSALA	45.11	326.6	8	14	-1					9	59
TOLMEZZO	45.54	307.2	8	17	-1					8	58
COLLMBERG	45.86	314.1	8	22	1					10	11 PP
ROME	46.02	301.0	8	22A	0	15	10	6			
PLAUEN	46.32	312.9	8	22	-3						
HALLE	46.54	314.3	8	26	0					10	17 PP
JENA	46.72	313.4	8	27	-1	15	16	2		10	4 PP
KIRUNA	47.20	337.5	8	31	0						
GOTEBORG	47.41	322.7	8	32	-1					9	19
STUTTGART	48.11	310.4	8	38	-1						
SKALSTUGAN	48.67	330.4	8	42	-1						
ISOLA	49.82	304.4	8	52	0					10	40 PP
KHEYS	51.06	357.9	9	2	1						
SETIF	52.26	294.5	9	10	0					10	7
PARIS	52.60	310.7	9	10	-3					12	13
TIKSI	52.81	20.3	9	13	-1						
ALGIERS UNI.	53.99	295.7	9	22	-1						
TAMANRASSET	56.06	278.7	9	38	0					11	45 PP
RELIZANE	56.20	295.1	9	39	0					10	43 PCP
MATUSIRO	57.80	63.4	9	49	-1						
ALMERIA	58.27	297.1	9	58K	4					12	8 PP
TOLEDO	58.69	300.9	9	56	-1	17	58	1			
MALAGA	59.79	297.5	10	3	-1						
NORD	59.94	350.3	10	4	-1						
BULAWAYO	62.64	222.4	10	23A	-1						
KIMBERLEY	71.51	219.5								13	11
RESOLUTE	75.16	355.4	11	40	-1						
COLLEGE	81.52	14.7	12	15	-1					13	26
CHARTERS TS.	89.98	113.2	13	5	8						
FLAMING GRGE	109.56	358.1	18	52	777						
EUREKA	110.93	3.5	18	40	10						
GLEN CANYON	113.55	359.8	18	32	-3						

OCTOBER 3 5.H 10.M 39.S EPICENTRE -39.05 -74.98 DEPTH= 39.KM

A= 0.20176 B=-0.75211 C=-0.62739 D=-0.9659 E=-0.2591
G=-0.1626 H= 0.6060 K=-0.7787 HT= -1.3

DEPTH OF FOCUS= 0.001R

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	
SANTA LUCIA	6.60	33.4	1	35	-2	2	49	-3					
LA PAZ	23.25	16.9	5	5A	1	9	20	10					
BOGOTA	43.46	1.3	8	5	4	14	27	1					
FUQUENE	44.31	1.8	8	9	1								
BYRD STATION	44.39	190.1	8	10	2								
CARACAS	49.86	10.4	8	50	-1	15	56	-1					
SOUTH POLE	51.14	180.0	9	2	1						10	16	
GRENADA	52.31	16.5	9	8	-2								
SCOTT BASE	57.65	192.8	9	48A	0								
SAN JUAN	57.72	10.0	9	54	5								
CAPE HALLETT	60.16	198.7	10	6A	0	18	30	15	10	16	20	3	SCS

TACUBAYA	62.41	334.1	10	25	4	18	31	-12			12	39 PP
COLUMBIA	72.89	354.7	11	26	-1							
MIRNY	74.33	175.0	11	34	-1							
WILKES	74.86	182.3	11	38	0	21	22	11				
LITTLE ROCK	75.20	345.3	11	37	-3							
MBOUR	75.82	58.0	11	46	2	21	30	8				
FAYETTEVILLE	76.84	344.1	11	47K	-2				12	3		
WINDHOEK	77.69	109.0	11	56	2						19	0
TUCSON	78.36	329.6	11	57	-1							
TUCSON TELE.	78.40	329.7	11	58	0							
ST. LOUIS 1	78.57	347.9	11	58	-1							
CHATEAU	78.86	228.3	12	1A	0							
KAIMATA	78.93	223.7	12	3	2							
COBB RIVER	79.20	225.4	12	6	4							
PALISADES	79.68	0.8				22	15	12				
KARAPIRO	79.70	229.3	12	5	0							
GLEN CANYON	82.82	331.2	12	26	5				12	36		
PASADENA	83.09	325.1	12	23	0	22	38	0			22	48 S
OTTAWA	84.07	359.5	12	26	-2							
BREBEUF	84.17	1.0	12	27	-1							
SHAWINIGAN	85.24	1.5	12	32	-2							
FLAMING GRGE	85.56	334.6	12	34	-1						15	56 PP
SEVEN FALLS	85.87	2.8	12	35	-2							
FRESNO	86.01	325.4	12	38	1							
SALT LAKE C.	86.27	332.8	12	37	-2							
RAPID CITY	86.58	340.0	12	39	-1							
EUREKA	86.70	329.4	12	40	-1				12	51	16	6 PP
LICK	87.30	324.5	12	44A	0							
BERKELEY	88.02	324.4	12	47	0							
RENO	88.32	327.0	12	49	0							
UKIAH	89.48	324.5	12	54	0							
MINERAL	89.76	326.3	12	55A	0							
FORT NELSON	89.83	209.6	12	51	-5				13	1		
MOORLANDS	90.31	209.8	12	53	-5				13	4		
BOZEMAN	90.34	335.6	12	57	-1							
SHASTA	90.39	326.0	12	58	0							
BUTTE	91.15	334.8	13	0	-2							
ARCATA	91.28	325.0	13	12A	10							
HUNGRY HORSE	93.67	335.1	13	12	-1							
TAMANRASSET	97.06	66.5	13	30	1	24	7	5			17	20 PP
ALGIERS UNI.	104.14	54.1									17	55 PP
COLLEGE	117.98	332.5	18	41	-1							
COLLMBERG	118.11	45.3	18	55	12							
SKALSTUGAN	122.99	32.2	18	52	0							
KSARA	125.34	72.5									20	53 PP
KIRUNA	127.47	28.4	18	58	-3							
NURMIJARVI	127.57	38.0	19	0	-1							
SODANKYLA	129.73	29.5	19	5	0							
SHIRAZ	136.18	85.8	19	18	1							
MAKHACH-KALA	137.14	65.5	19	20	1							
MEDAN	144.23	169.1	19	30	-2							
TIKSI	145.17	347.0	19	30	-3							
SVERDLOVSK	146.10	43.6	19	41	6							
QUETTA	147.64	94.1	19	40	3						19	52 PKP2
MATUSIRO	153.73	275.0	19	57	11							
ANDIJAN	154.97	75.6	19	51	3							
ABUYAMA	155.29	269.9	19	26A	-22							

OCTOBER 3 19.H 50.M 51.S EPICENTRE -5.69 103.19 DEPTH= 60.KM
A=-0.22707 B= 0.96888 C=-0.09849 D= 0.9736 E= 0.2282
G= 0.0225 H=-0.0959 K=-0.9951 HT= 7.0

DEPTH OF FOCUS= 0.004R

SE= 2.67

	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
DJAKARTA	3.65	97.8	0	56A	0	1	38	0				
LEMBANG	4.55	104.7	1	7A	-1	1	9	-52				
MEDAN	10.25	333.8	2	43	16						5	38
PORT BLAIR	20.15	328.9									5	5
COLOMBO	26.42	298.0	5	25	-8	10	12	12				
MANILA	26.91	41.1	2	40	-178	6	18	-230				
MUNDARING	28.84	156.6	5	53	-2							
HONG KONG	29.82	20.8	6	1	-3						15	47 SCS

CHITTAGONG	30.02	338.6	6	7	1							
KODAIKANAL	30.11	301.6				11	36	36				
CANTON	30.28	18.8									7	25
KUNMING	30.63	359.2	6	11A	0	11	14	6				
CALCUTTA	31.57	333.1				11	53	30				
SHILLONG	32.96	341.0	6	30A	-1							
HYDERABAD	33.54	313.7				12	0	7				
CHATRA	35.86	335.1	6	57	1						9	25
CHENGTU	36.15	1.2	6	58	-1	12	37	3				
LHASA	37.02	342.3	7	7A	1	12	49	2				
BOMBAY	38.63	309.9	7	22	3	13	15	4			8	54 PPP
SIAN	40.09	7.4	7	32K	0							
NANKING	40.37	20.6	7	35A	1	13	43	6				
ZO-SE	40.42	24.1	7	35A	1	13	46	8				
LANCHOW	41.52	0.8	7	45A	2						14	33
DEHRA DUN	43.15	327.5	7	58	1	14	22	4				
PORT MORESBY	43.71	97.6	8	2	1							
ADELAIDE	43.84	136.4	8	3	1							
CHARTERS TS.	44.20	113.0	8	6	1	14	36	2				
LAHORE	46.15	325.1	8	18A	-3							
PEKING	47.04	13.6	8	28A	0	15	20	6			10	1 PCP
WARSAK DAM	49.53	325.0	8	47A	0				8	59		
MELBOURNE	49.63	136.2	8	58	10							
QUETTA	49.78	317.9	8	48A	-1	15	53	0	8	59	10	39 PP
CANBERRA	51.40	131.4	9	3	2				9	13		
BRISBANE	51.78	120.5	9	6A	2	16	29	9				
RIVERVIEW	52.46	128.8	9	11A	2	16	40	11				
CHANGCHUN	53.19	19.9	9	14A	-1	16	46	7				
MATUSIRO	53.28	35.2	9	14	-1	16	45	4				
ULAN-BATOR	53.48	3.1	9	16	-1	16	48	5				
STALINABAD	54.38	327.0	9	21	-2	16	55	0				
NAMANGAN	54.69	331.0	9	25A	-1	17	1	1				
VLADIVOSTOK	55.11	25.4	9	28	-1	17	11	6				
TANANARIVE	55.71	251.1	9	34	1						10	28
HONIARA	56.34	97.5	9	37	-1							
IRKUTSK	57.74	0.8	9	48A	1	17	43	3				
SHIRAZ	59.96	308.9	10	3K	0	18	13	4	10	17	10	49 PCP
WILKES	60.76	176.6	10	18	10	18	21	2			18	31 PS
MIRNY	61.17	184.6	10	9	-2	18	27	3				
TEHERAN	63.68	314.5	10	27	-1	19	0	4				
ADDIS ABABA	65.85	282.5	10	54	12							
TERRE ADELIE	66.42	164.5	10	40	-5							
MAKHACH-KALA	69.83	319.8	11	5	-2	20	13	3				
YAKUTSK	70.54	12.9	11	9	-2	20	19	1				
TIFLIS	71.02	317.6	11	14	0	20	28	4				
SVERDLOVSK	71.30	336.9	10	13	-62							
KARAPIRO	72.61	127.8	11	27	4							
CHATEAU	72.76	129.2	11	24	0							
BULAWAYO	73.60	250.8	11	30	1							
BROKEN HILL	73.83	256.7	11	29	-1							
LWIRO	74.25	269.3				21	7	6			25	54 SS
JERUSALEM	74.56	305.0	11	35	0	21	45	41				
KSARA	74.63	307.2	11	33	-2						14	16 PP
HELWAN	77.27	302.2	11	50	0						14	7
CAPE HALLETT	77.73	163.3	11	54	2	21	45	6			12	4 PCP
TIKSI	78.99	8.0	11	58	-1							
SCOTT BASE	79.04	168.9	11	59	-1							
SIMFEROPOL	79.45	317.6	12	2	0	21	58	1				
MOSCOW	81.28	328.6	12	12	0							
ISTANBUL KA.	81.87	312.7	12	14A	-1							
ISTANBUL UN.	81.92	312.7	12	14A	-1							
AFIAMALU	83.84	103.3	12	15A	-10							
SOUTH POLE	84.35	180.0	12	27	0						13	13
BUCHAREST	84.80	315.5	12	31A	1							
PULKOVO	86.37	331.0	12	38	1	23	11	5				
SOFIA	86.41	313.4	12	38	1						13	16
LWOW	87.35	320.4	12	43	1						28	34
APATITY	87.63	338.9	12	48	5	23	9	-9			23	30 S
NURMIJARVI	89.29	331.0	12	51	0							
SODANKYLA	90.07	337.9	12	56	1							
MESSINA	91.63	308.0				24	1	6				
BYRD STATION	91.75	173.2	13	5	2							
KIRUNA	92.49	337.9	13	7	1							
UPPSALA	92.64	329.7	13	7	0							
LJUBLJANA	93.13	315.8	13	10A	1							
PRUHONICE	93.44	319.7				24	14	3			16	56 PP
TOLMEZZO	94.19	316.1	13	13	-1							
COLLMBERG	94.52	321.0	13	16	1							

SKALSTUGAN	95.46	333.3	13 31	11						
STUTTGART	96.82	318.3	13 26	0						
TAMANRASSET	99.24	292.1	13 35	-2						
NORD	99.80	352.6	17 44	245						
COLLEGE	103.14	24.5	18 10	256						
SHASTA	126.41	42.4	19 0	3						
HUNGRY HORSE	127.01	30.4	19 0	2						
MINERAL	127.10	42.5	19 0A	2						
LICK	128.46	45.9	19 4K	3						
RENO	128.70	42.5	19 5	4						
BOZEMAN	130.32	31.2	19 5	1						
EUREKA	131.27	40.6	19 9	3						
PASADENA	132.41	47.9	19 12	4					22 37	
FLAMING GRGE	134.40	34.8	19 15	3					22 42	
GLEN CANYON	135.53	40.7	19 17	3					22 46	
TUCSON TELE.	138.73	45.7	19 26	6					22 57	
PALISADES	144.74	356.2	19 31	1						
ST. LOUIS 1	145.01	18.5	19 23	-8						
FAYETTEVILLE	145.79	25.5	19 34A	2				19 50	20 0	*SPKP
LITTLE ROCK	147.69	24.4	19 37	2						
COLUMBIA	151.56	7.4	19 49	8						
LA PAZ	156.34	201.1	19 53	5						

OCTOBER 4 9.H 51.M 8.S EPICENTRE -7.40 155.24 DEPTH= 36.KM

A=-0.90061 B= 0.41535 C=-0.12798 D= 0.4188 E= 0.9081
G= 0.1162 H=-0.0536 K=-0.9918 HT= 6.8

DEPTH OF FOCUS= 0.001R

SE= 3.79

	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	
RABAUL	4.41	316.0	1	5	-1								
HONIARA	5.08	113.7	1	17	1						2	58	
PORT MORESBY	8.25	255.5	2	0	0	3	37	4			3	7	
CHARTERS TS.	15.33	213.7	3	33	-2	6	43	19					
KOUMAC	15.74	147.1	3	52	12								
NOUMEA	18.33	145.1	4	16	3	7	39	6					
BRISBANE	20.02	186.4	4	33	1	8	12	2					
RIVERVIEW	26.57	187.6	5	36A	0	10	6	0			6	23	PP
CANBERRA	28.37	190.8	5	54	1	10	36	0			11	30	
ADELAIDE	31.36	206.7	6	20	1						11	28	
MELBOURNE	31.69	195.6	6	21	-1	11	33	5					
AFIAMALU	33.02	104.1	6	29A	-5	11	39	-10					
KARAPIRO	35.52	151.8	6	5	-50						6	57	
TARRALEAH	35.61	191.2	6	50	-6								
FORT NELSON	36.06	189.9	6	56	-4				7	25			
WELLINGTON	37.94	155.8				13	12	7			15	52	
ROXBURGH	39.85	164.5				13	54	21					
MANILA	40.36	302.9	7	39	3						9	35	
BAGUIO CITY	41.67	304.8	7	44	-3	14	2	1					
MUNDARING	43.76	230.7	8	2	-2								
PERTH	44.04	230.9	8	9	3						17	53	SS
MATUSIRO	46.54	341.0	8	32	6	15	3	-8			10	12	PP
LEMBANG	47.24	267.5	8	31A	0						12	2	
DJAKARTA	48.07	268.3									9	22	
HONG KONG	49.90	307.3	8	36	-16						16	2	SCS
ZO-SE	50.28	321.3	8	56	1	16	4	1			18	46	SCS
CANTON	50.96	307.6	9	3	3	16	16	3					
NANKING	52.43	320.5	9	13	2	16	39	6			19	5	SCS
VLADIVOSTOK	54.58	339.1	9	31	4								
MEDAN	57.48	279.0	8	53	-55						10	37	
CHANGCHUN	57.74	334.7	9	53	3	17	40	-4					
PEKING	59.39	325.8	10	8	7	18	7	1					
TERRE ADELIE	60.08	186.3	10	10	4								
PETROPAVLOVK	60.26	2.4	10	2	-5								
SIAN	60.29	316.4	10	6	-1	18	21	4					
KUNMING	60.44	304.2	10	8	0	18	27	8					
CHENGTU	61.95	310.4	10	18	0	18	43	5					
LANCHOW	64.77	315.6	10	35	-2								
CAPE HALLETT	65.50	175.0	10	42	0	19	30	8					
WILKES	66.33	198.1	10	45	-2	19	34	2			19	44	SP
ULAN-BATOR	69.59	327.6	11	5	-2	20	16	5					
SHILLONG	69.72	300.6	11	6	-2								
SCOTT BASE	70.67	177.4	11	16	2								

LHASA	71.77	304.4	11	21	1	20	37	0				
YAKUTSK	71.99	347.7	11	18	-4	20	33	-6				
MIRNY	72.41	201.8	11	25	1	20	47	3				
CHATRA	74.13	300.5	11	23	-11							
TIKSI	80.77	351.8	12	6	-5							
BYRD STATION	81.93	169.9	12	28	11							
SOUTH POLE	82.65	180.0	12	20	-1						20	5
DEHRA DUN	82.77	301.8	12	25	3	22	40	4				
COLLEGE	83.38	21.1	12	20	-5				12	47		
MAWSON	84.11	202.6	12	29	1							
BOMBAY	85.26	289.7									22	58
BERKELEY	88.61	51.7	12	50	0	23	22	-10			24	41
WARSAK DAM	88.89	304.3	12	52	0							
LICK	89.00	52.3	12	53	1							
ANDIJAN	89.41	311.1	12	52	-2							
NAMANGAN	89.97	311.2	12	59	2	23	50	5				
FRESNO	90.36	53.1	12	58	-1							
RENO	90.78	50.4	13	0	-1							
PASADENA	91.29	55.9	13	5	2	24	3	7			23	31 SKS
STALINABAD	91.81	308.5	13	8	3	24	7	6				
QUETTA	92.20	300.0	13	9	2							
EUREKA	93.72	50.8	13	13	-1				13	43	13	19 PCP
BOULDER CITY	94.24	54.4	13	17	1							
RUTH	94.45	51.2	13	25	8							
HUNGRY HORSE	95.96	42.1	13	34	10							
GLEN CANYON	96.92	53.7	13	40	11							
SVERDLOVSK	98.67	326.3									18	27 70
FLAMING GRGE	98.85	49.8	13	38	1							
SHIRAZ	104.66	298.6	16	52K	169						18	57 PP
MAKHACH-KALA	107.98	312.7	18	41	777							
TIFLIS	110.13	311.7	18	6	-22							
SODANKYLA	110.95	341.1	19	53	84							
KIRUNA	112.56	343.0	20	5	93							
LITTLE ROCK	112.57	55.5									26	51
PULKOVO	113.43	333.1									28	57 PS
FLORISSANT	113.57	50.9									29	2 PPS
ST. LOUIS 1	113.71	51.1									25	23 SKKS
SIMFEROPOL	117.01	317.0									19	49 PP
KSARA	118.41	304.4	18	31	-13						20	6 PP
UPPSALA	118.70	337.2	20	5	81							
HELWAN	122.96	300.8	18	48	-5				19	19		
PALISADES	125.07	44.4				26	10	14			20	58 PP
HUANCAYO	126.13	110.7	19	2	3							
COLLMBERG	126.29	331.5	19	16	17						20	47 PP
PRUHONICE	126.38	329.5									26	54 SKKS
STUTTGART	129.77	331.2	19	19	13							
LA PAZ	130.96	119.3	19	18	10						22	36
GRANADA	144.66	330.1	20	4A	31							
TAMANRASSET	147.11	301.0	19	39	2				20	5	20	17 *SPKP

OCTOBER 6 16.H 19.M 12.S EPICENTRE 52.68 108.40 DEPTH= 32.KM

A=-0.19222 B= 0.57774 C= 0.79326 D= 0.9489 E= 0.3157
G=-0.2504 H= 0.7527 K=-0.6089 HT= -6.4

SE= 4.04

	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
BAYANDAI	1.79	283.8	0	27	-2							
IRKUTSK	2.53	262.3	0	39	-1							
KYAKHTA	2.61	208.6	0	43	2	1	17	5				
ULAN-BATOR	4.86	192.0	1	13	0							
PEKING	13.73	154.1	3	15	0							
CHANGCHUN	14.30	121.5	3	24A	2	6	7	6				
YAKUTSK	14.76	42.3	3	29	1							
SEMIPALATNSK	17.62	273.8	3	58	-7	7	14	-4				
VLADIVOSTOK	18.35	112.0	4	18	4							
TIKSI	21.06	18.0	4	42	-2						8	37
UGLEGORSK	21.43	86.1	4	50	2						10	19
NANKING	21.94	155.8	5	3	10	9	2	14				
CHENGTU	22.24	190.0	5	3	7	9	7	13				
KURMENTY	22.27	256.3	4	54	-2							
PRZHEVALSK	22.50	255.1	5	5	7							
WUHAN	22.59	166.1	5	7	8							
FABRICHNAYA	23.29	258.6	5	6	0							
ZO-SE	23.50	151.6	5	19	11	9	32	16				

RYBACHE	23.84	257.5	5	11	0					10	30 SSS
MAGADAN	24.26	56.7	5	31	16						
FRUNSE	24.55	259.9	5	18	0					9	43
MATUSIRO	26.40	115.8	5	38	2	10	23	18		7	4
ANDIJAN	27.14	258.4	5	44	1					14	50
NAMANGAN	27.42	259.5	5	51	6					10	36
SVERDLOVSK	27.43	297.9	5	44	-1					10	36
FERGANA	27.72	258.4	5	50	2					14	40
KUNMING	27.85	191.0				10	51	22			
TASHKENT	28.65	262.4	5	54	-2					11	2
CANTON	29.78	170.8								12	50
SHILLONG	29.81	211.1	6	5A	-1						
CHATRA	30.32	219.9	6	11A	0						
KULYAB	30.53	256.6	6	15	2					13	48
HONG KONG	30.65	169.5	5	58	-16					16	34 SCS
DUZHANBE	30.67	258.6	6	20	6					15	26
DEHRA DUN	31.48	236.8								10	22
WARSAK DAM	32.19	249.3	6	26	-2						
KHEYS	32.19	346.3	6	34	6	11	46	9		9	25 PCP
BAIRAM-ALI	35.30	263.5								17	13 SCS
ASHKABAD	37.36	267.2	7	14	2						
APATITY	37.53	322.5				12	42	-18		8	22 PP
QUETTA	37.63	249.9	7	12	-2						
MOSCOW	39.86	303.6	7	30	-3					9	11 PP
SODANKYLA	40.08	323.5	7	41	7						
PULKOVO	41.60	311.8	7	46	-1					9	28 PP
KIRUNA	42.09	325.5	7	50	-1						
TEHERAN	43.03	270.2	7	59	0	14	28	6			
TIFLIS	43.23	281.8	8	0	0					14	31
NURMIJARVI	43.76	314.7	8	3	-2						
UPPSALA	47.11	316.5	8	29	-2						
SKALSTUGAN	47.12	322.6	8	34	3					10	48
SIMFEROPOL	47.49	292.0	8	31	-3					11	7 PP
COLLEGE	49.05	33.3	8	48	2	16	7	19	9 8	10	50 PP
LWOW	49.98	302.7	8	54	1						
THULE	51.16	359.0	9	8	6						
COPENHAGEN	51.83	314.2								23	55
RESOLUTE	51.97	7.7	9	17K	9	16	44	16			
POTSDAM	53.70	310.8	9	20	-1						
KSARA	53.72	279.9	9	19	-3						
COLLMBERG	54.45	309.8	9	26	-1					11	22 PP
PRUHONICE	54.59	307.8	9	28	0					11	31 PP
JENA	55.36	310.2	9	31	-2					12	54 PPP
JERUSALEM	55.54	278.6	9	33	-2					11	36 PP
LJUBLJANA	57.28	304.3	9	46	-1						
HEIDELBERG	57.75	310.4	9	50	-1						
STUTTGART	57.93	309.6	9	50	-2						
TRIESTE	57.95	304.4	9	57	5						
HELWAN	59.24	279.9	9	59K	-2						
KEW	60.22	317.0	10	12	4						
BESANCON	60.56	310.2								11	7 PCP
SETIF	69.17	302.5	11	3	-3					11	49
PORT MORESBY	70.13	139.0	9	14	-117					11	19
HUNGRY HORSE	73.07	28.1	11	31	2					14	20 PP
CORVALLIS	73.43	35.8	11	35	4						
EUREKA	80.47	33.3	12	22	11						
CANBERRA	94.50	147.7	13	26	7						

OCTOBER 6 19.H 55.M 40.S EPICENTRE 58.45 -31.89 DEPTH= 0.KM

A= 0.44645 B=-0.27783 C= 0.85058 D=-0.5284 E=-0.8490
G= 0.7222 H=-0.4494 K=-0.5258 HT= -8.4

SE= 3.94

	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
REYKJAVIK	7.45	35.9	1	55	3							
VIK	8.00	46.1									4	37
SIDA	8.56	45.5	1	59	-9							
SCORESBY SD.	12.79	15.2	3	12	6	5	32	2				
EDINBURGH	15.72	86.9	3	38	-6	6	53	13			3	55 PP
ABERDEEN	15.87	81.8	3	44A	-2	6	59	16			3	59 PP
DURHAM	17.01	89.4	3	57A	-4	7	24	15			4	21 PP
BERGEN	18.86	68.2	4	21	-3							
KEW	19.29	97.5	4	25A	-4	8	5	4			4	53 PP

JERSEY	19.73	105.0	4 30	-4	8 26	15					
SKALSTUGAN	21.65	57.7	4 51	-3							
DE BILT	21.83	90.7	5 OK	4	8 33	-20			9 33	PCP	
THULE	22.10	338.1	4 54	-4							
WITTEVEEN	22.25	87.8	4 58	-2							
PARIS	22.32	100.5	4 57	-3	8 58	-4					
SERRA PILAR	22.75	129.4	4 55A	-10					5 27	PP	
GOTEBORG	22.91	72.9	5 4	-2							
MUNSTER	23.18	89.0	5 17	8					9 53		
BENSBERG	23.50	91.5	5 9	-3	9 17	-6					
NORD	23.66	5.5	5 9	-5	9 32	6					
HALIFAX	23.81	248.4	5 10A	-5							
LISBON	24.60	133.4	5 20	-3	9 48	6			5 45	PP	
CLERMONT-FD.	24.64	105.6	5 21A	-2	9 50	7					
KIRUNA	24.64	46.1	5 22	-1					5 50		
UPPSALA	24.97	65.5	5 23	-3							
BESANCON	25.12	99.8	5 27	-1							
STRASBOURG	25.21	95.6	5 27	-2	9 58	6					
HEIDELBERG	25.21	93.2	5 26	-3					6 6	PP	
TOLEDO	25.71	124.1	5 30	-3	10 13	12			9 8	PCP	
HALLE	25.71	86.4	5 30	-3	10 3	2	5 42		6 28	PPP	
SEVEN FALLS	25.75	261.0	5 31	-3							
BASLE	25.77	97.7	5 24	-10	10 31	29					
POTSDAM	25.83	83.9	5 35	1	10 5	2			6 34		
JENA	25.83	87.8	5 31	-3	10 3	0			6 7	PP	
STUTTGART	25.88	93.8	5 31	-4	10 7	4			6 14	PP	
TUBINGEN	25.92	94.5	5 32	-3							
SONNEBERG	25.94	89.2	5 30	-5					6 6	PP	
EBINGEN	26.09	95.2	5 34	-3							
COLLMBERG	26.37	86.0	5 36A	-3	9 55	-17			6 23	PP	
PLAUEN	26.38	88.2	4 34	-66	10 13	1	4 43				
RAVENSBURG	26.68	95.3	5 38	-4							
TORTOSA	27.02	116.5	5 58	13	10 31	9					
SODANKYLA	27.06	46.5	5 42	-4							
SHAWINIGAN	27.13	262.0	5 43	-3							
PRAGUE	27.82	87.1	5 50	-3	10 38	3			6 34	PP	
PRUHONICE	27.93	87.2	5 50A	-4	10 36	-1			8 49	PCP	
RESOLUTE	27.94	329.6	5 51A	-3	10 36	-1					
NURMIJARVI	28.05	61.4	5 51	-4					8 37		
PAVIA	28.15	100.0	5 52	-4	11 2	22			14 7		
GRANADA	28.16	126.7	5 41A	-15	10 51	10			6 3	PP	
MALAGA	28.22	128.3	5 55K	-1					7 29	PP	
MONACO	28.26	104.0	6 9	12							
BREBEUF	28.27	261.2	5 53K	-4							
HELSINKI	28.32	62.0	5 52	-5							
ALICANTE	28.55	121.0	5 59	0	10 48	1			6 50	PP	
ALMERIA	28.92	125.4	5 39	-24	10 24	-29			9 46		
TOLMEZZO	29.34	94.4	5 59	-7							
PADOVA	29.40	97.0	6 29	22	11 16	16					
OTTAWA	29.44	263.1	6 4	-3							
APATITY	29.58	45.0	6 5K	-4	11 7	4			13 10	SS	
RACIBORZ	29.79	84.2	6 7	-3					7 0	PP	
VIENNA-H.	29.93	88.5	6 4	-8	11 14	5					
WARSAW	30.04	78.6			11 13	2			7 0		
PRATO	30.05	100.0			11 9	-2					
TRIESTE	30.22	94.8	6 10	-4	11 11	-2					
LJUBLJANA	30.36	93.5	6 14	-1					7 20		
BRATISLAVA	30.36	88.1	6 11	-4					7 2	PP	
KRAKOW	30.71	82.9	6 14	-5					8 36		
PULKOVO	30.94	60.5	6 17	-4	11 28	3					
HURBANOVO	31.13	87.6	6 20	-2					7 10	PP	
SKALNATE PL.	31.40	84.0	6 18	-7					7 22	PP	
ALGIERS UNI.	31.45	118.2	6 24	-1	11 34	1			7 16		
PALISADES	31.61	255.1	6 26	0	11 36	1			7 28	PP	
BUDAPEST	31.80	87.5	6 38	10	11 13	-25					
ROME	32.17	101.3	6 36A	5	11 47	3			7 25	PP	
KHEYS	32.95	17.6	6 37	-1	12 0	4					
LWOW	32.98	80.3	6 26	-12	11 57	0					
SETIF	33.02	115.9	6 36	-3					7 34	PP	
PENNSYLVANIA	33.79	259.0	6 47	2	12 10	1					
BELGRADE	34.29	90.0	6 36	-14					9 56	PCP	
CLEVELAND	35.20	263.3	6 54A	-4	12 31	0					
TARANTO	35.68	98.3							11 39		
MORGANTOWN	35.73	259.6	6 58	-4							
MOSCOW	36.35	63.4	7 3	-4	12 45	-4					
MESSINA	36.49	102.6	8 7	59	12 48	-3			8 23	PP	
SOFIA	37.27	90.2	7 22	7							
BUCHAREST	37.53	85.9	7 12	-5	12 45	-22					

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.

COLUMBIA	40.60	254.9	7 40	-3							
SIMFEROPOL	41.35	79.1	7 46A	-3	14	7	3				
ISTANBUL KA.	41.44	87.2	7 46	-4	14	10	4				
FLORISSANT	41.79	268.3	7 51	-2	14	14	3				
ST. LOUIS 1	41.83	268.1	7 50	-3	14	11	-1				
TAMANRASSET	44.53	126.9	8 13A	-2	14	54	3			9 59	PP
RAPID CITY	44.67	283.8	8 13	-3						9 56	PP
MBOUR	45.39	159.5	8 24	2	15	0	-3				
SVERDLOVSK	45.75	50.1	8 22	-3	15	14	6				
FAYETTEVILLE	45.83	269.0	8 22K	-3	15	25	15			10 10	PP
LITTLE ROCK	45.86	266.3	8 21	-4							
HUNGRY HORSE	47.03	295.4	8 30	-5	15	28	1			10 22	PP
SAN JUAN	47.20	226.7	8 33	-3							
BOZEMAN	47.48	290.9	8 37	-1						10 25	
COLLEGE	47.86	328.8	8 37	-4	15	37	-1			9 33	
BUTTE	47.98	292.2	8 39	-3	15	40	0				
TIFLIS	49.12	74.5	8 49	-2	16	3	7				
TIKSI	49.51	7.9	8 48	-6							
MAKHACH-KALA	49.56	71.4	8 50	-4							
FLAMING GRGE	50.11	285.4	9 24	25						11 40	PP
ST. VINCENT	50.29	218.4	8 57	-3							
KSARA	50.45	88.3	8 58	-3	16	16	1	9 20		10 56	PP
HELWAN	51.15	95.3	9 4	-3	16	35	11				
SALT LAKE C.	51.47	287.1	9 6	-3							
GRENADA	51.49	218.5	9 5	-4							
TRINIDAD	52.70	217.5	9 14	-4						11 59	PP
CORVALLIS	54.14	298.2	9 30A	1							
GLEN CANYON	54.22	283.8	9 23	-6							
EUREKA	54.50	289.0	9 28	-4							
CARACAS	54.73	223.8	9 32A	-1	17	18	5				
RENO	56.35	291.8	9 43A	-2							
SHASTA	56.70	294.5	9 42	-5							
TEHERAN	57.00	74.4	9 47	-3	17	47	4				
TUCSON TELE.	57.38	279.6	9 48	-4							
TUCSON	57.51	279.6	9 50	-3							
CHIHUAHUA	57.90	273.2								34 2	
FRESNO	58.51	289.8	9 56	-4							
LICK	58.96	291.5	10 1A	-2							
YAKUTSK	59.02	10.0	9 59	-5							
PASADENA	59.76	286.7	10 9	0	18	23	4			22 2	SS
FUQUENE	61.93	228.8	10 21A	-3							
FRUNSE	62.21	52.9	10 23	-3							
SHIRAZ	62.41	77.8	10 22A	-5	18	53	0			12 52	PP
NAMANGAN	62.47	56.1	10 25	-2	19	1	7				
BOGOTA	62.84	228.8	10 27	-3	18	56	-2			23 19	SS
ANDIJAN	62.96	55.8	10 28A	-2	19	6	6				
STALINABAD	63.14	59.7	10 30	-2	19	8	6				
CHINCHINA	63.14	230.5	10 27A	-5	19	4	2				
IRKUTSK	64.04	28.2	10 32	-6							
WARSAK DAM	68.17	60.5	11 0	-4							
ULAN-BATOR	68.70	28.4	11 4	-3	20	8	-2				
QUETTA	69.18	66.3	11 7	-3	20	9	-7			13 41	PP
DEHRA DUN	74.21	57.6	11 41	1							
CHANGCHUN	76.34	16.8	11 49A	-3							
PEKING	78.33	24.5	11 59	-4							
CHATRA	81.17	52.2	12 18	-1							
CHENGTU	83.91	37.1	12 30A	-3						15 53	
SHILLONG	84.19	49.0	12 31K	-3							
MATUSIRO	85.01	8.0	12 35	-3						13 12	
NANKING	86.56	24.6	12 49	3							
CHITTAGONG	87.05	50.4	12 46	-2							
ZO-SE	87.99	22.9	12 55	2							
KUNMING	88.61	40.2	12 54	-2						13 42	
HERMANUS	101.87	138.9								32 32	SS
PORT MORESBY	131.06	1.2	19 .4	0							
MUNDARING	145.86	53.1	19 39	-1							
BYRD STATION	146.48	198.4	19 39	-3						22 24	
SOUTH POLE	148.28	180.0	19 41	-3						31 35	
BRISBANE	148.78	352.0	19 47	2						22 33	
MIRNY	154.14	131.2	19 58	5							
SCOTT BASE	159.52	191.2	19 56	-4						20 35	PKP2
CAPE HALLETT	163.49	203.9	19 59	-5						20 54	PKP2

OCTOBER 7 3.H 15.M 34.S EPICENTRE 58.20 -32.12 DEPTH= 38.KM

A= 0.44843 B=-0.28156 C= 0.84831 D=-0.5318 E=-0.8469

G= 0.7184 H=-0.4511 K=-0.5295 HT= -8.3

DEPTH OF FOCUS= 0.001R

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
REYKJAVIK	7.72	35.4	1 55	3				
SIDA	8.82	44.8	1 38	-30	3 36	-11		
SCORESBY SD.	13.06	15.2			5 30	0		5 40 SS
EDINBURGH	15.85	85.9	3 37	-5	6 48	12		8 34 PCP
ABERDEEN	16.03	80.8	3 44A	0	6 54	14		
DURHAM	17.13	88.4	3 57A	-1				
KEW	19.38	96.5	4 23A	-2	8 5	9		
JERSEY	19.79	104.1	4 28	-1	8 36	31		
SKALSTUGAN	21.89	57.1	4 51	0				
DE BILT	21.95	89.9	4 53	1	9 4	17		
THULE	22.29	338.4	5 4	9				
WITTEVEEN	22.38	87.1	4 54	-2				
PARIS	22.39	99.7	4 55	-1	9 10	15		
SERRA PILAR	22.69	128.6	4 53A	-6				5 26 PP
GOTEBORG	23.10	72.2	5 5	2				
MUNSTER	23.31	88.2	5 3	-2				5 42
BENSBERG	23.61	90.7	5 8	0				5 47 PP
NORD	23.92	5.5	5 7	-4				7 26
COPENHAGEN	24.11	76.7	5 15K	2	9 32	7		
CLERMONT-FD.	24.70	104.8	5 22A	4				
KIRUNA	24.90	45.7	5 19	-1				
ISFJORD	24.96	20.7						8 44
UPPSALA	25.18	64.9	5 23	0				
BESANCON	25.20	99.1	5 26	3				
STRASBOURG	25.31	94.9	5 29	5	10 7	22		6 1
SEVEN FALLS	25.60	261.3	5 29	2				
TOLEDO	25.67	123.3	5 30	2				7 45
HALLE	25.85	85.7	5 29	0				8 19
JENA	25.96	87.1	5 29	-1	10 16	20		6 8 PP
POTSDAM	25.98	83.2			10 18	22		
STUTTGART	25.99	93.1	5 28	-3	10 14	18		
COLLMBERG	26.51	85.3	5 53	18	10 57	52		7 52
PLAUEN	26.51	87.5	5 32	-3				
SHAWINIGAN	26.98	262.3	5 40	0				
PRUHONICE	28.07	86.5	5 49	-1	10 43	13		8 50 PCP
RESOLUTE	28.09	329.9	5 50	0	10 37	6		
BREBEUF	28.12	261.4	5 49	-1				
PAVIA	28.23	99.3						11 14 SS
NURMIJARVI	28.27	60.9	5 49	-2				8 5 PCP
CHIAVARI	28.89	100.5	5 36	-21				6 40
APATITY	29.84	44.6	6 7	2	11 5	7		
WARSAW	30.21	78.0			11 13	9		
TRIESTE	30.32	94.2	6 12	2	11 12	6		
LJUBLJANA	30.47	92.9	6 13	2				6 48
PULKOVO	31.17	60.1	6 16	-1				
PALISADES	31.43	255.3	6 20	1	11 36	13		7 24 PP
ALGIERS UNI.	31.44	117.5	6 21	1	11 37	13		
LWOW	33.14	79.7	6 35	1	12 0	10		
MOSCOW	36.56	63.0	7 3	-1	12 44	1		
COLUMBIA	40.42	254.9	7 38	2				
SIMFEROPOL	41.52	78.7	7 47	2	14 5	7		
ISTANBUL KA.	41.57	86.8	7 39	-6				9 26 PP
FLORISSANT	41.66	268.4			14 10	10		9 32 PP
ST. LOUIS 1	41.70	268.1	7 47	1	14 12	12		
TAMANRASSET	44.48	126.4	8 8	-1	14 36	-5		10 26 PPP
RAPID CITY	44.61	283.9	8 9	-1				9 56 PP
FAYETTEVILLE	45.70	269.1	8 18A	-1				
LITTLE ROCK	45.72	266.3	8 18	-1				
SVERDLOVSK	46.00	49.8	8 22	1				
HUNGRY HORSE	47.02	295.5	8 29	0				9 59 PCP
BUTTE	47.96	292.3	8 37	1				
COLLEGE	48.01	328.8	8 35	-2				10 51 PP
TIFLIS	49.30	74.1	8 49	2				
MAKHACH-KALA	49.75	71.1	8 54	4	16 4	9		
FLAMING GRGE	50.06	285.4	8 52	-1				11 0 PP
KSARA	50.58	87.9	8 58	1	16 22	15		11 2 PP
HELWAN	51.25	94.9	9 3	1	16 32	16		
SALT LAKE C.	51.42	287.1	9 2	-1				
TRINIDAD	52.43	217.3	9 11	1				
CORVALLIS	54.15	298.2	9 23A	0				
GLEN CANYON	54.16	283.8	9 22	-1				

CARACAS	54.47	223.6	9	29	3	17	20	20			
EUREKA	54.47	289.0	9	25	-1						
RENO	56.33	291.8	9	38	-1						
MINERAL	56.58	293.7	9	40	-1						
TEHERAN	57.18	74.1	9	33	-12						
TUCSON TELE.	57.30	279.6	9	46	0						
TUCSON	57.43	279.6	9	46	-1						
FRESNO	58.48	289.7	9	55	1						
LICK	58.94	291.5	9	58A	1						
PASADENA	59.72	286.6	9	59	-4						
SHIRAZ	62.58	77.5	10	21	-1						
ULAN-BATOR	68.97	28.2	11	3	0						
QUETTA	69.39	66.0	11	5	-1						
SHILLONG	84.45	48.8	12	29	-1						
BYRD STATION	146.21	198.3	17	36	-119						
SOUTH POLE	148.03	180.0	17	41	-117						

OCTOBER 7 15.H 18.M 29.S EPICENTRE -7.72 130.81 DEPTH= 16.KM

A=-0.64766 B= 0.75014 C=-0.13352 D= 0.7569 E= 0.6535
G= 0.0873 H=-0.1011 K=-0.9910 HT= 6.8

SE= 2.67

	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	
PORT MORESBY	16.25	97.1	3	48	-2	6	40	-9			7	6	
CHARTERS TS.	19.37	131.0	4	26K	-2								
RABAUL	21.53	81.9	3	50	-61								
DJAKARTA	23.85	272.2	5	14	0	9	41	15					
MANILA	24.25	336.5	5	16	-2	9	30	-3					
GUAM	25.19	33.4	5	27	0						12	34	SCP
BAGUIO CITY	26.04	337.2	5	33	-2	9	54	-9					
PERTH	27.85	208.1	5	53	2	10	35	3			6	44	PP
ADELAIDE	28.07	166.1	5	51	-2	10	37	1					
BRISBANE	28.56	135.9	5	55K	-3	10	46	2					
HONIARA	28.86	95.5	5	57	-3								
HENGCHUN	31.14	341.7	6	15	-6								
TAWU	31.42	342.2	6	32	9								
RIVERVIEW	32.06	147.0	6	29A	0	11	43	4	6	41	13	47	SS
CANBERRA	32.14	151.3	6	28K	-1	11	39	-1	6	37	6	47	*SP
ALISHAN	32.56	342.8	6	28	-5								
MELBOURNE	32.60	158.9	6	34	1	11	54	7	6	44	13	1	SCP
HWALIEN	32.75	344.3	6	37	2								
ILAN	33.48	345.0	6	47	6								
TAIPEI	33.79	344.7	6	53	9								
MEDAN	33.96	288.2	6	44	-1						17	5	
HONG KONG	34.00	331.7	6	42A	-3	11	51	-18					
KOUMAC	34.79	115.1	6	51	-1						8	20	
CANTON	35.07	331.2	6	53	-2	12	12	-14					
TARRALEAH	37.11	160.6	7	14K	2								
NOUMEA	37.23	116.9	7	10	-3						9	18	
MOORLANDS	37.48	159.9	7	15K	0								
FORT NELSON	37.97	160.1	7	18K	-1	13	4	-6					
KAGOSIMA	39.07	359.7	7	29K	1	13	26	-1					
MIYAZAKI	39.42	0.8	7	32K	1	13	31	-1					
ZO-SE	39.69	347.0	7	31A	-2	13	26	-10			9	6	PP
TOMIE	40.16	357.3	7	37K	0	13	37	-6					
NAGASAKI	40.24	358.8	7	37K	-1	13	39	-5					
KUMAMOTO	40.32	359.9	7	37	-2	13	42	-4					
SIMIDU	40.33	2.8	7	32	-7	13	37	-9					
ASOSAN	40.40	0.3	7	38	-1								
OOITA	40.73	1.0	7	42A	0	13	42	-10					
SAGA	40.75	359.3	7	44	2	13	51	-1			10	6	
UWAZIMA	40.76	2.2	7	41	-1	13	46	-6					
MUROTO	40.87	4.3	7	42	-1	13	47	-7					
WUHAN	41.11	338.5	7	45	0	13	51	-6					
KOTI	41.13	3.5	7	45	0	13	44	-14			17	15	PP
NANKING	41.19	344.4	7	45A	-1	13	52	-7			9	27	PP
SIOMISAKI	41.22	6.3	7	55	9	13	52	-7					
MATUYAMA	41.38	2.5	7	47A	0	13	56	-5			17	25	
SIMONOSEKI	41.44	0.2	7	49	1								
OWASE	41.88	6.7	7	53	2	14	4	-5					
HIROSIMA	41.89	2.0	7	51K	-1	14	1	-8					
TAKAMATU	41.93	4.0	7	53	1	14	1	-8					
SUMOTO	42.01	5.1	7	53K	0	14	1	-10			17	17	SS

KOBE	42.37	5.4	7	57	1	14	10	-6			
OSAKA	42.38	5.8	7	56	0	13	53	-23		14	32
HAMADA	42.41	1.5	7	59A	3	14	12	-5		17	30 SS
PORT BLAIR	42.50	296.6	7	55	-2	14	14	-4		9	40 PP
TU	42.54	7.0	8	0	3	14	16	-2			
KUNMING	42.58	320.9	7	56A	-1	14	9	-10		9	54 PCP
ABUYAMA	42.60	5.8	7	58K	1	14	13	-6			
OMAESAKI	42.67	9.0	7	53	-5	14	14	-6			
KAMEYAMA	42.68	6.9	7	57	-1	14	14	-6			
KYOTO	42.77	6.0	7	58	-1					8	46
YONAGO	42.99	3.0	7	59	-2	14	20	-5			
OSIMA	43.03	10.4	8	7	6						
NAGOYA	43.06	7.4	8	1	0	14	19	-7			
SHIZUOKA	43.06	9.1	7	58	-3					14	34
HIKONE	43.07	6.5	8	4	3	14	22	-4			
TOTTORI	43.12	4.0	8	1	-1	14	22	-5			
TOYOOKA	43.19	4.8	8	1	-1	14	23	-5			
GIHU	43.26	7.1	8	5	2	14	20	-9			
MISIMA	43.30	9.7	8	0	-3						
TSURUGA	43.42	6.2	8	8	4	14	30	-1			
IIDA	43.52	8.3	8	4	-1					10	8
HUNATU	43.64	9.4	8	4	-2	14	6	-29			
YOKOHAMA	43.72	10.5	8	9	2					9	39
SAIGO	43.75	3.0	8	6	-1	14	34	-2		18	3
KOHU	43.77	9.1	8	8	1	14	12	-24			
HUKUI	43.84	6.3	8	7	0	14	29	-8		15	7
TOKYO C.M.O.	43.99	10.5	8	9	0	14	38	-2		9	56
TAKAYAMA	44.06	7.5	8	8	-1						
MATUMOTO	44.25	8.3	8	9	-2						
KUMAGAYA	44.38	9.9	8	15	3	14	42	-3			
OIWAKE	44.42	8.9	8	12	0						
MAEBASI	44.57	9.5								9	21
MATUSIRO	44.57	8.5	8	10	-3	14	38	-10		9	56 PP
TUKUBASAN	44.57	10.7	8	10K	-3	14	36	-12	8 20	9	56 PP
TOYAMA	44.59	7.3	8	13	-1	14	44	-4			
KAKIOKA	44.60	10.8	8	10	-4	14	35	-13			
NAGANO	44.70	8.5	8	15	1	14	44	-6			
MITO	44.80	11.1	8	14	-1	14	40	-11			
UTUNOMIYA	44.85	10.4	8	13	-3	14	45	-7		9	48
TAKADA	45.13	8.4	8	20	2						
WAZIMA	45.23	6.8	8	20	1	14	50	-7			
ONAHAMA	45.43	11.4	8	20	0	14	53	-7		8	38
SHIRAKAWA	45.47	10.6	8	19	-2	14	56	-5			
CHENGTU	46.01	327.3	8	22A	-3	14	57	-12		10	12 PP
AIKAWA	46.03	8.2	8	24	-1	15	6	-3		18	23
NIIGATA	46.05	9.1	8	25K	0	15	6	-3			
HUKUSIMA	46.13	10.6	8	22	-4	15	6	-4			
YAMAGATA	46.59	10.4	8	28	-1	15	13	-4			
SIAN	46.61	334.9	8	27K	-3	15	10	-7			
SENDAI	46.71	10.9	8	27	-3	15	9	-10		18	41
SAKATA	47.14	9.6	8	32	-2	15	22	-3			
SUVA	47.43	107.5	8	34	-2					9	6
MIZUSAWA	47.59	10.9	8	38	1	15	28	-3			
AKITA	47.98	9.7	8	44	4	15	33	-4		17	59
MORIOKA	48.15	10.7	8	39	-3	15	33	-6			
MIYAKO	48.25	11.6	8	41	-1	15	35	-5		10	32 PP
CHITTAGONG	48.50	309.0	8	40	-4	15	35	-9	8 53	10	30 PP
ONERAHI	48.57	131.6	8	46	1					10	40
TOCKLAI	48.94	315.8	8	51	3						
HATINOHE	49.02	10.8	8	44	-4	15	45	-6			
AOMORI	49.17	10.0	8	46	-3	15	50	-3			
PEKING	49.40	345.2	8	49A	-2	15	49	-8			
KAIMATA	49.75	140.9	8	57	3	16	4	3	9 14		
COBB RIVER	49.85	138.6	8	54	-1	16	3	0		9	21
HAKODATE	50.13	9.7	8	55K	-2	16	4	-3		14	10
ROXBURGH	50.17	145.2	8	57	0	15	55	-12	9 15	20	31 SSS
SHILLONG	50.29	312.4	8	56A	-2	16	7	-2		10	53 PP
KARAPIRO	50.32	133.7	8	57K	-1					16	39
MORI	50.38	9.4	8	58	-1	16	6	-4			
LANCHOW	50.39	331.5	8	58A	-1	16	4	-6			
VLADIVOSTOK	50.61	1.0	8	59	-2					10	55 PP
MURORAN	50.66	9.8	9	0	-1						
URAKAWA	50.83	11.5	9	1	-1	16	12	-4			
TONGARIRO	50.86	135.2	9	1	-1					9	53
SUTTSU	51.01	8.9	9	2	-2	16	16	-3			
HIROO	51.06	11.9	9	2	-2						
TOMAKOMAI	51.07	10.2	9	13	9						
CALCUTTA	51.29	306.9	9	3	-3					16	25
WELLINGTON	51.29	137.9	9	4	-2	16	16	-7	9 23	16	46

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SAPPORO	51.45	9.9	9	4	-3	16	18	-7	9	25	11 8	PP
CHANGCHUN	51.55	354.9	9	6A	-2	16	20	-6			18 51	SCS
OBIHIRO	51.65	11.6	9	7	-1	16	25	-3				
TUAI	51.84	134.0	9	9	-1	16	25	-5				
KUSIRO	51.96	12.7	9	9K	-2	16	27	-5			11 8	PP
NEMURO	52.56	13.6	9	13	-2	16	33	-7				
COLOMBO	52.83	284.7	9	14	-3	16	44	0				
ABASHIRI	52.93	12.2	9	15	-3							
LHASA	53.31	316.0	9	20A	-1	16	44	-6			9 58	*SP
VIZIANAGRAM	53.33	299.3	9	29	8	17	1	10			10 37	PCP
WAKKANAI	53.79	9.5	9	23	-1							
BOKARO	53.98	306.8	9	25A	-1	17	2	3			10 25	
MADRAS	54.34	292.0	9	27A	-1						11 37	PP
CHATRA	54.48	310.7	9	26A	-3						11 31	PP
KODAIKANAL	56.02	287.8	9	38	-3						17 32	PS
AFIAMALU	56.62	101.5	9	43A	-2	17	38	3			12 9	PP
HYDERABAD	57.45	296.3	9	52A	1	17	44	-2			12 11	PP
ULAN-BATOR	59.29	341.5	10	2	-2	18	4	-6				
TERRE ADELIE	59.45	175.2	10	0	-5	18	5	-7				
WILKES	60.18	189.3	10	9A	-1	18	17	-4			12 44	PP
POONA	61.93	295.7	10	18A	-4	18	38	-5			10 58	PCP
BOMBAY	62.97	295.7	10	25	-4	18	53	-4			11 7	PCP
DEHRA DUN	63.16	309.5	10	30	0						12 53	PP
IRKUTSK	63.91	342.2	10	33	-2	19	6	-2			23 13	SS
PETROPAVLOVK	64.98	18.1	10	41	-1	19	18	-3			11 10	PCP
KERGUELEN I.	65.30	218.9	10	48	4	19	30	5				
LAHORE	66.56	309.1	10	50A	-2						39 7	PKPPKP
YAKUTSK	69.54	359.5	11	8	-2							
WARSAK DAM	69.72	310.4	11	11A	0	20	14	-4			39 21	PKPPKP
KARACHI	69.98	299.8	11	11	-2	20	20	-2				
ALMATA	70.38	321.2	11	15	0	20	22	-4				
FRUNSE	71.62	319.9	11	22	-1	20	37	-4				
QUETTA	71.86	305.1	11	24A	0	20	37	-6	11	44	13 56	PP
SCOTT BASE	72.52	172.5	11	27	-1	20	48	-3			21 31	SCS
SEMIPALATNSK	72.52	328.8	11	26	-2	20	47	-4			14 10	PP
DUZHANBE	73.66	313.8	11	34	-1	20	57	-7			11 58	PCP
MAWSON	74.57	201.6	11	38	-2	21	11	-3				
HONOLULU	75.45	65.7	11	47	2	22	27	63				
KIPAPA	75.55	65.6	11	46	0							
TIKSI	79.20	359.4									22 31	PS
ASHKABAD	81.12	310.3	12	20	4	22	24	0				
TANANARIVE	81.19	252.0	12	18	1	22	27	2	12	44		
SHIRAZ	83.72	301.0	12	29K	-1	22	46	-5	12	56	17 41	PPP
SVERDLOVSK	85.80	328.8	12	38	-2						16 1	PP
TEHERAN	85.96	306.7	12	40	-1	23	0	-13				
GORIS	90.62	309.6	13	2	-1	23	48	-8			16 40	PP
TIFLIS	92.11	311.6	13	10	0						23 40	SKKS
ADDIS ABABA	93.19	278.6	13	18	3	23	53	-26				
COLLEGE	93.28	25.0	13	12	-4	23	39	-40			16 27	PP
LCO. MARQUES	93.97	243.3	13	20	1	23	23	-62			17 35	PP
KHEYS	94.79	351.0	13	20	-2						23 59	SKKS
GRAHAMSTOWN	97.53	235.0	14	19	44							
PRETORIA	97.91	242.7	14	3	26							
MOSCOW	98.12	325.2	13	35	-3	24	52	39			17 36	PP
KSARA	98.33	303.0	13	38	0	24	8	-7			17 35	PP
BULAWAYO	98.69	248.3	13	39A	-1							
JERUSALEM	98.75	301.0	13	39	-1						17 31	PP
BROKEN HILL	99.91	253.9	13	47	1							
APATITY	99.91	337.3	13	42	-4	24	17	-5			17 51	PP
SIMFEROPOL	100.13	314.2	13	44	-3						17 55	PP
KIMBERLEY	100.16	239.0	13	49	2							
LWIRO	101.58	266.1	13	55A	2	24	34	3			17 33	
PULKOVO	101.91	329.4	13	53	-2	24	27	-5			18 6	PP
HELWAN	102.00	298.9	13	54	-1	24	31	-2				
SODANKYLA	102.54	337.4	13	55	-2	24	28	-7			18 11	PP
HERMANUS	103.07	232.1	14	9	9	24	41	3			18 27	PP
ISTANBUL KA.	103.88	310.3	14	2A	-1	24	40	-1				
ISTANBUL UN.	103.94	310.3	14	2	-2				14	28	18 18	PP
HELSINKI	104.53	330.2	14	4	-2	24	41	-3				
NURMIJARVI	104.62	330.6	14	3	-4	24	38	-7			18 23	PP
KIRUNA	104.74	338.4	14	5	-2						18 30	PP
NORD	104.77	355.3				24	42	-3				
FOCSANI	104.99	315.2									19 22	PP
BACAU	105.13	316.1	18	46	777	24	46	-1				
BUCHAREST	105.87	313.9	14	12	777	24	52	2			25 30	SKS
VICTORIA	106.19	41.8	14	13	777						18 29	
CAMPULUNG	106.55	314.9	18	55	777	24	53	0				
LWOW	106.68	319.7	14	15	777	24	40	-14			18 46	PP

CORVALLIS	106.70	45.9	14	22	777					
UKIAH	107.22	51.5	18	0	777				14	24 P
SHASTA	107.73	49.8	14	23	777					
SOFIA	108.04	312.3	14	22	777	25	49	49	18	42 PP
BERKELEY	108.06	52.8	14	26	777	25	2	2	18	56 PP
WARSAW	108.16	322.5	14	24	777	24	57	-3	18	55 PP
ATHENS	108.18	307.3	18	25	777					
UPPSALA	108.19	330.8	14	20	777				18	58 PP
RESOLUTE	108.22	11.6	14	22	777	24	55	-6	29	43
MINERAL	108.36	50.1	14	28	777				18	34
WINDHOEK	108.50	243.2	14	30	777					
LICK	108.59	53.3	14	30A	777				18	33
TIMISOARA	109.14	315.7							18	6
SKALNATE PL.	109.21	319.4	14	29	777				19	7 PP
KRAKOW	109.25	320.4	14	29	777	25	0	-5	19	1 PP
SKALSTUGAN	109.34	335.4	14	27	777				18	30 PP
RENO	109.82	50.8	14	38	777				19	10
BELGRADE	109.83	314.8	18	44K	777	25	11	4	19	27 PP
FRESNO	110.11	53.8	14	32K	-239				19	5
RACIBORZ	110.34	320.6	14	31	-241				19	13 PP
BUDAPEST	110.34	317.8	18	27	-5	25	22	13		
THULE	110.55	4.7	18	33	1				19	10 PP
HURBANOVO	110.81	318.3	14	31	-241				19	15 PP
BRATISLAVA	111.46	318.8	14	37	-237	25	14	0	19	20 PP
GOTEBORG	111.67	329.6	14	33	-241				19	9 PP
PASADENA	111.68	56.4	18	37	3	25	13	-2	19	18 PP
VIENNA-H.	111.92	319.0	18	37	2	25	11	-5	19	21 PP
COPENHAGEN	112.13	327.4	18	39	4	25	19	2	19	15 PP
HUNGRY HORSE	112.37	40.8	18	39	4	27	4	106	19	26 PP
PRUHONICE	112.64	321.1	18	41	5	25	20	1	19	26 PP
PRAGUE	112.69	321.3				25	18	-1	19	25 PP
ZAGREB	112.73	316.5	18	40	4				21	30
EUREKA	112.77	50.5	18	38	2				19	39 PP
POTSDAM	112.84	323.9	18	38	2	25	18	-2	19	23 PP
TARANTO	112.86	310.6	18	50	14	25	50	30	22	20
COLLMBERG	113.21	322.8	18	40	3				19	39 PP
RUTH	113.57	50.6	14	51A	-227					
LJUBLJANA	113.67	317.0	18	40	2				19	37 PP
HALLE	113.78	323.3	18	39	1	25	21	-2	19	35 PP
BUTTE	113.91	43.0	14	46	-233	25	20	-4	19	44 PP
PLAUEN	113.97	322.2	18	38	-1				19	37 PP
JENA	114.18	322.7	14	49	-230	25	21	-4	19	39 PP
BOULDER CITY	114.19	54.1	18	41	2				15	2 P
TRIESTE	114.29	316.7				25	25	0	19	41 PP
MESSINA	114.54	308.4	17	53	-47	25	23	-3	19	39 PP
TOLMEZZO	114.59	317.7	18	39	-1	25	21	-5	19	41 PP
SCORESBY SD.	114.96	350.2				25	29	1	19	42 PP
BOZEMAN	115.02	43.0	18	43	2	27	28	120	19	48 PP
SALT LAKE C.	115.63	48.4	18	43	1					
ROME	116.10	313.0	18	46	3	25	29	-3	19	50 PP
MUNSTER	116.14	324.8	15	0	-223				29	33
BOLOGNA	116.25	316.0				25	36	4	19	49 PP
STUTTGART	116.29	321.0	18	43	0	25	31	-2	19	57 PP
HEIDELBERG	116.42	321.8	18	45	2				19	56 PP
TUBINGEN	116.51	320.8	18	43	-1				19	57 PP
PRATO	116.57	315.4				26	24	50	20	5 PP
GLEN CANYON	116.60	52.5	17	45	-59				20	9
EBINGEN	116.69	320.5	18	43	-1				19	57 PP
BENSBERG	116.78	323.9	15	8	-216				19	56 PP
STRASBOURG	117.30	321.2	18	43	-2	25	31	-5	22	31 PPP
FLAMING GRGE	117.41	47.8	18	46	1				20	16 PP
DE BILT	117.46	325.6	18	47	2	25	40	3	19	49 PP
PAVIA	117.52	317.2							20	4 PP
CHIAVARI	117.68	316.3	18	56	10				35	51 SS
BASLE	117.79	320.2	18	47	1				28	4
TUCSON	118.02	57.6	18	50	3	29	40	241		
TUCSON TELE.	118.10	57.5	18	50	3				22	28 PP
NEUCHATEL	118.38	319.8	18	49	2					
ABERDEEN	118.65	333.0				25	40	-1	20	10 PP
ISOLA	119.27	316.7	18	50	1				20	13 PP
DURHAM	119.73	330.5	18	50A	0	25	40	-5	20	16 PP
SIDA	119.77	344.7	18	55A	5					
EDINBURGH	119.86	332.2				25	46	1	36	34 SS
PORT STANLEY	120.35	173.8	18	56	5					
REYKJAVIK	120.42	346.5	19	12K	21					
PARIS	120.42	323.0	18	54	3				21	15 PP
KEW	120.79	326.7	18	54	2	25	48	0	20	12 PP
RAPID CITY	120.82	42.8	18	52	0				20	21 PP

CLERMONT-FD.	121.29	319.6	18	55K	2					20	31	PP
CHIHUAHUA	122.66	61.0	18	21	-35					19	59	
SETIF	122.88	308.3	18	56	0	26	36	41		20	28	PP
JERSEY	122.91	145.1	16	1	-177							
ALGIERS UNI.	124.53	309.6	19	0	1					20	42	PP
TORTOSA	124.99	315.1	19	5	5					21	0	PP
TAMANRASSET	125.43	292.4	19	3	2	26	10	7		21	2	PP
ALICANTE	126.63	312.6	19	7	4	26	11	4		21	6	PP
RELIZANE	126.77	309.2	19	4K	1	27	42	95		21	1	PP
LEON	127.69	69.3								31	28	
TOLEDO	128.55	315.8	19	10	3	26	1	-11	19 27	21	18	PP
ALMERIA	128.66	311.6	19	8K	1	26	13	1	19 27	21	12	PP
GRANADA	129.36	312.4	19	14A	6	29	37	203		21	14	PP
LOME	129.95	271.5	19	23	13					22	29	PKS
MALAGA	130.13	312.2	19	10K	0	26	9	-7		21	24	PP
TACUBAYA	130.19	71.2	19	14	4	26	6	-10		21	50	PP
FAYETTEVILLE	130.24	48.6	19	0	-10					20	16	PP
SERRA PILAR	130.99	319.4	19	4A	-8	26	2	-16	19 29	21	23	PP
COIMBRA	131.36	318.2	19	8	-4					21	34	PP
FLORISSANT	131.77	43.6								21	35	PP
ST. LOUIS 1	131.95	43.7	19	5	-8					22	48	PKS
LITTLE ROCK	132.14	49.4	19	3	-11					22	39	PKS
LISBON	132.58	316.9	19	17A	2					21	44	PP
OAXACA	132.73	74.0								21	7	
VERA CRUZ	133.09	71.0								21	25	
SANTA LUCIA	134.27	154.7	19	22	4					21	52	PP
CLEVELAND	135.83	35.2	19	24A	3					21	40	PP
OTTAWA	136.01	26.9	19	10	-11							
SEVEN FALLS	136.61	21.5	19	16	-6							
BREBEUF	136.85	25.2	19	15K	-7					38	53	SS
MORGANTOWN	137.95	36.1	19	13	-11					22	11	PP
PENNSYLVANIA	138.33	33.2	19	33	8					22	20	PP
MERIDA	138.82	67.0	19	31	5	26	37	4		22	22	PP
WASHINGTON	140.09	34.7	19	25	-3					22	20	PP
PALISADES	140.23	29.6	19	22	-7					22	25	PP
SAN SALVADOR	140.28	77.9	19	39	10							
WESTON	140.34	25.9	19	24	-5					23	14	PP
HALIFAX	141.17	16.5	19	27	-3							
PONTA DELGDA	143.31	328.0	19	41	7					22	58	PP
HUANCAYO	147.42	126.8	19	45	4					23	21	PP
MBOUR	147.72	284.7	19	44	3					19	54	PKP2
LA PAZ	149.50	142.2	19	49	5					23	35	PP
BALBOA HTS.	149.93	85.5	19	47	2							
CHINCHINA	153.60	94.4	19	53A	3					20	29	PKP2
BOGOTA	155.08	95.6	19	57	5					20	26	PKP2
FUQUENE	155.52	93.7	19	54A	1					23	54	PP
SAN JUAN	160.42	55.6	20	0	1					25	31	
CARACAS	162.27	79.7	20	5K	4					24	57	PP
FORT FRANCE	166.37	58.3	20	6	1					21	29	
GRENADA	166.92	69.8	20	8	3							
ST. VINCENT	166.95	64.5	20	6	1							
TRINIDAD	167.60	75.5	20	8	3					21	16	
BARBADOS	168.45	61.5	20	18	12							

OCTOBER 8 1.H 51.M 54.S EPICENTRE 16.97 -97.95 DEPTH= 78.KM

A=-0.13243 B=-0.94778 C= 0.29012 D=-0.9904 E= 0.1384
G=-0.0401 H=-0.2873 K=-0.9570 HT= 5.4

DEPTH OF FOCUS= 0.007R

SE= 2.93

	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
OAXACA	1.13	87.5	0	19	-3	0	39	1				
PUEBLA	2.06	353.5	0	32	-2	1	8	9				
TACUBAYA	2.69	334.1	0	41A	-1	1	25	11				
VERA CRUZ	2.81	37.8	0	48K	4							
LEON	5.42	320.2	1	21	1	2	36	14				
COMITAN	5.63	96.5	1	36	13							
GUADALAJARA	6.28	306.8	1	30	-2	2	54	11				
MANZANILLO	6.41	289.8									2	31
MERIDA	8.82	62.1	2	6	-1	3	25	-21			2	30
SAN SALVADOR	9.06	110.0	2	0	-10						4	36
SANTIAGO MA.	9.79	109.4	2	24	4						4	44
MAZATLAN	10.05	309.3									5	21

CHIHUAHUA	13.80	328.6	3 14	0				
LITTLE ROCK	18.43	14.7	4 10	-2				
TUCSON	19.16	324.9	4 21	1				
TUCSON TELE.	19.17	325.3	4 21	1				
FAYETTEVILLE	19.33	9.2	4 22	0	8 7 16	4 44	4 55	*SP
BALBOA HTS.	19.60	111.7	4 21	-4	8 6 10			
ST. LOUIS 1	22.62	15.9	4 55	0	9 12 19			
FLORISSANT	22.74	15.5	4 57	1	9 14 19			
COLUMBIA	22.77	38.7	4 57	0	9 18 23			
GLEN CANYON	23.28	331.5	5 3	1			6 32	
BOULDER CITY	24.15	324.9	5 12	2				
CHINCHINA	24.92	116.0	5 29	12				
PASADENA	24.92	317.2	5 18	1	9 59 27			
FLAMING GRGE	25.84	339.8	5 57	31				
BOGOTA	26.43	115.0	5 36	4	10 8 11		6 25	PPP
SALT LAKE C.	26.58	335.9	5 34	1				
EUREKA	27.37	328.6	5 41	1			9 6	PCP
RAPID CITY	27.38	351.8	5 41	1	10 12 -1			
MORGANTOWN	27.48	31.2	5 43A	2	10 46 32			
FRESNO	27.60	319.8	5 41	-1			15 3	
PITTSBURGH	28.10	30.1	4 39K	-68				
CLEVELAND	28.22	26.7	5 47A	-1	10 25 -1	5 57		
LICK	29.11	318.8	5 56A	0				
PENNSYLVANIA	29.40	32.1	5 59	1				
RENO	29.45	324.2	6 0A	1			6 8	
BERKELEY	29.82	319.1	5 59	-3	11 13 21			
SAN JUAN	30.34	82.5	6 4	-3			9 3	PCP
BOZEMAN	30.63	341.8	6 11	2	11 23 18			
MINERAL	31.01	323.5	6 13	0			6 29	
BUTTE	31.42	340.3	6 17	1				
PALISADES	31.68	36.0	6 21	3	11 40 19	6 29	14 44	SS
SHASTA	31.69	323.2	6 17	-1				
OTTAWA	33.90	28.6	6 38A	0				
HUNGRY HORSE	33.95	340.7	6 39	1			9 12	PCP
WESTON	34.04	36.4	6 28	-11				
CORVALLIS	34.81	327.6	6 45K	0				
BREBEUF	34.96	30.4	6 47A	0				
FORT FRANCE	35.44	88.3	6 48	-3				
SHAWINIGAN	36.13	29.9	6 56A	-1				
HUANCAYO	36.49	140.7	6 56	-4			7 59	PP
SEVEN FALLS	37.48	30.8	7 9	1				
LA PAZ	44.39	137.0	8 6	1	14 41 8			
SANTA LUCIA	56.51	152.6			17 14 -6		21 6	SS
RESOLUTE	57.74	1.0	9 44	-1				
COLLEGE	58.28	337.4	9 48	-1				
THULE	61.42	7.7	10 10	-1				
NORD	72.04	8.8	11 17A	-1			13 57	PP
DURHAM	79.93	35.8	12 2K	0				
KEW	81.56	38.8	12 10	-1	22 35 20			
KHEYS	81.79	3.9	12 13	1	22 36 19			
MALAGA	82.82	53.9	12 18K	1				
GRANADA	83.31	53.3	12 19K	-1				
ALMERIA	84.27	53.4	12 25K	0		12 34	13 28	
KIRUNA	84.51	19.6	12 26	0			13 0	
CLERMONT-FD.	85.50	43.6	12 31A	0				
MUNSTER	86.04	36.7	12 34	1				
TIKSI	86.13	346.6	12 34K	0				
BENSBERG	86.17	37.7	12 36K	2			13 31	
SODANKYLA	86.72	18.6	12 36	-1				
RELIZANE	86.93	53.7	12 29	-9		12 49	15 53	PP
STRASBOURG	87.44	39.8	12 57	17				
UPPSALA	87.60	27.1	12 40	-1				
STUTTGART	88.28	39.2	12 43	-1			13 21	
COLLMBERG	89.37	35.9	12 50	1			16 16	PP
NURMIJARVI	90.18	24.6	12 52	-1				
PRUHONICE	90.85	36.6	12 58	2			14 46	
PULKOVO	92.85	23.4			23 48 -13		16 58	PP
TAMANRASSET	95.40	64.4	13 17A	0			17 7	PP
BYRD STATION	97.49	183.7	13 27	0				
MOSCOW	98.48	23.6	13 39	8				
CAPE HALLETT	106.59	198.6					27 46	PS
TIFLIS	112.21	29.3					19 15	PP
MAKHACH-KALA	112.43	26.8					28 59	
KSARA	113.02	40.7	18 23	-5			19 18	PP
JERUSALEM	113.93	42.8					19 24	PP
SHIRAZ	125.60	31.8	18 52	-1			20 46	PP
WARSAK DAM	128.34	11.1	18 58	0				
QUETTA	130.92	17.4	19 4	1			21 30	PP

TANANARIVE	147.15	98.7	19 36A	4						20 37	
LEMBANG	153.06	288.9								19 46	

OCTOBER 8 5.H 53.M 5.S EPICENTRE 40.23 129.98 DEPTH= 605.KM

A=-0.49189 B= 0.58666 C= 0.64334 D= 0.7663 E= 0.6425
G=-0.4133 H= 0.4930 K=-0.7656 HT= -1.8

DEPTH OF FOCUS= 0.090R

SE= 2.17

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
VLADIVOSTOK	3.23	25.9	1 24	3				2 34	
SAIGO	4.81	145.7	1 34K	2	2 49	4		13 33	SCS
CHANGCHUN	5.00	317.5	1 34K	1	2 52	4			
YONAGO	5.49	149.8	1 38K	1	2 57	2			
HAMADA	5.58	162.0	1 39K	1	2 55	-1			
TOTTORI	5.77	143.5	1 40K	1	3 0	1			
ITUHARA	6.05	185.5	1 42K	0	3 0	-3		13 28	SCS
TOYOOKA	6.06	139.3	1 42K	0	3 4	1		13 30	SCS
WAZIMA	6.11	115.6	1 45K	3	3 4	0		13 36	SCS
HIROSIMA	6.17	160.8	1 42K	-1	3 4	-1		13 28	SCS
SIMONOSEKI	6.32	172.8	1 46K	2	3 11	4			
OKAYAMA	6.37	149.3	1 45K	0	3 10	2			
MAIZURU	6.40	136.3	1 45K	0	3 11	2		13 31	SCS
KANAZAWA	6.41	123.1	1 46K	1					
HUKUI	6.46	128.3	1 45K	0	3 13	3		6 41	
DAIREN	6.59	261.0	1 46	-1	3 13	1			
TSURUGA	6.64	131.6	1 49A	2	3 15	8		13 31	SCS
HUKUOKA	6.65	177.1	1 49K	2	3 9	-4			
TOYAMA	6.67	119.6	1 48K	1	3 7	-6		13 43	
HIMEJI	6.72	147.0	1 47K	-1	3 12	-2			
TAKAMATU	6.73	149.9	1 49K	1	3 16	2		6 55	
SUIHWA	6.75	342.2	1 51	3	3 23	9		3 32	*SP
MATUYAMA	6.76	159.8	1 48K	0	3 14	-1		13 33	SCS
AIKAWA	6.80	106.3	1 49K	1	3 15	0		5 41	
KOBE	6.91	141.6	1 50K	1	3 18	1			
KYOTO	6.92	136.9	1 48	-1					
ABUYAMA	6.95	138.6	1 51K	1	3 19	1			
SAGA	6.97	177.8	1 51	1	3 20	2			
HIKONE	7.01	132.9	1 53K	3	3 21	2		13 32	SCS
TAKAYAMA	7.03	123.1	1 50	0	3 21	2			
SUMOTO	7.07	144.7	1 51K	0	2 19	-61		6 19	
TSURUGISAN	7.10	152.1	1 40	-11	3 7	-12			
OSAKA	7.11	139.9	1 52K	1	3 22	2			
OOITA	7.11	168.8	1 51K	0	3 18	-2			
TOKUSIMA	7.16	147.7	1 52K	0	3 21	0		13 35	SCS
TAKADA	7.19	113.2	1 52K	0	3 19	-2		13 33	SCS
GIHU	7.22	129.8	1 52K	0	3 21	-1		13 32	SCS
NARA	7.23	138.1	1 53K	1	3 23	1		13 33	SCS
KOTI	7.25	155.8	1 52K	0	3 19	-4		13 34	SCS
WAKAYAMA	7.28	143.7	1 52K	-1	3 24	1		13 30	SCS
UWAZIMA	7.29	162.8	1 54K	1	3 24	1		13 33	SCS
NAGANO	7.37	116.3	1 56K	2	3 27	2		12 33	SCS
ASOSAN	7.37	172.8	1 54	0	3 28	3		7 15	
KUMAMOTO	7.42	175.3	1 55K	1	3 27	2			
NIIGATA	7.42	105.2	1 55K	1	3 30	4		2 41	
MATUMOTO	7.44	119.8	1 55K	1	3 19	-7		13 35	SCS
MATUSIRO	7.44	117.1	1 53	-1	3 26	0		13 32	SCS
KAMEYAMA	7.44	134.1	1 54K	0	3 25	-1		12 29	
NAGASAKI	7.49	180.6	1 56K	1	3 26	-1			
NAGOYA	7.50	130.2	1 53K	-2	3 23	-4		13 34	SCS
TU	7.58	134.7	1 58K	2	3 29	1			
TOMIE	7.66	187.7	1 56	0	3 30	1			
SAKATA	7.73	96.8	1 58	1	3 37	6			
MUROTO	7.74	152.9	1 55K	-2	3 28	-3			
OIWAKE	7.78	117.3	1 57K	0	3 32	0		13 30	
IIDA	7.79	124.7	1 56K	-1	3 32	0			
AKITA	7.79	90.5	1 57K	0	3 35	3			
SIMIDU	7.82	161.1	1 57K	-1	3 28	-4			
OWASE	7.90	139.1	1 58K	0	3 32	-2			
MAEBASI	8.10	115.3	1 59K	-1	3 32	-5			
SUTTSU	8.11	68.2	2 0K	0	3 38	1		13 32	SCS
KOHU	8.16	121.2	2 1K	0	3 46	8		13 34	SCS
SIOMISAKI	8.21	143.8	2 1K	0	3 38	-1			

MORI	8.21	73.4	2	2K	1	3	10	-29	13	35	SCS
AOMORI	8.25	82.4	2	0K	-2	3	43	3	13	33	SCS
HAMAMATU	8.25	129.4	2	2K	0	3	38	-2			
YAMAGATA	8.29	100.5	2	1	-1	3	45	5	13	28	
HAKODATE	8.30	75.6	2	2K	0	3	37	-3	13	35	SCS
TITIBU	8.33	117.7	1	57K	-6	3	33	-8	13	34	
MIYAZAKI	8.38	171.6	2	4K	1	3	42	0	13	34	
HUNATU	8.40	121.4	2	4K	1	3	43	1	13	35	SCS
KUMAGAYA	8.45	115.9	1	59K	-5				4	1	
SHIZUOKA	8.50	125.5	2	3	-1	3	41	-3			
HUKUSIMA	8.54	103.5	2	3K	-1	3	43	-1			
MURORAN	8.54	72.3	2	5K	0	3	44	-1	13	34	
SHIRAKAWA	8.59	107.9	2	3K	-2	3	42	-3	13	33	
UTUNOMIYA	8.59	112.2	2	3K	-2	3	42	-3	13	33	SCS
MORIOKA	8.61	89.9	2	5K	0	3	50	4	13	34	SCS
OMAESAKI	8.63	128.0	2	5K	0	3	46	0	13	24	SCS
KAGOSIMA	8.66	176.8	2	6	0	3	47	0			
MIZUSAWA	8.67	93.7	2	5	-1	3	37	-10			
SENDAI	8.70	99.5	2	5K	-1	3	39	-8	13	33	SCS
MISIMA	8.75	122.8	2	5K	-1	3	44	-4	12	32	SCS
HATINOHE	8.82	84.3	2	6K	-1	3	45	-4	13	33	SCS
AJIRO	8.89	122.7	2	6	-2	3	48	-3			
TUKUBASAN	8.91	113.5	2	5K	-3	3	45	-6	13	34	SCS
HONGO	8.95	117.2	2	5	-3				13	29	SCS
TOKYO C.M.O.	8.95	117.4	2	7K	-1	3	48	-4	2	59	
KAKIOKA	8.96	113.2	2	4K	-5	3	41	-11			
ISINOMAKI	8.97	97.9	2	7K	-2	3	50	-2	13	34	SCS
SAPPORO	8.97	67.9	2	8K	-1	4	2	10	13	32	SCS
YOKOHAMA	9.03	119.0	2	7K	-2	3	50	-3	3	14	
TOMAKOMAI	9.04	70.9	2	10	1	3	59	6			
MITO	9.10	111.7	2	8K	-2	3	50	-4	13	36	SCS
ONAHAMA	9.16	107.5	2	9K	-1	3	51	-4	13	27	SCS
MIYAKO	9.23	89.7	2	9K	-2	3	52	-5	13	32	SCS
OSIMA	9.25	123.2	2	10K	-1	3	50	-7	13	33	SCS
MERA	9.44	121.0	2	12K	-1	4	7	7			
TYOSI	9.69	114.2	2	14K	-1	4	0	-5	13	37	SCS
URAKAWA	9.84	74.6	2	17	0	4	6	-1	13	37	SCS
WAKKANAI	10.04	55.1	2	21	2	4	13	2			
HIROO	10.25	74.2	2	21	0	4	15	0			
OBIHIRO	10.27	70.5	2	20K	-1	4	20	5			
PEKING	10.58	273.4	2	25K	1				4	18	*SP
HATIDYOZIMA	10.61	129.0	2	27	3	4	32	11			
KUSIRO	11.14	71.0	2	29K	-1	4	29	-1			
ABASHIRI	11.27	65.7	2	35K	4				3	47	
ZO-SE	11.58	220.8	2	34K	0	4	36	-2	4	29	*SP
NEMURO	12.05	70.0	2	39K	0	4	46	0	13	38	SCS
NANKING	12.17	231.4	2	39K	-1	4	49	0	4	45	*SP
UGLEGORSK	12.33	40.2	2	43	2	4	51	0	4	32	
TORISIMA	12.86	136.0	2	47	0	4	59	-2			
KURILSK	14.06	63.3	3	1	3				5	30	
TAIPEI	16.73	207.6	3	24	0	5	41	-27			
ILAN	16.89	206.6	3	30K	5	6	15	4			
HSINCHU	17.14	208.9	2	1	-87						
HWALIEN	17.68	206.0	3	34	1	5	59	-25			
SIAN	17.78	257.1	3	35	1	6	34	8			
TAICHUNG	17.84	208.8	3	35	1						
ULAN-BATOR	18.23	302.6	3	39	1						
YUSHAN	18.36	207.2	3	44	5	6	11	-25			
ALISHAN	18.37	207.7	3	39	0	6	8	-28			
PENGHU	18.83	211.0	3	45	1	6	10	-34			
TAITUNG	18.96	205.8	2	47	-58	5	10	-96			
TAINAN	19.06	208.6	4	2	16	6	11	-36			
KAOHSIUNG	19.39	208.0	4	0	11						
TAWU	19.42	206.1	3	56	7	6	49	-4			
HENGCHUN	19.79	206.1	3	53	1	6	22	-38			
LANCHOW	20.96	266.9	4	3K	0				6	32	
SEVERO-KUR.	20.98	51.5	4	1	-2				6	34	
IRKUTSK	21.31	312.9	4	7	1						
YAKUTSK	21.82	359.7	4	10	-1						
CANTON	22.13	224.4	4	12K	-2	7	33	-4	6	51	*SP
HONG KONG	22.35	221.6	4	13A	-3				6	41	PP
CHENGTU	23.14	253.8	4	20K	-3	7	47	-6	7	1	*SP
PETROPAVLOVK	23.30	47.1	4	23	-1				8	1	
MAGADAN	23.35	27.2	4	26	2				6	1	
BAGUIO CITY	25.09	201.7	4	36	-4						
KLYUCHI	25.81	41.1	4	44	-2	8	36	1			
KUNMING	27.30	244.8	4	58K	-1	8	53	-5	7	46	*SP
GUAM	29.65	149.9	5	17	-2						

TIKSI	31.48	359.3	5 33	-2	10 1	-2		
TOCKLAI	32.08	256.1	5 44K	4	10 17	5		
LHASA	33.39	263.9	5 52K	1	10 20	-12		
SHILLONG	34.89	257.0	6 2	-1	10 48	-7		
SEMIPALATNSK	35.80	303.4	6 7	-4	11 3	-5	7 52	14 19 SS
CHITTAGONG	36.81	252.6	6 21K	2	11 15	-8	8 0	8 7 PP
CHATRA	37.75	262.7	6 27	0	11 35	-2	8 15	8 17 PP
ALMATA	39.13	292.4	6 39	1				8 26 PCP
CALCUTTA	39.25	256.0	6 39K	0	11 59	0		
BOKARO	40.42	259.8	6 48	0	12 11	-5	8 6	16 1
FRUNSE	40.89	292.4	6 53	1	12 25	3	8 45	15 30 *SS
DEHRA DUN	43.00	273.5	7 10	1	12 50	-2		15 11
PORT BLAIR	43.43	239.6	7 10	-2	12 53	-5	8 54	15 57 *SS
TASHKENT	45.13	292.1	7 26	1	13 23	2	9 16	16 7 SCS
VIZIANAGRAM	45.59	255.1	7 32K	3	13 30	2	9 19	16 17 *SS
MEDAN	46.15	226.0	7 34A	1	13 31	-5		
WARSAK DAM	46.28	281.7	7 34K	0	13 40	2		15 17
DUZHANBE	46.49	288.7	7 35	0	13 43	2		
SVERDLOVSK	46.70	315.0	7 37	0	13 43	-1		9 36 PP
KHEYS	47.66	347.8	7 48	4	13 54	-3	9 36	9 45 PP
RABAUL	48.69	149.9	7 51	-1	14 9	-2		
HYDERABAD	49.74	258.3	7 59K	-1	14 23	-2	9 53	10 2 PP
DJAKARTA	50.87	210.3	8 6A	-2	14 38	-2		
LEMBANG	51.17	209.0	8 8A	-2	14 40	-4		
COLLEGE	51.24	32.9	8 10	0	14 52	7		16 55 SCS
MADRAS	51.28	252.6	8 11K	0	14 44	-2	10 3	16 53 PPS
QUETTA	51.50	279.6	8 12K	0	14 46	-3	10 9	10 23 PP
PORT MORESBY	51.87	158.3	8 13	-2	14 51	-3	8 37	13 14 SCP
POONA	52.55	262.9	8 17K	-3	14 57	-5	10 7	18 14 *SS
BOMBAY	53.11	264.0	8 24	0	15 7	-3	10 17	17 4 PS
KARACHI	54.19	273.8	8 30K	-1	15 24	0	10 26	
ASHKABAD	54.22	292.4	8 34	2				10 49 PP
KODAIKANAL	55.10	252.2	8 34	-4	15 34	-2	10 19	11 4 PP
COLOMBO	55.65	247.3	8 40	-1				15 45
APATITY	55.91	332.6	8 42	-1	15 44	-2	10 39	10 57 PP
ISFJORD	56.05	347.0	8 43	-1				
HONIARA	56.66	143.8	8 47	-1	15 54	-2		
NORD	57.16	354.5	8 50	-2	16 2	0	10 50	12 40
SODANKYLA	58.34	333.7	8 58	-2	16 17	0	11 3	9 53 PCP
MOSCOW	59.15	318.8	9 4	-1	16 25	-2	11 2	11 32 PP
KIRUNA	60.13	335.6	9 10	-2	16 44	4	11 14	38 20 PKPPKP
TEHERAN	60.18	293.2	9 12	0	16 42	2		
RESOLUTE	61.58	12.3	9 21A	0	16 57	0		
TIFLIS	61.66	302.1	9 22	0	16 59	1	11 24	13 34 PPP
GORIS	61.76	299.2			17 2	2		9 59 PCP
CHARTERS TS.	61.90	162.6	9 21A	-2	16 54	-7		
SHIRAZ	62.53	286.7	9 27A	0	17 4	-5	9 53	11 29 PP
NURMIJARVI	62.68	327.5	9 27	-1	17 8	-3		18 13 SCS
HELSINKI	62.74	327.1	9 28	-1	17 11	-1		38 18 PKPPKP
KIPAPA	63.00	84.0	9 30	0				11 36 PP
HONOLULU	63.01	84.2	9 31	1	17 17	2		
THULE	63.04	4.8	9 30	0	17 14	-1	11 34	12 2 PP
SKALSTUGAN	65.41	334.2	9 44	-1				
UPPSALA	65.90	329.2	9 47	-1				17 48 SP
SCORESBY SD.	67.74	350.2	10 0	0	18 12	1	12 5	18 58 SP
KOUMAC	68.40	145.4	10 2	-2	18 20	2		
WARSAW	69.25	321.5	10 8	-1	18 21	-7	12 11	12 35 PCP
LWOW	69.28	318.2	10 8	-1			12 11	14 46 PPP
GOTEBORG	69.53	329.6	10 8	-2			12 14	37 44 PKPPKP
BACAU	69.75	314.2	10 16	5	18 33	-1		
BERGEN	69.99	334.2	10 13	0				
FOCSANI	70.11	313.4	10 19	5	18 40	2		12 28
BRISBANE	70.54	158.6	10 16	0	18 41	-2		
COPENHAGEN	70.75	327.9	10 17K	0	18 41	-4	12 21	13 8 PP
NOUMEA	70.89	144.4	10 8	-10	19 4	18		
KRAKOW	71.18	320.2	10 20	0	18 48	-2	12 24	13 7 PP
CHORZOW	71.48	320.8	10 25	3	18 50	-3		10 38 PCP
BUCHAREST	71.51	312.8	10 21	-1	18 53	0	11 13	13 15
CAMPULUNG	71.57	314.0	10 26	4	18 58	4		13 21
SKALNATE PL.	71.59	319.4	10 23	1				
ISTANBUL KA.	71.85	308.6	10 23K	-1	18 54	-3		
KSARA	71.89	299.1	10 24K	0	19 0	2	12 28	14 57 PPP
ISTANBUL UN.	71.92	308.6	10 22	-2	18 55	-3	12 28	
RACIBORZ	72.00	321.0	10 25	0	18 59	0	12 28	13 21 PP
POTSDAM	72.79	325.1	10 29	0	19 8	1	12 32	13 26 PP
MUNDARING	72.96	192.2	10 28	-2	19 6	-3		
CORVALLIS	72.99	45.7	10 32A	2			12 50	
PERTH	73.00	192.5	10 31	1	19 13	3		13 39 PP
SIDA	73.27	345.8	10 36K	4				

BUDAPEST	73.32	318.6	10	38	6	19	14	1				
TIMISOARA	73.33	316.2	10	36	4	19	15	2				
HURBANOVO	73.48	319.3	10	37	4				12	45		
SUVA	73.52	132.1	10	34	1						14	55
JERUSALEM	73.56	297.8	10	33	0	19	13	-3				
COLLMBERG	73.58	324.3	10	34K	0	19	18	2	12	45	13	33 PP
REYKJAVIK	73.63	347.6	10	36A	2							
PRAGUE	73.79	322.7	10	38	3	19	16	-2	12	44	19	47 PS
PRUHONICE	73.79	322.6	10	27K	-8	19	11	-7	12	36	13	21 PP
BRATISLAVA	73.82	320.0	10	35	0	19	19	0	12	46	13	34 PP
HALLE	73.90	324.9	10	34	-1	19	15	-5	12	39	13	34 PP
VIENNA-H.	74.12	320.5	10	36A	-1	19	23	1	12	46	13	35 PP
SOFIA	74.16	312.8	10	37	0	19	26	4	12	43	13	40 PP
BELGRADE	74.35	315.8	10	38K	0	20	8	44			13	44 PP
JENA	74.47	324.7	10	38	-1	19	22	-4	12	43	13	40 PP
PLAUEN	74.53	324.1	10	37	-2	19	21	-5				
ABERDEEN	74.93	335.2	10	43K	2	19	29	-2			13	42 PP
ARCATA	74.93	49.0	10	43A	2				12	58		
SONNEBERG	75.04	324.5	10	41	-1	19	29	-3			13	44 *SP
WITTEVEEN	75.16	328.4	10	41	-1				12	55		
HUNGRY HORSE	75.20	38.3	10	44	1	19	33	-1	12	58	13	36 PP
ADELAIDE	75.26	172.6	10	42	-1	19	32	-2	12	53	20	0 SCS
MUNSTER	75.41	327.3	10	44	0	20	14	38				
ZAGREB	75.99	318.8	10	50	3						18	35
SHASTA	76.02	48.3	10	49A	2						10	59
RIVERVIEW	76.24	162.0	10	49A	1	19	48	3	12	58	14	0 PP
AFIAMALU	76.25	121.8	10	47A	-1	19	49	4	12	56	22	43 *SS
EDINBURGH	76.30	335.0				19	41	-4			15	21 PPP
DE BILT	76.30	328.6	10	50K	1	19	46	1	12	54	15	50 PPP
BENSBERG	76.35	326.8	10	48K	-1	19	45	-1				
LJUBLJANA	76.56	319.7	10	50K	0	19	44	-4	13	2	13	57 PP
UKIAH	76.57	50.0	10	50	0	19	50	2			14	5 PP
DURHAM	76.70	333.5	10	51	0	19	48	-2	13	0	20	46 PS
MINERAL	76.70	48.2	10	52A	1				13	5		
HEIDELBERG	76.85	325.0	10	51K	-1	20	5	14			10	55 PCP
ATHENS	77.01	308.9	10	50K	-2	19	48	-5				
TOLMEZZO	77.04	320.7	10	53	0	19	49	-4	11	45	14	3 PP
STUTTGART	77.07	324.3	10	51	-2	19	52	-1	12	54	13	57 PP
CANBERRA	77.20	164.1	10	54A	1	19	57	2	13	3	14	5 PP
TRIESTE	77.22	319.8	10	53	-1	19	52	-3	13	6	14	3 PP
TUBINGEN	77.34	324.2	10	54K	0						14	3 PP
HELWAN	77.36	298.4	10	54K	0	19	53	-3				
BUTTE	77.56	39.3	10	57	2	20	0	2			23	44 *SS
EBINGEN	77.64	324.0	10	55	-1						10	59 PCP
RAVENSBURG	77.64	323.4	10	51	-5						10	54 PCP
STRASBOURG	77.88	324.9	10	57	0	19	53	-9	13	4	14	4 *SP
SAN FRANCSCO	77.92	50.6	11	0K	3							
BERKELEY	77.97	50.4	10	59A	1	20	6	3	13	1	25	43 SS
RENO	78.27	47.8	11	1A	2						20	13
PADOVA	78.31	320.6	11	0K	1	20	7	1	13	10	14	14 PP
BRANNER	78.32	50.7	11	0A	1							
BOZEMAN	78.54	38.8	11	2	1	20	8	-1			23	56 *SS
LICK	78.69	50.5	11	3A	2	20	16	6	13	21		
BASLE	78.75	324.3	11	7A	5	20	10	-1				
MELBOURNE	78.89	168.0	11	2A	0	20	14	2	13	12	14	14 PP
KEW	78.92	330.9	11	2K	-1	20	10	-3	13	8	14	10 PP
TARANTO	79.03	314.2				20	12	-2	13	12		
BOLOGNA	79.24	320.3	11	6	2	20	17	1			23	55
NEUCHATEL	79.43	324.3	11	5	0	20	17	-1				
PAVIA	79.78	321.9	11	7K	0	20	22	1	13	16	14	14 *SP
PRATO	79.81	320.0	11	16	9	20	24	2				
PARIS	79.94	327.8	11	7	-1	20	18	-5				
FRESNO	80.16	49.9	11	10A	1				13	27		
CHIAVARI	80.35	321.2	10	23	-47	20	35	8	13	15	14	13 PP
EUREKA	80.45	45.8	11	12	2	20	35	7	13	34	14	35 PP
ROME	80.55	317.8	11	11K	0	20	28	-1	13	19	14	23 PP
RUTH	81.17	45.4	11	17A	3						14	22
JERSEY	81.44	330.5	11	19	3	20	28	-10				
ISOLA	81.53	322.4	11	15	-1	20	36	-3				
MESSINA	81.56	313.5	11	16K	0	20	31	-8	13	28	14	37 PP
MONACO	81.69	321.9	11	16	-1	20	39	-1				
SALT LAKE C.	81.72	42.6	11	19	2	20	44	3				
CLERMONT-FD.	82.07	325.6	11	19K	0	20	42	-2				
FLAMING GRGE	82.86	41.1	11	54	31	20	39	-13			36	13 PKPPKP
PASADENA	82.93	50.9	11	24A	1	20	53	1	12	54	14	49 PP
RAPID CITY	83.38	35.5	11	25	0	20	28	-29	13	43	20	52 SCS
TARRALEAH	83.50	167.8	11	26	0				13	40		
BOULDER CITY	83.57	47.6	11	29	3	20	58	0			37	25 PKPPKP

MOORLANDS	83.75	167.3	11	27A	0				13	40		
CUGLIERI	83.81	318.9									19	25
FORT NELSON	84.26	167.3	11	34	4	21	11	6				
GLEN CANYON	84.65	45.0	11	32	1				13	38	21	48 SP
ADDIS ABABA	85.16	277.7	11	35	1				13	43		
ONERAHI	85.96	145.2	11	41	3						12	46
TORTOSA	87.16	324.1	11	43	0	21	10	-22				
KARAPIRO	88.28	145.6	11	50A	1	21	56	14	14	4	21	27 SKS
SETIF	88.46	318.2	11	50	0	21	21	-23	14	3	15	34 PP
TUCSON TELE.	88.55	47.6	11	52	2				14	12	15	5
TUCSON	88.55	47.7	11	53	3	21	27	-18	14	12	15	39 PP
ALGIERS UNI.	89.19	320.1	11	55	2	21	49	-1	14	5	15	37 PP
TONGARIRO	89.33	146.3	11	53	-1	21	55	3	14	9	15	30
ALICANTE	89.60	323.3	11	54	-1	22	26	32			15	40 PP
TUAI	89.70	145.0	11	55	0	21	59	4			21	22 SKS
COBB RIVER	89.78	149.1	11	57	1	21	58	3	14	14	21	22 SKS
TOLEDO	89.92	326.4	11	56	0	22	2	5	14	8	15	45 PP
KAIMATA	90.51	150.7	12	2	3	21	30	-32			12	19
SERRA PILAR	90.69	330.0	11	52A	-8	21	22	-42	14	14	15	42 PP
WELLINGTON	90.76	147.9	11	59A	-1	22	5	1	14	18	15	15 PP
SEVEN FALLS	91.08	14.0	12	1	-1							
RELIZANE	91.22	321.1	12	0	-2	22	3	-5	14	14	15	50 PP
SHAWINIGAN	91.24	15.5	12	2A	0							
COIMBRA	91.43	329.4	12	4	1				14	17		
OTTAWA	91.69	17.8	12	5A	1							
ALMERIA	91.74	323.7	12	4A	-1	22	16	3	14	18	21	36 SKS
GRANADA	91.97	324.6	12	7K	1	21	32	-43	14	15	15	18 PP
GEBBIES PASS	91.98	150.5	12	6	0	22	21	6	14	20	21	38 SKS
BREBEUF	92.07	16.4	12	6A	0	22	13	-2				
ROXBURGH	92.33	153.5	12	7	0	22	21	3	14	25	15	18 PP
MALAGA	92.71	324.9	12	5K	-4	21	43	-38	14	17	16	3 PP
LISBON	92.99	329.2	12	10A	0	21	46	-37	14	23	16	7 PP
FLORISSANT	93.12	30.4	12	13	2	22	25	1	14	33		
ST. LOUIS 1	93.31	30.4	12	12	0	22	28	2	12	31		
CLEVELAND	93.78	23.2	12	15A	1	21	50	-40	14	36		
FAYETTEVILLE	93.87	34.4	12	16	2	22	30	-1			21	48 SKS
CHIHUAHUA	93.96	47.0				21	55	-37				
PITTSBURGH	95.21	22.5	13	13A	53	21	49	-9	14	32		
PENNSYLVANIA	95.46	20.9	12	24	3	21	56	-4			16	29 PP
WESTON	95.54	15.7	12	24	2	21	58	-2	14	42		
LITTLE ROCK	95.77	33.9	12	15	-8	22	2	1				
MORGANTOWN	95.95	22.8	12	27A	3	22	59	57				
PALISADES	96.27	18.0	12	26A	1	22	7	3	14	47	16	41 PP
TANANARIVE	96.42	250.8	12	27	1	22	45	40	14	41	16	29 PP
TAMANRASSET	98.75	309.7	12	38	2	22	16	-1	14	51	16	38 PP
LWIRO	99.99	275.5	12	42K	0				14	55	16	56 PP
COLUMBIA	100.78	25.8	12	48	3							
KERGUELEN I.	103.63	215.6	13	44	46	22	42	3				
TACUBAYA	105.07	47.7	14	20	777	22	50	4			17	42 PP
TERRE ADELIE	107.08	175.3	13	11	777						17	16
WILKES	107.29	188.1	13	14A	777	24	17	82			17	47 PP
BROKEN HILL	107.91	266.1	13	18	777							
LOME	114.11	301.8	18	33	62				20	39		
PRETORIA	114.78	256.5	17	34	2							
CAPE HALLETT	115.71	167.3	17	35	1	23	8	-21			18	45
MBOUR	117.59	323.4				23	39	4			19	3 PP
MAWSON	118.69	203.7	17	38	-2						19	7
KIMBERLEY	118.95	255.6	17	43	3							
SAN JUAN	119.79	17.7	17	41	-1				20	0	19	13 PP
SCOTT BASE	119.92	171.6	17	41K	-1	26	17	154			19	17 PP
GRAHAMSTOWN	120.03	250.2	17	43	1							
WINDHOEK	121.37	265.9	17	46	1							
BALBOA HTS.	123.95	36.0	17	49	-1							
GALERAZAMBA	124.11	30.4	17	54A	4						19	50 PKS
FORT FRANCE	124.35	13.1	17	51	0							
HERMANUS	125.89	252.6									19	57 PP
GRENADA	126.86	14.4	17	56	0							
CARACAS	127.15	21.0	20	24	148						22	49 PP
TRINIDAD	128.29	14.3	17	59	1						20	24
CHINCHINA	129.24	33.8	17	49	-11						21	26 PKS
FUQUENE	129.56	31.3	18	2A	1						20	23 PKS
SOUTH POLE	130.04	180.0	17	44	-18							
BOGOTA	130.20	32.1	18	5	3						21	30 PKS
BYRD STATION	132.86	167.1	17	50	-17				20	35		
HUANCAYO	144.14	45.6	18	30	2						22	17 PP
LA PAZ	151.60	38.8	18	43	4						22	34 PP
ARGENTINE I.	153.63	166.5	18	41	-1							
SANTA LUCIA	162.18	74.2	18	51	-1						37	55 SS

PORT STANLEY 167.31 157.2 18 58 1 20 6 PKP2

OCTOBER 8 20.H 40.M 5.S EPICENTRE 8.00 93.14 DEPTH= 41.KM

A=-0.05419 B= 0.98891 C= 0.13825 D= 0.9985 E= 0.0547
G=-0.0076 H= 0.1380 K=-0.9904 HT= 6.8

DEPTH OF FOCUS= 0.001R

SE= 2.58

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PORT BLAIR	3.67	353.6	0 56	0	1 44	5		
MEDAN	7.05	128.2	1 43K	-1	4 12	68		
COLOMBO	13.20	266.1	3 8	0				
MADRAS	13.67	292.4	3 12A	-2				3 38 PPP
VIZIANAGRAM	13.78	317.8	3 9	-6	5 36	-12		3 21 PP
CHITTAGONG	14.33	355.1	3 30	7	6 17	16		
CALCUTTA	15.16	342.9						7 16
KODAIKANAL	15.63	279.3						4 33
HYDERABAD	17.11	304.6	3 56K	-2				4 16 PPP
BOKARO	17.24	336.8	4 0A	0				7 28 SS
SHILLONG	17.51	356.2	4 0	-3				9 35
TOCKLAI	18.71	4.6	4 22	4				
KUNMING	19.34	27.2	4 26A	1	8 5	10		
CHATRA	19.57	343.9	4 28A	0				4 49 PP
DJAKARTA	19.62	135.5	4 35	7	8 23	21		
LEMBANG	20.63	135.2	4 33	-6	8 45	23		
POONA	21.47	301.1	4 46A	-1				5 16 PPP
LHASA	21.62	355.0	4 49A	0				
BOMBAY	22.51	300.8	5 0	2	9 0	3		6 23
CANTON	24.52	50.0	5 18	1	9 42	10		
CHENGTU	24.73	22.9	4 21A	-58	9 49	13		
HONG KONG	24.73	52.6	5 13	-6	9 57	21		
DEHRA DUN	26.32	329.5	5 37	3				6 37 PPP
LANCHOW	29.58	17.7	6 2A	-2				11 50
SIAN	29.90	26.9	6 6K	0				
KARACHI	30.01	307.0	6 5	-3				
WUHAN	30.07	39.0	6 8	0	11 7	5		
WARSAK DAM	32.64	325.5	6 31	0				
QUETTA	32.99	315.4	6 35A	1	11 58	10	6 59	7 52 PP
NANKING	33.78	41.4	6 41	0	12 10	10		
ZO-SE	34.83	44.9	6 52	3	12 30	13		8 12 PP
DUZHANBE	37.53	327.9	7 11	-1				9 1 PPP
ALMATA	37.89	340.6	7 16	1				8 35 PP
FRUNSE	38.32	337.9	7 20	1				8 40 PP
TASHKENT	39.36	331.3	7 28	0	13 27	1		17 27 SCS
ULAN-BATOR	41.46	14.0	7 46	1				
ASHKABAD	43.31	318.9	8 2	2				17 12
SEMIPALATNSK	43.61	348.1	8 2	0				10 45
SHIRAZ	43.74	305.0	8 4K	0	15 41	70		
IRKUTSK	45.08	9.7	8 15	1				18 7 SS
PERTH	45.25	152.5						18 55
CHANGCHUN	45.40	32.8	8 17K	0	15 1	7		
MUNDARING	45.45	152.1	8 18	1				
ABUYAMA	47.18	49.1	8 31A	0				
VLADIVOSTOK	48.73	37.6	8 43	0				15 51 PS
MATUSIRO	49.82	48.3	8 51	0	15 54	-3		14 9 PCS
TUKUBASAN	51.10	49.4	8 58	-3	16 16	1		10 23 PCP
GORIS	52.26	314.5			16 37	7		
TANANARIVE	52.30	238.7	9 12K	2				11 41 PP
ADDIS ABABA	53.74	275.3	9 24	3	17 13	23		
TIFLIS	54.23	316.4	9 25	1				11 32 PP
SVERDLOVSK	54.93	338.8	9 29	0				
PORT MORESBY	56.51	106.8	9 41	0				
UGLEGORSK	57.86	35.8	9 51	1				17 54 PS
KSARA	58.50	304.8	9 54	-1				
JERUSALEM	58.64	302.3	9 56	0				12 42 PCP
CHARTERS TS.	59.24	119.0	9 59	-1				
RABAUL	60.12	99.5	10 4	-2				
YAKUTSK	60.20	18.9	10 3	-4				
OKHA	60.50	31.6	10 9	0				
ADELAIDE	60.63	137.7	10 9	-1				
HELWAN	61.64	299.6	10 17	1	18 43	9		
MOSCOW	64.45	328.9	10 32	-3	19 3	-6		23 37 SS
LWIRO	64.96	263.8	10 40K	2				19 28

ISTANBUL KA.	65.29	311.5	10	38A	-2					13	17 PP
ISTANBUL UN.	65.35	311.5	10	37K	-4						
MELBOURNE	66.41	137.2	10	47K	0			11	8		
MAGADAN	67.12	27.8	10	51	-1						
TIKSI	67.29	11.6	10	50	-3					20	41 SCS
BROKEN HILL	67.90	250.9								11	6 PCP
CANBERRA	67.98	133.1	10	57A	0						
BUCHAREST	68.08	314.7	10	58K	0	19	47 -6				
RIVERVIEW	68.89	130.8	11	4K	1	20	8 5				
ATHENS	68.91	307.5	11	1A	-2						
PETROPAVLOVK	69.01	36.1	11	3	-1						
BULAWAYO	69.33	245.0								10	57 PCP
PULKOVO	69.62	331.3	11	6	-1					11	25 PCP
SOFIA	69.79	312.5	11	8	-1	19	59 -14	11	32	13	43 PP
APATITY	71.37	339.5	11	20K	2	20	42 10			21	1 PS
PRETORIA	71.44	239.5	11	22	4						
BELGRADE	72.13	314.4	11	23A	0	20	44 3			14	5 PP
NURMIJARVI	72.55	331.2	11	24	-1						
WARSAW	72.78	322.2	11	23	-3	20	59 11			15	58 PPP
KRAKOW	73.13	319.8	11	28	-1	20	54 2			19	21
SODANKYLA	73.72	338.3	11	32	0						
TARANTO	74.12	309.7	11	53	19	20	58 -5				
RACIBORZ	74.24	319.7	11	32	-3					12	0 PCP
MIRNY	74.36	180.1	11	34	-2						
KHEYS	74.38	354.4	11	36	0	21	6 0			14	22 PP
BRATISLAVA	74.77	317.7	11	37A	-1						
WILKES	75.23	172.8	11	41A	0	21	24 9	12	3	22	23 PS
KIMBERLEY	75.25	237.6	11	43	2						
VIENNA-H.	75.26	317.7	11	40A	-1					12	59
MESSINA	75.35	307.3	11	52	11	21	20 3			14	36 PP
UPPSALA	75.85	329.7	11	43	-1						
KIRUNA	76.13	338.1	11	45	-1						
LJUBLJANA	76.39	315.4	11	47A	0						
PRUHONICE	76.58	319.4	11	47A	-1	21	36 6			22	3 PS
TRIESTE	76.91	314.9	11	50	0						
TOLMEZZO	77.44	315.7	11	53	0					22	21
COLLMBERG	77.64	320.7	11	54K	0					14	45 PP
POTSDAM	77.65	321.8	11	53	-1						
ROME	77.76	311.1	11	54	-1	21	25 -18			14	49 PP
NOUMEA	77.81	114.8	11	55	0					12	28
PLAUEN	78.14	319.9	11	54	-3						
COPENHAGEN	78.19	325.2	11	58	1	21	59 11				
PADOVA	78.23	314.7	12	31	34	22	29 41			15	44 PP
HALLE	78.30	320.9	11	57	-1	21	51 2			24	20
JENA	78.52	320.3	11	58	-1	21	52 1			15	0 PP
GOTEBORG	78.56	327.2	11	50	-9						
SKALSTUGAN	78.81	333.2	11	57	-4						
STUTTGART	79.99	318.1	12	7	0	22	10 3			12	51
PAVIA	80.13	314.4	12	7	-1					15	9 PP
TUBINGEN	80.13	317.8	12	8	0						
EBINGEN	80.21	317.5	12	7	-1						
WINDHOEK	80.32	245.5	12	11	2						
HEIDELBERG	80.35	318.7	12	9	0						
MUNSTER	81.00	321.4	12	14	2						
STRASBOURG	81.00	317.9	12	11	-1	22	25 8			22	55 PS
BENSBERG	81.31	320.3	12	20	6			12	39		
ISOLA	81.68	313.5	12	16	0						
BESANCON	82.26	316.6	12	19	0						
TERRE ADELIE	82.30	162.7	12	14	-5	22	32 2				
DE BILT	82.50	321.6	12	25	5	22	41 9				
SETIF	83.52	305.6	12	26	1			12	54	15	38 PP
PARIS	84.47	318.4	12	33	3						
TAMANRASSET	84.77	292.2	12	33A	1	23	2 7	12	49	15	50 PP
ALGIERS UNI.	85.34	306.3	12	35	0	22	49 -12	12	59	15	55 PP
KEW	85.96	321.3	12	37	-1	23	6 -1				
ABERDEEN	86.18	327.1				23	9 0			23	54 PS
DURHAM	86.25	324.6	12	38	-1	23	19 10			23	8 SKS
RELIZANE	87.47	305.6	12	44	-1					16	1 PP
ALICANTE	87.92	308.3	12	39	-8	23	27 2			18	7 PPP
KARAPIRO	88.92	128.4	12	52	0						
TONGARIRO	89.15	129.6	12	53	0						
CHATEAU	89.16	129.6	12	53	0						
ALMERIA	89.72	307.0	12	57K	1	23	30 -12				
TOLEDO	90.40	310.2	13	0	1	23	55 7			24	55
GRANADA	90.55	307.5	13	56A	57	24	56 67				
SCORESBY SD.	90.63	342.3	13	3	3	24	3 13				
MALAGA	91.26	307.2	13	3	0					16	40 PP
CAPE HALLETT	93.67	162.6	13	15A	1			13	35	25	0 PS

SCOTT BASE	94.35	168.2	13	18A	1	24	2	-21		
COLLEGE	94.61	22.0	13	13	-5					16 29 PKP
THULE	95.02	355.7	13	19	-1					
RESOLUTE	97.32	2.1	13	31	1					
SOUTH POLE	97.95	180.0	13	36	3					
BYRD STATION	106.35	174.4	14	16	777					
HUNGRY HORSE	119.00	20.4	18	47	2					
SHASTA	121.54	31.2	18	53	3					
MINERAL	122.20	31.0	18	53A	2					
BOZEMAN	122.34	19.9	18	55	4					
RENO	123.73	30.4	18	58A	7					
EUREKA	125.60	27.6	18	51	-7					
FLAMING GRGE	127.08	21.3	19	3	3					
BOULDER CITY	128.95	29.3	19	7	3					
GLEN CANYON	129.62	25.8	19	9	4					
PALISADES	129.80	347.2								21 21 PP
ST. LOUIS 1	133.50	3.6	19	16	3					22 44 PKS
TUCSON TELE.	133.88	28.4	19	18	5					
TUCSON	133.90	28.5	19	18	5					
FAYETTEVILLE	135.61	8.5	19	18	1				19 38	22 55 PP
LITTLE ROCK	137.14	6.6	19	21	2					
SAN JUAN	146.74	322.2	19	39	3					
CARACAS	152.95	312.5	20	6	20					30 45 SKKS
FUQUENE	161.27	315.2	20	1	5					
BOGOTA	162.11	314.1	20	36	39					24 28 PP
CHINCHINA	162.92	318.6	20	1	3					
HUANCAYO	167.95	249.6	20	7	5					21 14 PKP2

OCTOBER 9 9.H 0.M 39.S EPICENTRE 40.87 141.40 DEPTH= 94.KM

A=-0.59266 B= 0.47311 C= 0.65186 D= 0.6239 E= 0.7815
G=-0.5094 H= 0.4067 K=-0.7583 HT= -2.0

DEPTH OF FOCUS= 0.010R

SE= 2.38

	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
HATINOHE	0.36	163.9	0	14A	-2							
AOMORI	0.47	263.8	0	15A	-2	0	25	-4				
HAKODATE	1.05	333.0	0	22A	1	0	36	-1				
MORIOKA	1.18	188.6	0	21A	-2	0	36	-4				
MIYAKO	1.30	160.2	0	24A	0	0	37	-5				
MORI	1.38	333.3	0	27	2	0	47	3				
MURORAN	1.48	347.8	0	30A	3	0	48	2				
AKITA	1.52	221.2	0	27A	0	0	47	0				
URAKAWA	1.64	38.6	0	30A	1	0	52	2				
MIZUSAWA	1.75	186.9	0	29	-1	0	50	-2				
TOMAKOMAI	1.76	4.3	0	31A	1	0	53	1				
HIROO	2.01	45.1	0	35A	2	0	59	1				
SUTTSU	2.11	336.0	0	36A	1	0	56	-4				
SAPPORO	2.20	359.0	0	36A	0	1	1	-1				
SAKATA	2.31	212.0	0	38A	1	1	8	3				
ISINOMAKI	2.44	181.5	0	38A	-1	1	6	-2				
OBIHIRO	2.45	32.7	0	41A	2	1	9	1				
SENDAI	2.63	188.6	0	41A	-1	1	13	0				
YAMAGATA	2.74	197.6	0	43A	0	1	17	1				
KUSIRO	3.07	45.8	0	47A	-1	1	19	-5				
HUKUSIMA	3.20	193.3	0	49A	-1	1	23	-4				
NIIGATA	3.47	212.4	0	56A	3	1	37	4			1	19
AIKAWA	3.75	221.6	0	57A	0	1	38	-2				
ABASHIRI	3.80	33.2	0	56A	-2	1	36	-6				
SHIRAKAWA	3.86	194.2	0	58A	-1	1	47	4				
ONAHAMA	3.94	185.8	0	58A	-2	1	41	-4				
NEMURO	3.96	50.3	0	59A	-1	1	36	-10			2	9
UTUNOMIYA	4.48	196.0	1	7A	0	1	57	-1			1	33
TAKADA	4.50	214.1	1	9A	2	2	1	2				
MITO	4.55	189.5	1	5A	-3	1	59	-1				
WAKKANAI	4.55	2.5	1	8	0	2	6	6				
KAKIOKA	4.73	192.0	1	8A	-3	2	2	-3				
TUKUBASAN	4.76	192.8	1	7A	-4	2	1	-4			8	16 PCP
MAEBASI	4.82	203.0	1	13A	1	2	22	15			2	4
NAGANO	4.89	211.8	1	15A	2	2	12	4				
WAZIMA	4.94	226.5	1	14A	1	2	7	-3				
KUMAGAYA	4.97	199.2	1	13A	-1	2	19	8				
MATUSIRO	4.99	211.0	1	15	1	2	12	1				

OIWAKE	5.06	207.1	1 16A	1	2 14	1		
TYOSI	5.16	185.0	1 12A	-5	2 17	2		
TITIBU	5.21	201.2	1 17	0	2 30	13		
TOYAMA	5.30	219.6	1 20A	2	2 19	0		
HONGO	5.31	194.5	1 15A	-4	2 29	10		
MATUMOTO	5.34	211.3	1 20A	1	2 22	2		
TOKYO C.M.O.	5.34	194.6	1 16A	-3	2 20	0	1 23	
YOKOHAMA	5.61	194.8	1 20A	-3	2 27	1		
KOHU	5.65	204.2	1 23A	0	2 36	9		
KANAZAWA	5.71	222.1	1 25A	1				
TAKAYAMA	5.73	215.9	1 26	2	2 33	4		
HUNATU	5.75	201.9	1 27A	2	2 34	4		
IIDA	6.04	208.9	1 30A	2	2 59	22		
MISIMA	6.06	199.4	1 26A	-3	2 34	-3		
MERA	6.07	192.3	1 35	6	2 56	18		
HUKUI	6.30	221.8	1 33A	1	2 47	4	2 9	
OSIMA	6.30	195.3	1 28A	-4	2 55	12		
SHIZUOKA	6.35	202.9	1 32A	-1	3 6	21		
KURILSK	6.43	45.3	1 33	-1	2 43	-4		
GIHU	6.57	215.2	1 37A	1	2 52	2		
NAGATURO	6.58	198.7	1 36	0	2 54	4		
NAGOYA	6.68	213.0	1 38A	1	2 56	3	2 38	
TSURUGA	6.69	220.5	1 39A	1	3 0	7		
OMAESAKI	6.75	202.9	1 35A	-3	3 10	16		
HAMAMATU	6.80	206.5	1 38A	-1	3 13	18		
HIKONE	6.91	217.6	1 41A	0	3 0	2		
KAMEYAMA	7.17	214.5	1 44	0	3 7	2		
MAIZURU	7.18	223.2	1 45A	1	3 6	1		
TU	7.27	213.6	1 47	1	2 23	-44		
KYOTO	7.36	219.3	1 48A	1	3 12	3		
VLADIVOSTOK	7.42	290.7	1 47	-1	3 9	-2		
TOYOOKA	7.43	226.3	1 48A	0	3 8	-3		
ABUYAMA	7.56	219.4	1 51A	2	3 15	1		
NARA	7.59	217.3	1 50A	0	3 14	-1		
OSAKA	7.76	218.7	1 53A	1	3 26	7		
TOTTORI	7.81	229.0	1 55	2	3 23	3		
SAIGO	7.86	236.2	1 55	2	3 22	1		
HATIDYOZIMA	7.86	189.9	1 51	-3	3 13	-9		
KOBE	7.90	220.5	1 55A	1	3 21	-2		
OWASE	7.95	213.0	1 54A	-1	3 39	15		
UGLEGORSK	8.22	3.1	1 57	-1	3 26	-4		
WAKAYAMA	8.27	218.7	1 58A	-1	3 26	-6		
SUMOTO	8.31	220.3	1 59A	-1	3 37	5	2 38	
YONAGO	8.35	232.0	2 2A	2	3 35	2		
HIMEJI	8.44	223.3	1 57	-4	3 28	-8		
OKAYAMA	8.56	226.1	2 5A	2	3 45	6		
SIOMISAKI	8.66	213.0	2 0A	-4	3 56	15		
TOKUSIMA	8.69	220.7	2 5	0	3 46	4		
HAMADA	9.48	234.0	2 18A	3	4 2	1		
MUROTO	9.55	219.4	2 17A	1	4 3	0	4 25	
HIROSIMA	9.63	230.5	2 18A	1	4 5	0		
KOTI	9.63	223.1	2 17A	0	3 58	-7		
MATUYAMA	9.81	227.1	2 20A	0	4 12	3		
UWAZIMA	10.40	225.6	2 28	0	4 27	4	4 52	
TORISIMA	10.41	185.3	2 22	-6	4 56	33		
SIMIDU	10.52	222.5	2 30A	1	4 23	-3		
SIMONOSEKI	10.82	233.6	2 36	3				
OOITA	10.91	228.8	2 35A	0	4 56	21		
HUKUOKA	11.40	233.8	2 44A	3	4 57	10		
ASOSAN	11.47	229.3	2 44	2	4 58	9	7 22	
SAGA	11.68	232.9	2 49	4	6 8	74		
ITUHARA	11.70	239.1	2 46	1				
KUMAMOTO	11.74	230.2	2 46	0	4 55	0		
MIYAZAKI	12.01	225.1	2 57A	8	5 19	17		
UNZENDAKE	12.07	231.2	2 54A	4	5 18	15		
CHANGCHUN	12.27	289.2	2 52K	-1	5 10	2	3 31	*SP
NAGASAKI	12.29	232.3	2 54A	1	5 11	3		
OKHA	12.73	4.1	2 56	-3	5 15	-4		
KAGOSIMA	12.75	226.7	3 0K	1	5 19	0		
TOMIE	13.04	234.8	3 5A	2	5 30	4		
SEVERO-KUR.	14.16	41.3	3 13	-4			5 58	
PETROPAVLOVK	16.87	38.1	3 46	-6			7 27	SS
ZO-SE	19.01	245.5	4 14	-3	7 37	-5	4 32	4 58 *SP
PEKING	19.21	275.8	4 14K	-5	7 38	-8		4 59 *SP
MAGADAN	19.60	14.4	4 21	-2	7 55	1		
KLYUCHI	20.01	32.9	4 24	-4				8 16
NANKING	20.16	251.3	4 25K	-4	7 57	-8	4 48	5 13 *SP
YAKUTSK	22.32	345.4	4 48	-3	8 42	-3		

TAIPEI	22.89	232.5	5	16	20	9	16	21				
ILAN	22.95	231.6	5	7	10	9	1	5				
HWALIEN	23.64	230.5	5	11	8							
WUHAN	24.03	253.1	5	2	-5	9	9	-6			5	45 *SP
ALISHAN	24.46	231.3	5	2	-9	9	11	-11				
TAWU	25.31	229.3	5	23	4	9	41	5				
ULAN-BATOR	25.48	297.7	5	19	-2	9	35	-4				
HENGCHUN	25.67	229.1	5	28	5							
SIAN	26.48	266.1	5	28	-2							
GUAM	27.47	172.9	5	32	-7	11	5	54				
IRKUTSK	27.62	306.9	5	40	-1	10	13	-1			16	15 SCS
CANTON	29.49	241.6	5	57K	0	10	41	-3				
HONG KONG	29.50	239.4	5	57K	-1	10	43	-1				
LANCHOW	29.66	273.0	5	56K	-3	10	45	-1	6	22	6	55 *SP
BAGUIO CITY	30.30	222.5	6	4	-1	10	46	-10				
TIKSI	31.47	352.4	6	12	-3	11	12	-3				
MANILA	31.54	220.0	6	17	2	11	16	0				
CHENGTU	31.79	263.3	6	15K	-3	11	17	-3	6	51	7	11 *SP
KUNMING	35.71	256.0	6	50K	-1	12	20	0	7	24	8	15 PP
TOCKLAI	40.76	264.7	6	3K	-90							
LHASA	42.11	270.9	7	45K	1	13	56	-1				
SEMIPALATNSK	42.69	304.2	7	48	-1	14	1	-4	8	14	9	24 PP
SHILLONG	43.58	265.3	7	55K	-1	14	17	-1				
CHITTAGONG	45.43	261.6	8	14	3	14	49	4				
COLLEGE	45.89	34.2	8	15	0	15	13	22				
RABAUL	45.93	165.0	8	15	0	14	45	-7				
CHATRA	46.47	270.0	8	20K	1	15	0	1	9	9	10	14 PP
ALMATA	46.83	295.4	8	24	2	15	6	1				
FRUNSE	48.59	295.6	8	35	-1	15	24	-5	8	59		
KHEYS	48.90	347.5	8	38	0	15	33	-1	8	57	10	33 PP
BOKARO	49.14	267.5	8	40K	0	15	34	-3			10	3
PORT MORESBY	50.30	172.6	8	48	-1	15	56	3				
DEHRA DUN	51.57	279.4	8	59	0	16	9	-2			11	12 PP
PORT BLAIR	51.58	249.9	8	59	0	16	11	0			17	33 *SS
SVERDLOVSK	52.31	316.7	9	4	0	16	21	0			11	2 PP
TASHKENT	52.83	295.9	9	7	-1	16	29	1			9	41
HONIARA	52.90	156.8	9	9	0							
MEDAN	53.38	237.5	9	12	0	16	37	2				
LAHORE	53.73	282.8	9	14	-1							
VIZIANAGRAM	54.25	263.3	9	18	-1	16	45	-2	9	42	11	22 PP
KIPAPA	54.28	91.6	9	21	2							
HONOLULU	54.29	91.8	9	22	3	16	55	8				
DUZHANBE	54.39	293.0	9	20	0	16	49	0			11	22 PP
WARSAK DAM	54.56	286.8	9	20K	-1	16	51	0				
DJAKARTA	56.55	222.5	9	33A	-2	17	17	-1				
LEMBANG	56.71	221.3	9	35	-1	17	18	-2				
ISFJORD	57.26	348.7	9	39	-1							
HYDERABAD	58.45	266.1	9	47K	-1	17	43	1			10	49 PCP
RESOLUTE	58.90	15.0	9	50K	-2	17	49	1				
APATITY	59.20	334.8	9	51	-3	17	49	-3	10	19	12	9 PP
QUETTA	59.86	285.3	9	57K	-1	18	1	0	10	38	12	11 PP
MADRAS	59.90	260.9	9	57K	-1	18	5	4			10	45 PCP
CHARTERS TS.	60.82	174.8	10	4	-1	17	10	-63				
POONA	61.27	270.2	10	7K	-1	18	18	-1	10	41	14	40 PCS
SODANKYLA	61.44	336.4	10	7	-2	18	20	-1			39	26 PKPPKP
THULE	61.46	7.7	10	8	-1	18	20	-1	10	29		
BOMBAY	61.83	271.2	10	10	-1	18	26	0			14	3 PPP
ASHKABAD	61.85	297.1	10	11	-1						18	28
KARACHI	62.74	280.2	10	14K	-4	18	32	-5				
KIRUNA	62.94	338.6	10	17	-2	18	40	0			12	32 PP
COLOMBO	64.11	256.0									18	56
MOSCOW	64.19	322.4	10	26	-1	18	55	0	10	57	12	47 PP
PULKOVO	64.90	328.6	10	30	-2	19	1	-3	10	58	12	51 PP
PENTICTON	65.45	45.3	10	36	1							
CORVALLIS	66.05	51.1	10	42K	3							
NURMIJARVI	66.57	331.2	10	41	-1	19	22	-2			13	8 PP
HELSINKI	66.69	330.8	10	42	-1	19	25	-1				
NOUMEA	67.03	154.8	10	46	1	19	33	3				
TEHERAN	67.73	298.5	10	49	-1	19	35	-3				
SCORESBY SD.	68.30	354.1	10	53	0	19	47	2	11	15	20	24 *SS
SKALSTUGAN	68.35	338.1	10	51	-2							
TIFLIS	68.47	306.9	10	54	0	19	47	0			13	27 PP
BRISBANE	68.73	169.1	10	56	0	19	53	3				
GORIS	68.83	304.3	10	56	0	19	50	-1				
SHASTA	68.83	54.1	10	58	2						11	20
HUNGRY HORSE	69.00	43.8	10	57	0				11	43	11	18 PCP
UPPSALA	69.52	333.4	10	59	-2						13	32 PP
MINERAL	69.53	54.1	11	2	1						11	25
AFIAMALU	69.62	130.9	11	2A	1	21	1	60				

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.

SHIRAZ	70.50	292.6	11	5A	-2	20	8	-3		13	43 PP
SAN FRANCSCO	70.54	56.7	11	8	1						
BERKELEY	70.60	56.5	11	9A	2	20	16	4			
BRANNER	70.92	56.8	11	11K	2						
RENO	71.11	53.9	11	12	2						
BUTTE	71.24	45.0	11	11	0					38	56 PKPPKP
LICK	71.31	56.6	11	14K	3						
BOZEMAN	72.28	44.6	11	18	1						
SIMFEROPOL	72.60	314.7	11	18K	-1	20	34	-1	11 48	13	58 PP
FRESNO	72.82	56.2	11	22	2						
GOTEBORG	73.06	334.3	11	20	-2	20	38	-2		14	5 PP
EUREKA	73.47	52.0	11	26	2					14	54 PP
WARSAW	73.85	326.5	11	26K	0	20	48	-1		21	28 PS
RUTH	74.22	51.7	11	43	14	20	59	6		29	49
LWOW	74.29	323.3	11	29	0						
SIDA	74.42	350.7	11	32A	2						
COPENHAGEN	74.50	332.8	11	31K	1	20	56	0	12 3		
REYKJAVIK	74.51	352.5	11	32A	2						
RIVERVIEW	74.88	171.6	11	32A	0	20	58	-2	11 57	11	45 PCP
SALT LAKE C.	75.05	48.8	11	27	-6						
BACAU	75.23	319.5	11	49	15	21	17	13	12 27	14	36
PASADENA	75.50	57.4	11	38	2	21	8	1		14	17 PP
ADELAIDE	75.51	182.3	11	36	0					14	27 PP
FOCSANI	75.69	318.7	11	43	6	21	15	6	12 9		
KRAKOW	75.93	325.5	11	38	0	21	12	0		11	52 PCP
MUNDARING	76.13	201.9	11	38	-1						
CANBERRA	76.14	173.6	11	40A	1				12 3	11	45 PCP
FLAMING GRGE	76.33	47.4	11	41	1	21	42	26		38	45 PKPPKP
BOULDER CITY	76.42	54.1	11	43	2						
SKALNATE PL.	76.44	324.7	11	41	0	21	19	2		12	1 PCP
RACIBORZ	76.64	326.4	11	42	0	21	20	0	12 14	14	31 PP
POTSDAM	76.90	330.4	11	43	-1	21	23	1	12 15	15	7 PP
CAMPULUNG	77.07	319.5	11	46	1	21	31	7	12 14	14	40
BUCHAREST	77.15	318.4	11	45	0	21	26	1	12 16	14	43
RAPID CITY	77.44	41.8	11	47	0	21	32	4	12 16		
ABERDEEN	77.61	340.6				21	31	1		14	42 PP
GLEN CANYON	77.72	51.6	11	50	2						
COLLMBERG	77.78	329.8	11	48K	-1	21	30	-2	12 9	14	41 PP
ISTANBUL UN.	78.01	314.4	11	48K	-2	21	32	-2		14	39
HALLE	78.02	330.4	11	50	0	21	34	0	12 27	12	14 PCP
PRAGUE	78.19	328.3	11	52	1	21	38	2		14	50 PP
PRUHONICE	78.22	328.1	11	51K	0	21	38	2	12 19	22	14 PS
BUDAPEST	78.26	324.2	11	52	1	21	40	3			
HURBANOVO	78.32	324.9	11	49	-3					14	49 PP
MELBOURNE	78.39	177.1	11	52A	0	21	39	1		14	46 PP
TIMISOARA	78.55	321.9	11	55	2	21	39	-1			
BRATISLAVA	78.57	325.7	11	53A	0				12 21	12	33 *SP
JENA	78.61	330.3	11	52	-1	21	41	0	12 15	14	54 PP
PLAUEN	78.75	329.7	12	52	58	21	39	-3		22	5
WITTEVEEN	78.80	333.9	11	55K	1						
VIENNA-H.	78.82	326.1	11	55K	1	21	45	2			
KSARA	78.92	305.2	11	54	-1	21	35	-9	12 24	14	55 PP
CHEB	78.99	329.3	11	55	0	21	43	-2		22	35 SP
EDINBURGH	79.00	340.6				21	34	-11		21	46 SKS
MUNSTER	79.19	333.0	11	56	0	22	15	28			
SONNEBERG	79.20	330.1	11	55	-1	21	43	-4		22	7
DURHAM	79.61	339.2	11	57A	-2	21	50	-1		15	1 PP
BELGRADE	79.61	321.6	11	59K	0	21	51	0		13	0 PP
SOFIA	79.78	318.6	12	1	2	21	55	2	12 27	15	13 PP
DE BILT	79.90	334.3	12	2	2	21	59	5		14	21 PP
BENSBERG	80.19	332.6	12	3K	1	21	57	0			
JERUSALEM	80.70	304.0	12	5	1	22	5	2			
ZAGREB	80.88	324.7	12	6K	1						
HEIDELBERG	80.93	330.9	12	5K	-1						
STUTTGART	81.24	330.2	12	7K	0	22	10	2	12 30	12	38 *SP
LJUBLJANA	81.33	325.7	12	7K	-1	22	9	0	12 33	15	18 PP
TUCSON	81.37	54.7	12	10	2						
TUCSON TELE.	81.38	54.6	12	10	2						
TUBINGEN	81.52	330.2	12	9K	0				12 33		
TOLMEZZO	81.68	326.8	12	7	-2	22	1	-12	12 28	14	27 PP
EBINGEN	81.84	330.1	12	11K	1						
RAVENSBURG	81.92	329.5	12	20K	9						
STRASBOURG	81.96	331.0	12	11K	0	22	18	2	12 41	15	21 PP
TRIESTE	81.97	325.9	12	11	0	22	15	-1		17	9 PPP
ONERAHI	82.06	153.5	12	13	2						
KEW	82.17	337.0	12	12K	0	22	18	0	12 46	15	38 PP
BASLE	82.90	330.5	12	15K	-1	22	25	0			
TARRALEAH	82.92	176.2	12	17A	1					15	31

PADOVA	82.95	326.8	12	16K	0	22	29	3		15	13 PP
ATHENS	83.05	315.2	12	14K	-3						
FORT NELSON	83.59	175.6	12	21A	2				12 45		
PARIS	83.61	334.1	12	19	0				12 52		
BESANCON	83.73	331.2	12	19	-1						
PAVIA	84.24	328.2	12	22	0	22	33	-5			
KARAPIRO	84.42	153.5	12	25A	2					14	38
HELWAN	84.44	304.9	12	23	0	22	37	-3			
TARANTO	84.45	320.6				22	29	-11			
PRATO	84.52	326.4	12	21	-3	22	35	-6			
CHIAVARI	84.89	327.7				22	44	-1		16	46 PPP
ROME	85.52	324.4	12	28K	-1	22	45	-6	13 0	15	52 PP
TONGARIRO	85.56	154.1	12	30A	1					15	54 PP
ISOLA	85.91	328.9	12	30K	-1	22	53	-2			
CLERMONT-FD.	86.02	332.2	12	32K	1	22	55	-1			
MONACO	86.14	328.5	12	31	-1				13 5		
COBB RIVER	86.39	156.8	12	35	2						
MESSINA	87.05	320.2	12	35	-1	22	50	-15		16	2 PP
REGGIO CALA.	87.08	320.1	12	36	0	23	3	-3		16	0
WELLINGTON	87.20	155.5	12	28	-9					16	3 PP
FLORISSANT	87.70	37.9	12	41	2	22	59	-13			
SEVEN FALLS	87.82	21.4	12	40	0						
ST. LOUIS 1	87.90	37.9	12	41	1	22	59	-14			
OTTAWA	87.90	25.2	12	41K	1						
FAYETTEVILLE	87.98	42.0	12	41K	0	23	14	0	12 56	13	16 *SP
BREBEUF	88.48	23.8	12	44	1	23	21	2			
GEBBIES PASS	88.77	157.9	12	46	2					15	56 PP
CLEVELAND	89.26	30.8	12	49K	2						
ROXBURGH	89.53	160.8								23	6 PS
LITTLE ROCK	89.94	41.6	12	50	0				13 32		
PENNSYLVANIA	91.23	28.7	12	57	1	23	48	4		24	23 *PS
TORTOSA	91.27	331.4	15	58	182	23	46	2			
MORGANTOWN	91.46	30.7	13	0A	3	23	51	5			
HALIFAX	91.98	17.6	13	1A	2						
WESTON	92.00	23.6	13	0K	0	23	55	4			
PALISADES	92.42	26.0	13	3	2	23	53	-1	13 38	16	39 PP
ADDIS ABABA	93.56	285.0	13	8	1	23	39	-25		16	54 PP
TOLEDO	93.69	334.1	13	8K	1	24	13	8	13 39	16	54 PP
ALICANTE	93.80	330.9	12	57	-11	24	11	5		16	45 PP
ALGIERS UNI.	93.81	327.7	13	15	7				13 38	16	48 PP
RELIZANE	95.69	328.9	13	12	-4				13 39	17	10 PP
ALMERIA	95.86	331.6	13	15	-2	24	27	44		17	31 PP
COLUMBIA	95.87	34.3	13	19	2						
GRANADA	95.96	332.6	13	22K	4	24	25	41		17	10 PP
MALAGA	96.66	333.0	13	18	-3					17	16 PP
TAMANRASSET	104.57	318.4	13	56	0	24	30	4	14 30	18	10 PP
TANANARIVE	104.97	257.9	14	0	2					18	23 PP
TERRE ADELIE	107.36	180.0				24	35	-3		18	27 PP
LWIRO	108.46	283.5	14	15	777	24	51	8		34	2 SS
WILKES	109.50	192.7				24	43	-5		18	47 PP
CAPE HALLETT	114.68	170.7	18	32	3	25	9	1		19	24 PP
SAN JUAN	115.74	29.2	19	10	38						
BROKEN HILL	116.61	273.7	18	36K	3						
SCOTT BASE	119.47	174.0	18	39	0						
BULAWAYO	119.94	268.5	18	40K	0						
MBOUR	121.48	335.2	16	28	-135					30	40 PPS
CARACAS	122.58	33.6	18	50	5					28	36
PRETORIA	123.46	263.4	19	19	33						
KIMBERLEY	127.61	262.3	18	56K	2						
WINDHOEK	130.07	273.8	19	1	2						
SOUTH POLE	130.68	180.0	18	43	-17					22	15 SKP
BYRD STATION	131.51	166.7	18	43	-18					22	19 SKP
HERMANUS	134.47	258.7								22	33 PKS
HUANCAYO	136.87	58.8	19	18	6					22	43 *PPP
LA PAZ	144.78	55.1	19	28	2					22	48 PP
ARGENTINE I.	151.52	157.5	19	43	6						

OCTOBER 9 9.H 51.M 19.S EPICENTRE -15.30-173.75 DEPTH= 87.KM

A=-0.95929 B=-0.10499 C=-0.26219 D=-0.1088 E= 0.9941
G= 0.2606 H= 0.0285 K=-0.9650 HT= 5.7

DEPTH OF FOCUS= 0.008R

SE= 1.02

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

	DEG.	DEG.	M S	S	M S S	M S	M S
AFIAMALU	2.36	54.4	0 37A	0			
SUVA	8.01	248.2					2 1
NOUMEA	19.98	246.6					4 1
ONERAHI	22.99	205.4	5 0	3			5 48
KARAPIRO	24.45	200.8	5 12	1			
TONGARIRO	25.60	199.5	5 21	-1			
COBB RIVER	28.24	201.9	5 46	0			
KAIMATA	29.98	202.2	6 0	-2			
GEBBIES PASS	30.59	199.6	6 9	2			
BRISBANE	33.30	243.3	6 30	-1			9 13
RIVERVIEW	36.63	233.3	6 58A	-1		7 24	
CHARTERS TS.	38.33	256.9	7 14	1			11 9
PORT MORESBY	38.60	274.1	7 18	2			
CANBERRA	38.82	232.1	7 17A	0			
FORT NELSON	43.15	222.4	7 52K	-1		8 23	
TARRALEAH	43.45	223.7	7 55K	-1			8 39 *SP
ADELAIDE	46.78	236.2	8 22A	0			
GUAM	50.03	302.7					11 53
CAPE HALLETT	57.78	185.7	9 45K	1			
TERRE ADELIE	59.23	199.0	9 54	0			
SCOTT BASE	63.32	184.5	10 22K	0			10 59 PP
MUNDARING	65.28	241.6	10 34	0			11 4
MATUSIRO	68.64	320.0	10 56	1			11 46
BYRD STATION	69.11	171.3	10 59	1			
BERKELEY	71.63	40.7	11 14A	0			11 47
LICK	71.70	41.5	11 15K	1			11 46
PASADENA	72.19	45.9	11 17	0			11 46
FRESNO	72.56	42.9	11 18	-1			
SHASTA	73.27	38.3	11 24A	1			
MINERAL	73.54	39.0	11 25K	0			11 58
RENO	74.16	40.5	11 29A	1			
SOUTH POLE	74.80	180.0	11 32	0			
CORVALLIS	75.19	34.8	12 3	29			
BOULDER CITY	75.48	45.9	11 37	1			
TUCSON	76.53	50.9	11 44	2		12 17	
EUREKA	76.58	42.3	11 42	0		12 16	
MIRNY	77.38	204.2	11 46	-1			
VICTORIA	77.66	31.6	11 47	-1			
CHIHUAHUA	78.62	56.0					18 19
PENTICTON	80.11	32.6	12 1	-1			
TACUBAYA	81.02	67.1			22 17 10		22 59 *SS
FLAMING GRGE	81.65	43.7	12 9	-1		12 43	
BUTTE	82.18	38.0	12 12	0			17 25
COLLEGE	82.33	10.9	12 12	-1		12 37	
HUNGRY HORSE	82.58	35.5	12 13	-1			
VERA CRUZ	83.70	68.2					24 1 *SPS
ARGENTINE I.	84.13	156.5	12 22	0			
RAPID CITY	87.15	42.9	12 37	0			17 30
FAYETTEVILLE	90.70	52.8	12 53A	-1	22 59 -41		17 41 PPP
QUETTA	122.69	296.2	18 49	4			
SODANKYLA	126.29	350.4	18 53	1			
KIRUNA	126.70	353.3	18 53	0			
KIMBERLEY	132.68	202.3	19 6	1			
NURMIJARVI	132.91	347.7	19 6	1			
WINDHOEK	140.89	196.0	19 16	-4			
BROKEN HILL	143.17	217.7	19 22	-2			
KRAKOW	143.60	345.1	17 53	-91			
COLLMBERG	143.68	352.8	19 24K	0			20 13 *SPKP
RACIBORZ	143.98	346.9	18 43	-42			19 26
JENA	144.20	354.2	19 25	0		19 49	
SKALNATE PL.	144.32	344.2	19 21	-5			
BENSBERG	144.42	359.0	19 27	1			19 55
PRUHONICE	144.76	350.7	19 28A	2		19 56	20 32
SONNEBERG	144.78	354.5	19 26	0			
HEIDELBERG	145.93	357.1	19 31	3			
BRATISLAVA	146.02	347.0	19 31	2			
VIENNA-H.	146.10	347.8	19 31	2			
STUTTGART	146.53	356.4	19 31	2		19 58	
TUBINGEN	146.78	356.6	19 34	4			
STRASBOURG	146.79	358.2	19 15	-15			20 2
EBINGEN	147.13	356.6	19 35	5			
KSARA	147.52	310.0	19 39	8			
ADDIS ABABA	147.63	262.7	19 40	9			
ISTANBUL UN.	147.64	326.9	19 34	3			
BASLE	147.84	358.3	19 37	5			
BESANCON	148.14	0.3	19 36	4			
TOLMEZZO	148.48	351.0	19 37	4			20 15

LJUBLJANA	148.57	348.9	19 35A	2			19 39 PKP2
JERUSALEM	148.92	307.0	19 35	2			
SOFIA	149.00	335.1	19 40	7			20 3
TRIESTE	149.09	349.7	19 40	6			
CLERMONT-FD.	149.51	4.3	19 42K	8			
ISOLA	151.21	358.8	19 45	8		20 1	
TAMANRASSET	172.53	5.2	20 1A	3			21 27 PKP2

OCTOBER 13 2.H 21.M 25.S EPICENTRE 45.66 26.43 DEPTH= 161.KM

A= 0.62809 B= 0.31215 C= 0.71279 D= 0.4450 E=-0.8955
G= 0.6383 H= 0.3172 K=-0.7014 HT= -3.8

DEPTH OF FOCUS= 0.020R

SE= 2.79

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
FOCSANI	0.54	85.0	0 27	3	0 43	1		
BACAU	0.97	19.6	0 26	1	0 44	-1		
CAMPULUNG	1.06	249.1	0 26	0	0 46	-1		
BUCHAREST	1.26	190.7	0 28A	0	0 48	-2		
KISHINEV	2.15	49.8	0 38	0	1 5	-2		
RAKHOV	2.75	326.6	0 46	1	1 20	0		1 16 *SP
TIMISOARA	3.65	273.3	0 57	0	1 38	-2		
SOFIA	3.70	218.1	0 57	0	1 38	-3		
UZHGOROD	4.10	318.1	1 2	0				2 46
BELGRADE	4.30	260.9	1 3K	-2	1 51	-4		1 17 PG
LWOW	4.47	339.7	1 9	2	1 58	-1		1 54
KECSKEMET	4.83	287.6	1 14	2	1 49	-19		
ISTANBUL UN.	4.98	157.0	1 13	-1				
SEBASTOPOL	5.13	99.1	1 19	3				2 47
BUDAPEST	5.42	292.3	1 20	0	2 24	2		
SIMFEROPOL	5.47	94.7	1 21	1	2 21	-2		2 12
SKALNATE PL.	5.48	312.3	1 21	1				1 30 P*
YALTA	5.60	99.1	1 23	1	2 24	-2		2 29
ALUSHTA	5.73	96.7	1 24	0	2 26	-3		2 1
HURBANOVO	6.07	294.3	1 38	10				
KRAKOW	6.20	317.5			2 44	4		1 30 PP
THEODOSIA	6.34	92.6	1 34	2	2 43	-1		
CHORZOW	6.81	315.6	1 37	-1	3 10	15		1 43 PP
RACIBORZ	7.08	311.6	1 41	-1	3 1	0		2 12 PG
ZAGREB	7.31	275.0	1 45K	0				4 15
VIENNA-H.	7.36	294.3	1 46K	1	3 1	-7		
WARSAW	7.48	333.6	1 45	-2	3 12	1		2 34 PG
ATHENS	7.94	195.7	1 46	-7				
LJUBLJANA	8.32	277.0						2 0 PGPG
TRIESTE	8.88	274.5	2 9	3				3 54
PRUHONICE	9.08	302.7	2 9K	1				2 52 PG
PRAGUE	9.19	303.0	2 10	0				
TOLMEZZO	9.36	279.4	2 11	-1	4 1	6		2 36
CHEB	10.42	300.2	2 25	-1				
COLLMBERG	10.55	307.2	2 27K	0	4 25	2		3 31 PG
PLAUEN	10.70	302.0	2 27	-2				
POTSDAM	11.04	312.3	2 34	0	4 37	2		
JENA	11.20	303.4	2 35	-1	4 42	3		2 56
HALLE	11.22	306.6	2 35	-1	5 0	21		5 30 SS
SONNEBERG	11.24	300.3	2 36	0				3 13
RAVENSBURG	11.73	286.5	2 42	-1				
STUTTGART	12.07	291.1	2 47	0	5 6	7		7 2
TUBINGEN	12.17	289.9	2 50	1				
EBINGEN	12.20	288.2	2 48	-1	5 1	-1		
MOSCOW	12.32	31.0	2 50	0			3 11	5 19
HEIDELBERG	12.54	293.7	2 55	2				
BASLE	13.10	285.0	3 7	6				8 52
COPENHAGEN	13.36	323.7	3 1A	-3	5 31	2		
NEUCHATEL	13.53	282.7	3 7	1				
ISOLA	13.81	270.8	3 16	6				3 30 PP
BENSBERG	13.86	299.4	3 10	0				7 17
TIFLIS	13.86	100.0	3 14	4				3 51 *SP
KSARA	13.86	145.2	3 11K	1	5 51	10		7 35
MUNSTER	13.89	303.8	3 16	5				
BESANCON	14.18	283.8	3 18	4				
PULKOVO	14.33	8.0	3 13	-3	5 47	-4		5 39
HELSINKI	14.57	357.1	3 17	-2	5 47	-10		
NURMIJARVI	14.92	356.6	3 21	-3	5 55	-10		3 55

GOTEBORG	14.98	328.8	3 17	-7							
UPPSALA	15.16	342.8	3 24	-3							
DE BILT	15.36	302.5	3 26	-3							
JERUSALEM	15.45	150.7	3 33	3	6 32	15					
GORIS	15.88	105.7	3 41	5					6 42		
HELWAN	16.22	164.6	3 40	0	6 41	7					
CLERMONT-FD.	16.27	278.8	3 39	-1	6 45	10					
PARIS	16.54	289.6	3 43	-1							
SETIF	18.44	246.6	4 5K	0	7 14	-8			4 20	PP	
UMEA	18.53	351.4	4 7	1					8 54		
KEW	18.57	297.9	4 9	2							
BAGNERES	18.94	271.6	4 8	-3							
TORTOSA	19.46	264.9	4 17	1							
ALGIERS UNI.	19.64	251.4	4 16A	-2	7 45	-1			4 36	PP	
SKALSTUGAN	19.65	341.0	4 17	-1							
DURHAM	19.99	307.3	4 22A	1	7 58	6					
TEHERAN	21.29	108.9	4 39	5	8 31	15					
SODANKYLA	21.77	0.2	4 41	2	8 33	8			5 3		
RELIZANE	21.89	252.2	4 42	2	8 28	1			5 2	PP	
APATITY	22.26	7.1	4 46K	2	8 34	1			4 52	*SP	
KIRUNA	22.45	354.0	4 48	2					11 2		
KIZYL-ARVAT	22.87	95.7	4 54	4					9 2		
TOLEDO	23.02	266.4	4 52A	1					5 13	PP	
SVERDLOVSK	23.89	49.7	5 2	2	9 6	5	5 29		9 56	*SS	
GRANADA	23.95	259.9	5 19K	19					5 51		
MALAGA	24.73	259.8	5 6A	-2					5 46	PP	
ASHKABAD	24.89	96.7	5 4	-5					9 28		
SERRA PILAR	25.72	272.5	5 7	-10					5 50	PP	
SHIRAZ	25.96	119.0	5 21A	2	9 38	3			10 50	SCP	
TAMANRASSET	28.46	223.7	5 43A	1							
SAMARKAND	30.17	86.8							6 52	PP	
TCHIMKENT	30.97	80.5							12 35	SS	
DUZHANBE	31.90	87.6							12 35	SS	
KULYAB	32.90	88.0	6 53	32							
NAMANGAN	32.91	81.7	6 56	35					14 3		
FERGANA	33.23	82.7	6 26	3			6 57		13 23		
SCORESBY SD.	34.11	333.4	6 33	2							
KHOROG	34.34	87.5	7 11	38							
QUETTA	35.10	101.9	6 42	3	12 6	7			8 4	PP	
ALMATA	35.66	75.3	7 20	36					12 15		
WARSAK DAM	36.11	92.7	6 50	2							
ADDIS ABABA	38.01	159.9	7 8	4							
NORD	38.71	350.8	7 10	0							
LWIRO	47.74	176.8	8 23A	1							
SHILLONG	55.30	87.7	9 22A	3							
YAKUTSK	56.46	33.4	9 27	0							
BROKEN HILL	59.85	177.7	9 52A	2							
HUNGRY HORSE	80.20	334.5	11 54	0			12 33				
FAYETTEVILLE	82.61	315.3	12 6K	0							
FLAMING GRGE	85.18	328.0	12 19	0							
EUREKA	88.78	331.8	12 37	1							
SCOTT BASE	144.19	166.6	19 16	0							
CAPE HALLETT	148.40	159.8	19 25	1					20 9		

OCTOBER 13 14.H 52.M 39.S EPICENTRE 54.72 161.64 DEPTH= 55.KM

A=-0.55061 B= 0.18270 C= 0.81453 D= 0.3149 E= 0.9491
G=-0.7731 H= 0.2565 K=-0.5801 HT= -7.1

DEPTH OF FOCUS= 0.003R

SE= 2.72

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
KLYUCHI	1.66	345.0	0 29	1	0 53	5			
PETROPAVLOVK	2.46	227.3	0 35	-4	1 9	1		0 51	*SP
SEVERO-KUR.	5.28	222.0	1 16	-2	2 21	2		1 31	*SP
MAGADAN	7.62	313.8	1 54	3				2 11	*SP
OKHA	11.04	271.6	2 41	3					
KURILSK	12.97	228.6	3 1	-3				5 45	
UGLEGORSK	13.32	253.0	3 13	5	5 47	12		3 27	*SP
NEMURO	15.48	229.2	3 37	1	6 23	-3		7 9	
ABASHIRI	15.53	233.5	3 25	-12					
WAKKANAI	15.79	242.1	3 44	4	6 42	9			
KUSIRO	16.28	230.9	3 44	-2	6 37	-8			

OBIHIRO	16.88	233.2	3	59	5					
HIROO	17.32	231.6	4	3	4					
SAPPORO	17.64	237.0	4	1	-2	7	25	9	5	6
URAKAWA	17.67	232.4	3	59	-5	7	8	-8		
TOMAKOMAI	17.86	235.6	4	23	17					
YAKUTSK	18.11	306.6	4	9	0	7	34	8		
MURORAN	18.39	236.1	4	12	0	7	35	3		
SUTTSU	18.39	238.4	4	11	-2	7	41	9		
MORI	18.75	236.3	4	20	3	7	59	18		
HAKODATE	18.88	235.4	4	14	-4	7	38	-5	5	20
HATINOHE	19.53	231.6	4	26	0	8	24	27		
AOMORI	19.64	233.5	4	30	3	8	16	16		
MIYAKO	20.05	229.3	4	31	0	8	19	11		
MORIOKA	20.36	230.9	4	31	-3	8	28	14		
AKITA	20.83	232.8	4	38	-1	8	36	12		
MIZUSAWA	20.84	230.0	4	41	2	8	38	14		
ISINOMAKI	21.34	228.6	4	42K	-2	8	35	2		
SENDAI	21.65	229.1	4	46	-1	8	47	8	6	46
YAMAGATA	21.91	230.0	4	47	-3	8	53	9		
TIKSI	22.00	332.7							8	46
HUKUSIMA	22.27	229.1	4	53	-1	9	0	10		
VLADIVOSTOK	22.55	251.3	4	54	-2				10	27 SSS
ONAHAMA	22.76	227.2	5	0	2					
NIIGATA	22.77	231.7	4	59	1	9	8	9	13	41 SS
SHIRAKAWA	22.91	228.6	4	59	-1	9	10	8		
AIKAWA	23.06	233.2	5	3A	2	9	12	8	11	19
MITO	23.43	227.2	5	8	3	9	26	15		
UTUNOMIYA	23.54	228.4	5	9	3	9	17	4	5	44
KAKIOKA	23.68	227.5	5	0	-7	9	17	2		
TUKUBASAN	23.72	227.6	5	1K	-7	9	19	3	10	36 SS
TAKADA	23.80	231.9	5	4	-5					
MAEBASI	24.02	229.5	5	10	-1	9	36	15		
KUMAGAYA	24.09	228.7	5	13	2	9	31	9		
NAGANO	24.18	231.3	5	10	-2	9	29	5	12	5
WAZIMA	24.20	234.4	5	10	-2	9	29	5		
MATUSIRO	24.28	231.1	5	11	-2	9	29	4	7	32
OIWAKE	24.31	230.3	5	17	4					
TOKYO C.M.O.	24.33	227.5	5	16	2	9	35	9	6	33
TITIBU	24.36	229.0	5	15	1					
YOKOHAMA	24.58	227.3	5	20	4	9	47	17	5	41
TOYAMA	24.61	233.0	5	8	-8	9	42	11		
MATUMOTO	24.63	231.1	5	15	-2	9	38	7		
KOHU	24.85	229.4	5	23	4	9	42	7		
HUNATU	24.90	228.9							5	51
MERA	24.94	226.4	5	24	4					
TAKAYAMA	25.04	232.2	5	21	0					
AJIRO	25.14	227.8	5	19	-2					
MISIMA	25.15	228.1	5	20K	-1	9	46	6		
OSIMA	25.26	227.0	5	24	1	9	42	0		
IIDA	25.30	230.4	5	26	3					
SHIZUOKA	25.51	228.8	5	27	2	9	52	6		
HUKUI	25.60	233.6	5	24	-2					
CHANGCHUN	25.80	260.1	5	26A	-2	9	46	-5		
GIHU	25.88	231.9	5	28	0	10	2	10	13	32
OMAESAKI	25.90	228.6	5	31	2	10	7	15		
NAGOYA	25.98	231.3	5	29	0	10	10	16	14	35
TSURUGA	26.00	233.3	5	31	2				6	0
HIKONE	26.23	232.6	5	32	0	9	24	-34		
KAMEYAMA	26.47	231.7	5	42	8	10	6	4		
COLLEGE	26.62	47.4	5	35	0	10	7	3		
KYOTO	26.67	233.0	5	38	2	10	12	7		
TOYOOKA	26.68	235.0	5	37	1	10	6	1		
ABUYAMA	26.87	233.1	5	35A	-2					
NARA	26.91	232.5	5	37	-1					
TOTTORI	27.01	236.0	5	35	-4					
OSAKA	27.07	232.9	5	37	-2	10	3	-9		
KOBE	27.21	233.4	5	40	-1	10	18	4		
OWASE	27.25	231.2	5	43	2	10	17	3		
SUMOTO	27.61	233.4	5	45	1	10	20	0	10	41
SIOMISAKI	27.96	231.1	5	49	2	10	17	-9		
TOKUSIMA	27.99	233.6	5	48	0					
TAKAMATU	28.03	234.7	5	49	1	10	33	6		
HAMADA	28.52	238.2	6	2	10	10	40	5		
MUROTO	28.86	233.2	5	56	1				10	45
KOTI	28.91	234.5	5	57	1	10	43	2	12	34 SS
SIMIDU	29.81	234.4	5	40	-24	10	59	4		
SIMONOSEKI	29.85	238.6	6	6	2					
OOITA	30.09	236.8	6	3	-3	11	0	0		
HUKUOKA	30.41	238.8	6	7	-2	11	13	8		

ASOSAN	30.62	237.1	6	14	3					
SAGA	30.72	238.6	6	23	11					
KUMAMOTO	30.87	237.5	6	28	15					
MIYAZAKI	31.26	235.6	6	22	5	11	28	10		
NAGASAKI	31.35	238.5	6	17A	0	11	26	6		
KAGOSIMA	31.96	236.4	6	24	1	11	30	1		
YAKUSIMA	32.91	235.3	6	32	1	11	38	-6		
PEKING	33.47	263.0	6	34A	-2	11	47	-6		
ULAN-BATOR	34.11	281.6	6	40	-1					
ZO-SE	37.13	247.3	7	8	1	12	51	2		
NANKING	37.69	250.9	7	10A	-2	12	51	-7		
KHEYS	38.64	345.2	7	19	-1					
WUHAN	41.19	253.7	7	37	-4	13	43	-7	9	33 PCP
RESOLUTE	41.47	23.0	7	42A	-1	13	54	0		
SIAN	41.64	262.8	7	45	1					
ALBERNI	43.68	65.4	8	1	0					
NORD	43.91	359.6	8	0	-3	14	31	1		
KIPAPA	44.95	121.4	8	13	2				9	44 PP
HONOLULU	45.01	121.6	8	15	3	14	52	6	10	21
THULE	45.31	14.7	8	14	0					
PENTICTON	46.36	62.5	8	22	-1					
SEMIPALATNSK	47.04	300.2	8	26	-2	15	15	0	10	18 PP
CHENGTU	47.09	263.6	8	28A	0	15	11	-4		
CORVALLIS	47.42	69.7	8	31K	0					
CANTON	47.70	248.4	8	34A	1	15	24	0		
HONG KONG	47.90	246.9	8	34A	-1	15	27	0	18	28 SCS
BAGUIO CITY	49.56	235.9	8	45	-2				13	0
HUNGRY HORSE	49.83	60.3	8	48	-1	15	57	3	39	21 PKPPKP
SHASTA	50.50	72.9	8	55	0					
UKIAH	51.12	75.0	9	1	2					
SVERDLOVSK	51.72	316.6	9	3	-1				11	7 PPP
KUNMING	52.01	260.0	9	6A	0	16	22	-2		
APATITY	52.10	337.5	9	5K	-2	16	26	1	10	19 PCP
BUTTE	52.13	61.7	9	6	-1	16	30	5		
SAN FRANCSCO	52.50	75.6	9	8	-2					
BERKELEY	52.54	75.4	9	11A	1	16	38	7	20	15
CONCORD	52.57	75.2	9	12A	2					
RENO	52.73	72.2	9	10A	-1	16	40	6		
BRANNER	52.90	75.8	9	12A	-1					
BOZEMAN	53.14	61.1	9	14	0	16	49	10		
LICK	53.26	75.5	9	15A	0					
ALMATA	53.45	295.1	9	16	-1	16	49	6	20	51 SS
SODANKYLA	53.68	340.2	9	16	-2				39	33 PKPPKP
EUREKA	54.88	69.7	10	26	59					
FRUNSE	54.98	296.2	9	27	-1	17	8	4	10	29 PCP
SCORESBY SD.	55.07	1.5	9	29A	0	17	16	11	12	55 PPP
RUTH	55.60	69.2	9	36A	4					
SALT LAKE C.	56.17	65.9	9	36	0				10	7
PASADENA	57.51	75.7	9	46	0	17	37	-1	11	58 PP
SHILLONG	57.94	269.6	9	47	-2	17	38	-5		
BOULDER CITY	58.03	71.8	9	50	0	17	50	6		
UMEA	58.07	341.0	9	44	-6					
RAPID CITY	58.19	57.6	9	49	-2				13	2
TASHKENT	58.82	298.4	9	54	-1	17	57	2	12	3 PP
GLEN CANYON	59.07	68.8	8	56	-61	14	59	-179		
RABAUL	59.24	191.0	9	55	-3				16	0
PULKOVO	59.42	333.8	9	59	0	18	1	-1	12	11 PP
SKALSTUGAN	59.66	344.7	9	59	-2					
CHATRA	59.71	274.4	9	58	-3	18	12	6	12	16 PP
NURMIJARVI	60.13	337.1	10	3	-1	18	12	0	20	0 SCS
HELSINKI	60.37	336.8	10	4	-2	18	19	4		
CHITTAGONG	60.44	267.3	10	8	2	18	23	7	10 18	12 26 PP
MOSCOW	60.78	327.5	10	7	-2	18	25	5		12 15 PP
DUZHANBE	61.12	296.6	10	11	0	18	26	2		10 44 PCP
REYKJAVIK	61.45	1.8	10	15A	2					
SIDA	61.83	359.9	10	19A	3					10 40
UPPSALA	62.21	340.4	10	15	-3					13 1
DEHRA DUN	62.28	283.9	10	20	1	18	40	1		12 38 PP
CALCUTTA	62.31	270.3	10	19	0					20 7
BOKARO	62.80	273.3	10	21	-1	18	46	1		12 39 PP
TUCSON TELE.	63.01	71.7	10	25	1					12 41 PP
TUCSON	63.01	71.8	10	26	2	18	47	-1		13 52
WARSAK DAM	63.09	291.3	10	21	-3					
LAHORE	63.43	287.5	10	22	-4					
BERGEN	63.69	347.2								26 14
PORT MORESBY	65.04	195.8	10	35	-2	19	17	4		39 21 PKPPKP
GOTEBORG	65.27	342.6	10	36	-2					
ASHKABAD	66.84	303.2	10	48	0					13 14 PP

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COPENHAGEN	67.10	341.6	10	48	-2	19	42	4		13	24 PP
ABERDEEN	67.69	350.5	11	14	21	19	48	3		13	28 PP
FLORISSANT	68.39	53.1	10	57A	-1	19	57	3			
PORT BLAIR	68.40	259.4	10	59	1	19	55	1		13	15 PP
CHIHUAHUA	68.41	70.9	10	58	0	19	58	4		34	56
WARSAW	68.51	335.2	11	0	1	20	1	6		13	34 PP
QUETTA	68.51	292.0	10	57A	-2	19	52	-3	11 7	13	30 PP
ST. LOUIS !	68.58	53.1	10	57	-2	20	1	5			
FAYETTEVILLE	68.73	57.4	11	1A	1	17	1	-177		13	4 PP
OTTAWA	69.05	39.4	10	59	-3						
SHAWINIGAN	69.12	36.9	11	1A	-1						
SEVEN FALLS	69.29	35.4	11	1	-2						
TIFLIS	69.88	314.7	11	9	2	20	17	6		13	41 PP
LWOW	69.94	332.3	11	9	2	20	18	6		13	43 PP
DURHAM	70.00	349.7	11	9K	1	20	14	1		13	46 PP
CLEVELAND	70.08	45.5	11	8A	0	20	18	4			
POTSDAM	70.12	340.1	11	8	0	20	20	6		13	50 PP
LITTLE ROCK	70.68	57.0	11	10	-2						
KRAKOW	70.78	335.0	11	14	1	20	27	5		11	28 PCP
CHORZOW	70.79	335.7	11	9	-4	20	25	3		11	38 PCP
WITTEVEEN	70.83	344.2	11	11	-2						
GORIS	71.09	312.3	11	15	1					13	55 PP
COLLMBERG	71.16	339.8	11	13A	-2	20	24	-2		11	57
RACIBORZ	71.17	336.1	11	14	-1	20	36	10		15	38 PPP
HALLE	71.17	340.5	11	13	-2	20	30	4		11	45 PCP
SIMFEROPOL	71.18	323.5	11	16A	1	20	32	6		14	5 PP
MUNSTER	71.50	343.4	11	17	0						
SKALNATE PL.	71.51	334.4	11	20	3					20	53 PS
PITTSBURGH	71.60	45.0	10	57	-20					20	16
MEDAN	71.72	249.4	11	17A	-1	20	38	5			
DE BILT	71.76	345.0	12	11	53	20	39	6		21	27 PS
JENA	71.79	340.6	11	18	0	20	35	2		13	46 PP
TEHERAN	71.92	306.6	11	18	-1	20	39	4			
AFIAMALU	71.99	152.8	11	19	-1	20	42	6		24	33 SS
PRAGUE	72.03	338.5	11	23	3	20	41	5		15	48 PPP
HYDERABAD	72.05	274.9	11	22K	2	20	35	-1		14	4 PP
PRUHONICE	72.09	338.4	11	20A	0	20	41	4		25	41 SS
PLAUEN	72.09	340.1	11	17	-3						
PENNSYLVANIA	72.14	43.4	11	20K	-1	20	38	1	11 33	11	47 *SP
MORGANTOWN	72.28	45.5	11	24	3						
SONNEBERG	72.39	340.6	11	22	0					21	44 PS
CHEB	72.44	339.8	11	23	1	20	48	7		21	22 PS
BENSBERG	72.55	343.4	11	22A	-1	20	39	-3			
KARACHI	72.67	288.4	11	23	-1						
KEW	73.11	348.3	11	27A	1	20	49	1		21	33 PPS
HURBANOVO	73.23	335.2	11	29	2	21	1	11			
WESTON	73.26	38.1	11	26A	-1	20	51	1		11	39 PCP
VIENNA-H.	73.31	336.6	11	27	0	20	59	8			
BUDAPEST	73.39	334.6	11	32	4	20	57	5			
PALISADES	73.50	40.6	11	29A	0	20	53	0		14	15 PP
HEIDELBERG	73.79	342.0	11	29	-1						
CAMPULUNG	73.80	329.7	11	35	5						
POONA	73.83	279.2	11	28A	-3	20	56	0		11	41 PCS
HALIFAX	73.83	31.9	11	29A	-2						
SUVA	73.98	163.4	12	46	75	21	1	3		26	21 SS
WASHINGTON	74.08	43.9	11	32	0	20	55	-4		14	6 PP
BOMBAY	74.13	280.2	11	31	-1	20	54	-6		21	31 PS
BUCHAREST	74.25	328.6	11	33	0	21	7	6		21	42 PS
STUTTGART	74.29	341.4	11	32	-1	21	5	3		14	20 PP
TIMISOARA	74.43	332.4	11	37	3	21	12	9			
TUBINGEN	74.56	341.5	11	34	-1						
MADRAS	74.57	270.7	11	38A	3	21	2	-3		16	19 PPP
STRASBOURG	74.75	342.4	11	35A	-1	21	7	0		14	27 PP
EBINGEN	74.91	341.4	11	36	-1						
RAVENSBURG	75.18	340.9	11	38	0						
PARIS	75.36	345.9	11	39	0	21	13	0			
BELGRADE	75.50	332.6	11	40K	0	21	21	6		14	50 PP
JERSEY	75.57	349.1	12	7	26	19	41	-95			
CHARTERS TS.	75.66	194.9	11	39	-2	21	19	2			
ZAGREB	75.69	336.0	11	44	3						
BASLE	75.79	342.2	11	42	0					21	59 PS
DJAKARTA	75.80	237.0	11	43	1	21	17	-1			
TOLMEZZO	75.81	338.2	11	39	-3	21	41	23			
LJUBLJANA	75.81	337.0	11	41A	-1					14	17 PP
ISTANBUL KA.	76.33	325.0	11	45	0	21	22	-2			
BESANCON	76.34	343.2	11	44A	-1						
TRIESTE	76.36	337.4	11	47	2	21	31	7			
SHIRAZ	76.38	302.2	11	43	-2	21	28	3		16	43 PPP

ISTANBUL UN.	76.38	325.1	11	45A	0	21	42	17			11	55 PCP
NEUCHATEL	76.42	342.5	11	45	0						17	48
COLUMBIA	76.58	49.4	11	46	0						14	25 PP
SOFIA	76.64	329.7	11	46	-1	21	29	1			14	41 PP
NOUMEA	76.82	175.4	11	49	1	21	38	9				
PADOVA	77.00	338.7	11	50A	1	21	56	25	11	59	22	52 PS
PAVIA	77.76	340.5	11	56A	3						22	23 PS
CLERMONT-FD.	78.24	344.8	11	55A	0							
KODAIKANAL	78.36	271.2				21	48	2				
CHIAVARI	78.56	340.1	12	5	8	21	48	0			17	29
PRATO	78.62	338.7	11	0	-58	19	58	-111				
ISOLA	79.13	341.7	12	1A	1	22	22	28				
MONACO	79.49	341.3	12	5	3							
TACUBAYA	79.53	71.4	12	5K	3	22	1	3			15	9 PP
COLOMBO	79.65	267.3	12	9	6	21	57	-3				
ROME	80.21	337.1	12	6A	0	22	12	7	12	26	15	15 PP
KSARA	80.27	316.7	12	7A	1	22	1	-5			15	11 PP
TARANTO	80.40	333.2				22	6	-1				
ATHENS	80.87	327.6	12	7K	-3						23	22 PPS
BAGNERES	81.31	346.4	12	14	2							
VERA CRUZ	81.36	69.1	12	29	17	22	33	16				
BRISBANE	82.13	187.9	12	15	-1	22	32	7				
JERUSALEM	82.33	316.3	12	16	-1	22	33	6			15	24 PP
MESSINA	82.98	333.7	12	20	-1	22	32	-2			15	27 PP
MERIDA	83.38	63.0	12	27	4	22	45	7			15	39 PP
TORTOSA	83.47	345.7	12	24	1	22	38	-1				
SERRA PILAR	84.16	352.6	12	16A	-10	22	28	-18	12	43	15	33 PP
TOLEDO	84.97	349.0	12	31A	0	22	56	2			15	32 PP
ALICANTE	86.03	346.0	12	38	2	23	3	-1			15	53 PP
LISBON	86.59	352.8	12	42A	3	23	16	7			13	24
ALGIERS UNI.	87.03	342.9	12	42	1	23	10	-3			16	1 PP
SETIF	87.16	341.0	12	42	1	23	17	2			16	8 PP
GRANADA	87.59	348.3	12	45K	2						16	9 PP
ALMERIA	87.78	347.3				23	11	-9			23	47 PS
MALAGA	88.14	348.8	12	48A	2	23	28	4			16	12 PP
RELIZANE	88.43	344.7	12	50	3	23	25	-2			16	12 PP
RIVERVIEW	88.65	188.7	12	50A	2	23	15	-14			23	35 S
CANBERRA	90.34	190.3	12	55	-1	23	53	9	13	8	12	59 PCP
ADELAIDE	91.49	198.7	12	59	-3	24	2	8			23	30
KARAPIRO	93.05	169.0	13	9	0				13	27		
MELBOURNE	93.29	193.2	13	9	-1	23	37	-33			24	19 S
MUNDARING	94.77	217.4	13	14	-3							
PERTH	94.89	217.7	13	27	10	25	53	89				
SAN JUAN	96.61	45.1	13	28	3						17	17 PP
GALERAZAMBA	99.20	56.5				24	18	9			17	45 PP
ROXBURGH	100.04	174.5				24	15	2			25	21 S
TAMANRASSET	100.14	337.7	13	42	1	24	21	7			17	48 PP
ADDIS ABABA	100.60	302.4	13	46	3	24	47	31				
CARACAS	103.30	49.3	13	59	4	24	33	4				
CHINCHINA	104.03	59.7	14	0	2	24	39	7			18	30 PP
FUQUENE	104.54	57.8				24	39	5			18	25 PP
BOGOTA	105.11	58.5				24	44	7			18	28 PP
MBOUR	111.16	358.6				25	16	13			19	10 PP
LWIRO	115.21	305.9	18	40A	5						29	16 PS
HUANCAYO	118.57	69.1	18	48	6						20	2 PP
TANANARIVE	119.12	278.4	18	48K	5						19	25
BROKEN HILL	125.91	299.3	18	58A	2							
LA PAZ	126.11	65.0	19	1	5	27	39	104				
WILKES	126.75	203.1	18	59	1						20	56 PP
CAPE HALLETT	126.88	176.7	18	56	-2	25	57	0			20	59 PP
BULAWAYO	130.60	295.2	19	5	0							
SCOTT BASE	132.35	178.5	19	7	-1						22	34 SKP
LCO. MARQUES	133.13	286.7									33	39 SPP
SANTA LUCIA	138.03	81.5	19	27	8						39	53 SS
WINDHOEK	138.38	306.2									19	14 PP
KIMBERLEY	139.59	292.1	19	13	-9							
BYRD STATION	141.48	164.0	19	17	-8							
MAWSON	141.83	217.8	19	20	-6							
SOUTH POLE	144.54	180.0	19	26	-4						23	1
PORT STANLEY	156.36	99.0	18	50	-58							

OCTOBER 14 17.H 48.M 27.S EPICENTRE -38.20 -73.29 DEPTH= 0.KM

A= 0.22652 B=-0.75463 C=-0.61580 D=-0.9578 E=-0.2875
G=-0.1770 H= 0.5898 K=-0.7879 HT= -1.0

SE= 3.31

	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	
SANTA LUCIA	5.21	25.2	1	19	-2	2	21	-2			1	42	
PORT STANLEY	17.31	146.2	4	5	1								
LA PAZ	22.09	13.3	5	1	3	9	8	10					
HUANCAYO	26.10	355.5	5	39	2	10	52	45					
BOGOTA	42.61	358.[illegible]	8	3	4	14	29	6					
CHINCHINA	43.00	[illegible].6	8	3	1	14	31	2					
FUQUENE	43.45	[illegible].4	8	8	2								
BYRD STATION	45.46	[illegible].4	8	23	1								
CARACAS	48.81	8.3	8	47	-2	15	56	4					
GRENADA	51.14	14.6	9	7	1								
SOUTH POLE	51.99	180.0	9	12	-1								
SAN JUAN	56.68	8.2	9	47	0								
SCOTT BASE	58.77	192.4	10	1	-1								
CAPE HALLETT	61.39	198.2	10	19	-1	18	39	-1					
MAWSON	69.46	163.5	11	11	-1								
TERRE ADELIE	72.00	193.7	11	35	8								
MBOUR	74.25	56.9	11	42	2						21	30	SCS
LITTLE ROCK	74.73	343.8	11	41	-2								
MIRNY	75.05	174.4	11	43	-2								
WILKES	75.75	181.6				21	30	-1					
FAYETTEVILLE	76.41	342.7	11	51A	-2						12	13	
WINDHOEK	76.70	108.2	11	54	0								
ST. LOUIS 1	78.03	346.5	12	0	-2	21	52	-3					
TUCSON TELE.	78.36	328.3	12	6	3								
KIMBERLEY	78.61	117.5	11	35K	-30								
PALISADES	78.83	359.5	12	23	17	22	7	3			26	47	SS
WESTON	80.22	1.5	12	14	0								
GLEN CANYON	82.73	330.0	12	30	3								
PRETORIA	82.83	117.0	12	27	0								
HALIFAX	82.90	7.0	12	27	-1								
PASADENA	83.17	323.9	12	30	1	23	0	11			28	33	SS
BOULDER CITY	83.21	327.2	12	22	-7								
OTTAWA	83.25	358.3	12	28	-1								
SHAWINIGAN	84.37	0.4	12	35	0								
SEVEN FALLS	84.97	1.7	12	28	-10								
FLAMING GRGE	85.38	333.4	12	38	-2								
EUREKA	86.66	328.3	12	48	2								
BULAWAYO	86.67	112.9	12	46	-1								
BROKEN HILL	90.17	108.5	13	6A	3								
HUNGRY HORSE	93.47	334.1	13	9	-9								
TAMANRASSET	95.51	65.4	13	29	1						17	16	PP
KSARA	123.82	71.2									20	49	PP
MOSCOW	131.83	45.2	19	25	10								
TIFLIS	133.32	65.2									21	45	PP
KHEYS	133.86	9.8	19	18	-1								
SHIRAZ	134.78	84.0	19	21K	0						22	11	
SHIRAZ	134.78	84.0	19	21K	0	22	11-259						
SVERDLOVSK	144.57	43.1	19	37	-1								
TIKSI	144.63	348.1	19	37K	-1								
MEDAN	144.77	166.0	19	37	-2						20	3	
QUETTA	146.36	91.6	19	44A	3						23	30	PP
STALINABAD	150.40	77.3	19	54	6								
WARSAK DAM	151.39	87.6	19	57	8								
LAHORE	152.71	94.2	19	56	5								
NAMANGAN	152.96	73.0	20	1	10								
ANDIJAN	153.47	73.6	20	2	10								
MATUSIRO	154.97	276.0	20	9	15						20	28	
CHITTAGONG	159.69	136.8	20	4	4								
SHILLONG	162.22	130.8	20	4A	1								

OCTOBER 14 21.H 19.M 13.S EPICENTRE 51.83-172.25 DEPTH= 41.KM

A=-0.61493 B=-0.08368 C= 0.78413 D=-0.1348 E= 0.9909
G=-0.7770 H=-0.1057 K=-0.6206 HT= -6.1

DEPTH OF FOCUS= 0.001R

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	
PETROPAVLOVK	17.74	285.3	4	4	-1						7	29	SS
COLLEGE	18.14	34.6	4	9	-1	7	44	16					

MAGADAN	21.97	305.1	4	54	2						
NEMURO	29.33	270.0	6	2	1	10	52	2			
ABASHIRI	29.78	272.2	6	7A	2				6	33	
ALBERNI	29.83	75.9	6	8	3						
KUSIRO	30.25	270.4	6	8	-1	11	6	1			
WAKKANAI	30.69	276.5	6	12	-1						
VICTORIA	30.98	76.5	6	15	-1						
OBIHIRO	31.03	271.2	6	16	0	11	28	11			
HIROO	31.30	270.0	6	17	-1						
URAKAWA	31.71	270.3	6	26	4	11	32	4	12	46	
SAPPORO	32.09	272.8	6	24K	-1	11	50	16	7	11	PP
YAKUTSK	32.18	311.3	6	22	-4				7	28	PP
TOMAKOMAI	32.19	271.9	6	30	4						
TIKSI	32.29	329.5	6	30	3	11	40	3	7	42	PP
HONOLULU	32.40	154.8	6	26	-2	11	50	12			
MURORAN	32.73	271.9	6	31	0						
CORVALLIS	32.89	83.0	6	33K	1						
PENTICTON	32.92	73.1	6	33	0						
SUTTSU	32.93	273.2	6	31	-2						
MORI	33.10	271.9	6	35A	1	11	59	10			
HAKODATE	33.15	271.3	6	34A	-1				6	51	
HATINOHE	33.40	268.8	6	39	2	11	57	3			
MIYAKO	33.64	267.1	6	37	-2	12	12	14			
AOMORI	33.70	269.8	6	40	1	12	10	11			
MORIOKA	34.11	267.9	6	41A	-2	12	20	15			
ARCATA	34.41	89.2	6	48A	3						
MIZUSAWA	34.47	267.1	6	48	2	10	44	-87			
AKITA	34.76	268.8	6	50	2	12	21	6			
ISINOMAKI	34.78	265.9	6	48	-1				9	23	
SENDAI	35.14	266.1	6	52	0	12	24	3	9	13	
SAKATA	35.42	267.8	6	54	0						
YAMAGATA	35.49	266.5	6	54	-1						
SHASTA	35.56	88.1	6	57A	2				8	3	PP
HUKUSIMA	35.73	265.7	6	56	-1						
ONAHAMA	35.97	264.3	7	3	4						
UKIAH	35.97	91.0	6	58	-1						
MINERAL	36.25	88.0	7	3	2						
SHIRAKAWA	36.28	265.1	7	2	1						
NIIGATA	36.50	267.2	7	4	1				11	34	
MITO	36.60	264.0	7	7	3	12	59	16			
HUNGRY HORSE	36.66	71.8	7	5	0	12	8	-36	8	18	PP
UTUNOMIYA	36.86	264.7	7	7	1				8	32	
TUKUBASAN	36.93	264.1	7	5	-2	12	51	3	8	29	PP
AIKAWA	36.94	267.9	7	5	-2				18	17	
BERKELEY	37.34	91.9	7	11K	1	13	1	6	8	29	PP
KUMAGAYA	37.42	264.6	7	16	5	12	59	3			
MAEBASI	37.45	265.2	7	11	0	12	57	1			
TOKYO C.M.O.	37.50	263.7	7	12A	0				8	42	
TAKADA	37.51	266.8	7	9	-3	12	56	-1			
RESOLUTE	37.62	25.1	7	11	-2	12	57	-2	8	41	PP
TITIBU	37.71	264.7	7	15	2						
YOKOHAMA	37.72	263.5	7	17	4				16	15	
NAGANO	37.82	266.3	7	15	1	13	8	6			
OIWAKE	37.82	265.5	7	14	0	12	58	-4			
RENO	37.84	87.8	7	16K	2						
MATUSIRO	37.89	266.1	7	13	-2	13	6	3	17	22	SCS
VLADIVOSTOK	37.89	279.4	7	14	-1	12	58	-5	15	17	SS
MERA	37.94	262.7	7	18	3				10	53	
LICK	38.05	92.0	7	17A	1						
WAZIMA	38.17	268.2	7	18	1	13	11	4			
HUNATU	38.22	264.3	7	19	1	13	14	6	13	40	
MATUMOTO	38.23	265.9	7	19	1	13	11	3			
KOHU	38.24	264.7	7	18	0	13	12	4			
AJIRO	38.31	263.5	7	12	-6						
OSIMA	38.32	262.9	7	17	-1	13	10	0			
MISIMA	38.36	263.7	7	16	-3				13	51	
TOYAMA	38.42	267.1	7	19	0	13	28	17			
VINEYARD	38.58	92.5	6	22	-59						
BUTTE	38.67	74.3	7	21	0	13	16	1			
IIDA	38.79	265.2	7	25	3						
SHIZUOKA	38.79	264.0	7	22	0	13	24	7			
OMAESAKI	39.15	263.7	7	28	3				9	57	
HUKUI	39.43	267.1	7	31	3						
GIHU	39.52	265.9	7	28	0						
NAGOYA	39.55	265.5	7	32	3	13	38	10	8	40	
FRESNO	39.55	91.2	7	29	0						
BOZEMAN	39.76	73.9	7	31	1	13	26	-5	9	5	PP
HIKONE	39.93	266.2	7	33	1	13	34	0			

KAMEYAMA	40.06	265.5	7 25	-8	13 1	-35				
EUREKA	40.25	85.0	7 34	0						
KYOTO	40.41	266.3	7 36	0	13 42	1				
NARA	40.57	265.8	7 37	0						
ABUYAMA	40.61	266.3	7 37A	0						
TOYODKA	40.64	267.7	7 27	-11	13 44	-1				
OWASE	40.75	264.8	7 40	1	13 50	4				
OSAKA	40.78	266.1	7 38	-1	13 43	-4				
KOBE	40.98	266.4	7 42	2	13 56	7				
SAIGO	41.14	269.6	7 44	2						
SUMOTO	41.37	266.2	7 44A	0	13 58	3			9 35	
SIOMISAKI	41.43	264.5	7 45	1					9 27	
CHANGCHUN	41.50	284.5	7 44K	-1	13 51	-6			9 18	PP
YONAGO	41.62	268.7	7 47	1	14 6	7				
TOKUSIMA	41.75	266.2	7 49	2						
TAKAMATU	41.91	266.9	7 50	2	14 9	6				
SALT LAKE C.	42.02	80.6	7 51	2						
PASADENA	42.26	93.0	7 51K	0	14 13	5			9 36	PP
MUROTO	42.55	265.6	7 57	4					13 42	
KOTI	42.75	266.5	7 54	-1	14 28	12			9 39	PP
HAMADA	42.76	269.2	7 56A	1	14 27	11				
HIROSIMA	42.88	268.3	7 55K	-1	14 31	13				
MATUYAMA	43.02	267.4	8 2	5	14 31	11				
BOULDER CITY	43.14	88.3	7 58	0	14 26	5				
THULE	43.40	19.5	7 56	-4						
FLAMING GRGE	43.43	78.8	8 0	-1					13 39	
SIMIDU	43.61	266.1	8 9	7	14 31	3				
SIMONOSEKI	44.09	269.0	8 7	1						
OOITA	44.15	267.7	8 5	-1	14 42	6				
GLEN CANYON	44.51	84.8	8 11	2					8 41	
HUKUOKA	44.68	269.1	8 31	20					14 46	
ASOSAN	44.71	267.8	8 13	2						
KHEYS	44.89	349.7	8 11	-1	14 51	4			10 3	PP
SAGA	44.95	268.8	8 15	2						
KUMAMOTO	44.99	268.0	8 13	0	14 54	6				
MIYAZAKI	45.16	266.5	8 14A	0	15 0	10			18 32	
RAPID CITY	45.29	71.3	8 14	-1						
NAGASAKI	45.56	268.6	8 18K	0	15 2	6			18 25	
KAGOSIMA	45.93	266.9	8 19	-2	15 16	14				
NORD	46.17	4.8	8 21	-1					9 59	PP
TOMIE	46.32	269.4	8 23	-1						
YAKUSIMA	46.74	265.8	8 28	1	15 34	21				
TUCSON	48.09	89.1	8 39	1	15 35	3			19 18	SS
TUCSON TELE.	48.10	88.9	8 38	0						
IRKUTSK	48.53	305.4	8 40	-1	15 39	1			10 38	PP
PEKING	49.24	285.9	8 45K	-1	15 45	-3				
ULAN-BATOR	49.71	299.5	8 49	-1	15 55	0				
GUAM	51.47	238.0	8 58	-5						
ZO-SE	52.07	273.7	9 8K	0	16 27	0				
NANKING	52.89	276.4	9 12K	-2	16 32	-7				
CHIHUAHUA	53.55	88.8	9 30	11	17 7	20				
FAYETTEVILLE	55.68	73.6	9 32A	-2	16 55	-21	9 41		11 43	PP
FLORISSANT	56.10	68.8	9 36K	-1	17 22	0				
SCORESBY SD.	56.13	11.6	9 40	2	17 23	1			12 25	PPP
ST. LOUIS 1	56.28	68.8	9 36K	-3	17 15	-9				
WUHAN	56.55	278.1	9 39	-2	17 26	-2				
SIAN	57.39	285.3	9 46A	-1						
LITTLE ROCK	57.67	73.6	9 47	-2	18 6	24				
CLEVELAND	59.23	61.0	10 5A	5	18 10	7	10 16			
APATITY	59.39	348.8	9 59K	-2	18 2	-3			12 9	PP
OTTAWA	59.55	54.3	10 0K	-2						
SHAWINIGAN	60.21	51.7	10 5K	-1						
SODANKYLA	60.28	351.7	10 6	-1					39 19	PKPPKP
BREBEUF	60.53	53.0	10 7	-1					18 41	PS
SEVEN FALLS	60.73	50.1	10 9	-1						
PITTSBURGH	60.82	60.9	10 2	-8					18 27	
SEMIPALATNSK	61.11	315.8	10 11	-1	18 24	-3				
MORGANTOWN	61.39	61.5	10 14	0					12 23	PP
PENNSYLVANIA	61.68	59.3	10 17	1	18 38	4				
CANTON	62.65	273.1	10 22K	-1	18 46	0				
HONG KONG	62.72	271.9	10 20	-3	18 51	4				
CHENGTU	62.86	285.7	10 23K	-1	18 46	-3			12 45	PP
BAGUIO CITY	63.17	262.4	10 28	2						
SVERDLOVSK	63.31	330.6	10 25	-2	18 57	2			12 36	PP
WASHINGTON	63.47	60.3	10 26	-2					19 1	SS
RABAUL	63.49	220.4	10 25	-3						
PALISADES	63.61	56.7	10 29K	0	18 57	-1	10 41		14 29	PPP
WESTON	63.93	54.1	10 29A	-2	19 5	3			23 27	SS
UMEA	64.28	353.9	10 31	-2					39 22	PKPPKP

TACUBAYA	64.55	90.7	10	32K	-3	19	14	4			14	32 PPP
COLUMBIA	64.82	66.6	10	36	-1	19	13	0				
SKALSTUGAN	64.88	357.8	10	37	0						39	17 PKPPKP
AFIAMALU	65.46	179.5	10	40K	-1	19	30	9			12	45 PP
HONIARA	65.54	210.4	10	40	-1							
HALIFAX	65.97	47.8	10	43A	-1							
VERA CRUZ	66.61	88.4	10	54	6	20	3	28			18	3
NURMIJARVI	67.19	351.0	10	50	-2	19	44	2			39	14 PKPPKP
PULKOVO	67.27	347.8	10	51	-1	19	40	-3			13	27 PP
HELSINKI	67.50	350.8	10	53	-1	19	51	5			39	12 PKPPKP
KUNMING	67.67	282.5	10	54K	-1	19	45	-3				
BERGEN	68.11	1.3	10	59	1	19	48	-5			24	32 SS
UPPSALA	68.39	354.7	10	57	-2						39	12 PKPPKP
MERIDA	69.32	82.2	11	5	0	20	8	1			13	53 PP
FRUNSE	69.40	313.7	11	5	-1	20	11	3			13	40 PP
MOSCOW	69.99	342.5	11	7	-2	20	15	0			11	29 PCP
SUVA	70.15	189.4	11	2	-8	20	37	20			25	6 SS
PORT MORESBY	70.26	223.0	11	9	-2	20	19	1			21	4 SCS
GOTEBORG	70.78	357.6	11	12	-2						39	11 PKPPKP
ABERDEEN	71.06	5.7	11	25K	9	20	34	6			15	35 PPP
TOCKLAI	71.20	289.4	11	22	5							
COPENHAGEN	72.79	357.2	11	26	0	20	54	6				
TASHKENT	72.97	316.2	11	26	-1	20	51	1			11	51 PCP
DURHAM	73.49	5.6	11	34	4	20	59	4			11	50 PCP
SHILLONG	73.79	290.7	11	30	-2	21	0	1				
DUZHANBE	75.45	314.9	11	43	2	31	21	4			14	30 PP
CHATRA	75.51	294.9	11	44K	2	21	19	1			14	32 PP
WARSAW	75.72	351.6	11	43A	0	21	21	1			14	23 PP
WITTEVEEN	75.72	0.7	11	46	3							
POTSDAM	76.07	356.6	11	47	2	21	25	1			13	33
NOUMEA	76.13	200.3	11	44	-1						12	55
CHITTAGONG	76.28	288.6	11	47K	1	21	30	4	12	4	14	43 PP
DE BILT	76.42	1.6	11	37	-10	21	29	1			27	7 SS
MUNSTER	76.58	0.1	11	49	1						12	8
KEW	76.85	5.2	11	51A	2	21	28	-5			21	50 PPS
HALLE	76.99	357.3	11	50	0	21	35	1			12	3 PCP
COLLMBERG	77.15	356.6	11	51K	0	21	47	11			16	39 PPP
JENA	77.57	357.5	11	53	0	21	43	3			27	5 SS
BENSBERG	77.59	0.4	11	54A	0	21	36	-5				
DEHRA DUN	77.70	303.6	11	56	2	21	41	-1			14	50 PP
LWOW	77.79	349.3	11	54	-1	21	43	0			14	47 PP
WARSAK DAM	77.95	310.3	11	55	0							
KRAKOW	77.97	352.0	11	57	1	21	44	-1			22	30 PS
PLAUEN	77.99	357.1	11	56	0							
RACIBORZ	78.08	353.1	11	57	1	21	48	2			14	51 PP
SONNEBERG	78.13	357.7	11	56	0						22	3
CALCUTTA	78.16	291.2	12	1	4							
PRAGUE	78.32	355.6	12	1	3	21	49	1				
CHEB	78.39	357.0	11	57	-1	21	45	-4			26	51 SS
PRUHONICE	78.41	355.5	11	57K	-1	21	54	5			15	10 PP
LAHORE	78.60	306.9	11	59K	0							
BOKARO	78.62	294.0	12	0A	1	21	52	0			16	40 PPP
HEIDELBERG	79.15	359.4	12	2	0							
PARIS	79.64	3.5	12	5	0						14	35 PP
STUTTGART	79.77	359.0	12	5	0	22	9	5			12	19 PCP
STRASBOURG	79.97	360.0	12	7K	0	21	59	-7			15	5 PP
TUBINGEN	80.02	359.1	12	7	0							
VIENNA-H.	80.03	354.2	12	8	1	22	12	6				
BRATISLAVA	80.06	353.7	12	7	0	22	12	5			12	17 PCP
CHARTERS TS.	80.26	219.2	12	6	-2	22	8	-1				
HURBANOVO	80.28	352.9				22	11	2			15	5 PP
ASHKABAD	80.28	321.7	12	9	1	22	12	3			27	47 SS
EBINGEN	80.37	359.2	12	9	0							
RAVENSBURG	80.76	358.7	12	11	0							
SIMFEROPOL	80.95	341.4	12	11K	-1	22	19	3			15	11 PP
BASLE	81.02	0.1	12	13	1							
BESANCON	81.29	1.2	12	14	1							
TIFLIS	81.43	332.9	12	14	0	22	25	4			12	25 PCP
NEUCHATEL	81.55	0.6	12	16	1							
CHUR	81.69	358.8	12	17	1							
TOLMEZZO	82.05	356.3	12	19	2	22	31	4				
TIMISOARA	82.11	350.5	11	23A	-55	22	35	7				
CAMPULUNG	82.14	347.8	12	23	5							
LJUBLJANA	82.33	355.2	12	20A	1						15	21 PP
ZAGREB	82.47	354.2	12	14	-6							
CLERMONT-FD.	82.70	3.3	12	21	0							
TRIESTE	82.77	355.8	12	29	8	22	50	15			28	27 SS
BUCHAREST	82.83	346.9	12	24	3	22	40	5			22	58 SKS

GORIS	83.03	330.9	12	23	1	22	40	3		15	46 PP
BELGRADE	83.11	350.9	12	26K	3	22	45	7		23	49 PPS
QUETTA	83.28	311.5	12	24	0	22	42	2	12 38	15	37 PP
PORT BLAIR	84.01	281.1	12	28	1	22	56	9			
CHIAVARI	84.22	358.9				23	17	28			
VIZIANAGRAM	84.46	292.2	12	26	-4						
BRISBANE	84.64	210.8	12	29	-2	22	50	-3			
BALBOA HTS.	84.69	82.4	12	31	0						
TEHERAN	84.80	325.7	12	32	1	22	51	-4			
ANGRA DO HO.	84.86	26.8				23	8	13			
SOFIA	84.89	348.5	12	32	0	22	49	-7		15	51 PP
SAN JUAN	85.30	66.3	12	34	0	22	57	-3	12 50	12	40 PCP
ISTANBUL UN.	85.68	344.0	12	33	-3	22	53	-10			
GALERAZAMBA	85.89	77.9	12	38	1					23	14 SKKS
SERRA PILAR	86.33	12.3	12	40K	1				13 15	12	42 PCP
ROME	86.56	356.5	12	41A	1	23	24	12		16	0 PP
MEDAN	86.63	271.5	12	41K	1	23	6	-7			
COIMBRA	87.27	12.3	12	44	1	23	21	2			
TARANTO	87.71	352.8	13	5	19	24	5	42			
KARACHI	87.74	308.6	12	44	-2	23	26	3	12 54		
HYDERABAD	87.84	295.6	12	44K	-2	23	11	-13		16	8 PP
TOLEDO	88.09	9.1	12	48	1	23	16	-10		16	14 PP
CUGLIERI	88.37	359.4								25	37
LISBON	88.63	13.1	12	53	3	23	41	10			
DJAKARTA	89.22	259.1	12	58	5					24	13
POONA	89.48	299.8	12	53	-1	23	43	4		16	40 PP
ATHENS	89.49	347.4	12	52K	-2	23	18	-21			
BOMBAY	89.72	300.8	12	56	1	23	45	4		23	23
SHIRAZ	89.86	322.2	12	55A	-1	23	22	-21		18	9 PPP
ALICANTE	89.91	6.5	12	57	1	23	44	1		18	27 PPP
KARAPIRO	90.02	189.6	12	54	-3						
MESSINA	90.09	353.9	8	55	-242	19	13	-272		20	57 PS
CHINCHINA	90.22	81.7	12	58K	0	23	52	6		23	27 SKKS
MADRAS	90.42	291.7	12	58K	0	23	30	-18		16	37 PP
GRANADA	90.81	9.0	13	3A	3	23	48	-3			
FUQUENE	90.99	80.0	13	3K	2	23	25	-28			
CARACAS	91.11	71.6	13	1A	-1	23	29	-25			
RIVERVIEW	91.13	209.8	13	2K	0	23	55	1	13 21	23	40 SKKS
MALAGA	91.18	9.7	13	3A	1	24	15	20		16	45 PP
KSARA	91.22	336.9	13	3K	1	23	43	-12			
ALMERIA	91.24	8.2	13	5	3						
CHATEAU	91.28	189.5	13	0	-2						
TONGARIRO	91.28	189.5	13	1	-1						
BOGOTA	91.45	80.7	13	5	2	24	1	4		16	31 PP
ALGIERS UNI.	91.68	3.8	13	6	2	23	31	-28		16	47 PP
ST. VINCENT	92.23	65.5	13	9	2						
SETIF	92.32	1.9	13	9	2					16	47 PP
RELIZANE	92.56	5.9	13	7	-1						
CANBERRA	93.18	210.8	13	11K	0	24	21	9		30	34 SS
JERUSALEM	93.32	336.8	13	11	-1					16	51 PP
WELLINGTON	93.41	189.8				24	37	23		24	7 SKS
TRINIDAD	94.20	67.1	13	18	2						
KODAIKANAL	94.21	292.2	12	50	-26					23	35
COLOMBO	95.49	288.3				23	58	5		16	25 PP
HELWAN	96.06	339.5	13	25K	1	23	59	3			
MELBOURNE	96.79	212.8	13	32A	4					17	10
ROXBURGH	98.22	193.0				24	11	4		17	27 PP
HUANCAYO	103.64	92.1	14	10	12					18	9 PP
PERTH	104.43	236.6				27	34	177		18	17
TAMANRASSET	105.69	2.1	14	9	777					18	29 PP
MBOUR	110.66	25.7				25	14	10		19	16 PP
LA PAZ	111.50	89.5	18	12	-18					19	31 PP
ADDIS ABABA	113.77	326.2	18	39	5						
SANTA LUCIA	122.31	104.3								20	29 PP
TERRE ADELIE	123.40	200.1	18	50	-3					20	32
CAPE HALLETT	124.45	186.4	18	54	-1					20	41 PP
LWIRO	127.54	333.1	19	3K	2	26	12	10		21	8 PP
SCOTT BASE	130.06	185.7	19	4	-2					21	19 PP
WILKES	131.46	211.7	19	7	-1					21	26 PP
TANANARIVE	134.75	301.4	19	19	4					22	10 PP
BYRD STATION	134.95	168.7	18	59	-16					21	48 PP
BROKEN HILL	139.18	328.4	19	17	-6						
SOUTH POLE	141.64	180.0	19	19	-8					23	3 SKP
ARGENTINE I.	142.36	139.0	19	24	-4						
BULAWAYO	144.42	324.9	19	32K	0						
LCO. MARQUES	148.04	314.4	19	41	3					19	47 PKP2
HAWSON	149.34	218.1	19	41	1					22	16 PP
WINDHOEK	149.91	342.6	19	43	2						

KIMBERLEY 153.67 324.6 20 8 22

OCTOBER 14 22.H 55.M 44.S EPICENTRE 55.54 -35.03 DEPTH= 48.KM

A= 0.46538 B=-0.32627 C= 0.82278 D=-0.5741 E=-0.8188
G= 0.6737 H=-0.4723 K=-0.5684 HT= -7.4

DEPTH OF FOCUS= 0.002R

SE= 1.79

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
REYKJAVIK	10.83	32.1	2 38A	3				
SCORESBY SD.	16.06	16.0	3 47	3	6 35	-5		7 4
EDINBURGH	17.86	75.6			7 37	15		8 18 SS
ABERDEEN	18.22	71.3	4 12K	1	7 42	12		
DURHAM	19.03	78.4	4 22	1	7 57	9		4 54 PP
KEW	20.90	86.7	4 40	-1	8 17	-9		8 37
JERSEY	20.95	93.9	4 41	0				
HALIFAX	21.18	250.9	4 39	-5				
BERGEN	21.67	60.5	4 32	-16	8 50	10		
SERRA PILAR	22.54	118.7	4 57K	0	8 58	2	5 6	5 25 PP
COIMBRA	23.33	120.0	5 10	5				
PARIS	23.75	90.7	5 9	0				
DE BILT	23.75	81.5	5 11A	2	9 16	-2		
LISBON	24.14	123.4	5 13A	0				6 10
THULE	24.25	341.6	5 13	-1				
WITTEVEEN	24.29	78.9	5 16	2				
SKALSTUGAN	24.74	51.8	5 19	1				
SHAWINIGAN	25.09	264.9	5 21	-1				
MUNSTER	25.17	80.2	5 23	0				
BENSBERG	25.36	82.6	4 25A	-59				5 48 PP
GOTEBORG	25.55	65.6	5 16	-10				
CLERMONT-FD.	25.78	96.2	5 30A	2				
TOLEDO	25.79	114.4	5 29	1				
BREBEUF	26.19	263.7	5 31A	-1				
COPENHAGEN	26.41	69.8	5 34	0				
BESANCON	26.56	90.9	5 34	-1				
NORD	26.73	5.9	5 36	-1				
STRASBOURG	26.86	86.9	5 39A	1				6 25 PP
WESTON	26.87	256.0	5 38	0				
HEIDELBERG	26.98	84.7	5 38	-1				
OTTAWA	27.43	265.5	5 43	0				
STUTTGART	27.62	85.5	5 44	-1	10 42	20		6 56 PP
TUBINGEN	27.63	86.1	5 44	-1				
EBINGEN	27.76	86.8	5 46	0				
HALLE	27.80	78.5	5 46	-1	10 31	6	5 54	16 26 SCS
UPPSALA	27.84	59.3	5 46	-1				
JENA	27.85	79.8	5 46	-1	10 34	8		6 36 PP
SONNEBERG	27.90	81.1	5 46	-2				
MALAGA	28.02	119.4	5 49A	0	10 42	14		6 29 PP
POTSDAM	28.03	76.2	5 47	-2				
GRANADA	28.06	117.7	5 49K	0	10 26	-3		
UMEA	28.23	50.4	5 51	0				
COLLMBERG	28.47	78.3	5 53A	0				7 0 PPP
ALICANTE	28.78	112.2	5 52	-4	10 35	-5		6 53 PPP
ALMERIA	28.89	116.7	5 58K	1			6 5	6 56 PP
RESOLUTE	29.65	332.3	6 2	-1				
PRUHONICE	29.98	79.7	6 6	0	11 11	12		12 35
SODANKYLA	30.34	42.4	6 8	-1				
NURMIJARVI	31.03	56.0	6 15	-1				
TOLMEZZO	31.04	86.7	6 14	-2				
HELSINKI	31.28	56.5	6 17	-1				
RELIZANE	31.29	114.3	6 21	3				7 29 PP
ALGIERS UNI.	31.83	110.1	6 22	-1	11 36	7		
VIENNA-H.	31.90	81.3	6 23A	0				
RACIBORZ	31.96	77.2	6 21	-3				
LJUBLJANA	32.09	86.1	6 24	-1				7 44 PP
BRATISLAVA	32.35	81.0	6 28K	1				
WARSAW	32.44	72.0	6 28	0	11 51	13		7 42 PP
APATITY	32.88	41.2	6 30K	-2	11 53	8		
KRAKOW	32.93	76.2	6 32	0				
CLEVELAND	33.19	264.7	6 40K	6				
SETIF	33.52	108.2	6 38K	1				7 51 PP
BUDAPEST	33.81	80.7	6 40	0	14 20	141		
PULKOVO	33.94	55.5	6 40	-1				

LWOW	35.30	74.0	6	54A	1				13	43
BELGRADE	36.18	83.4	7	0A	0	12	44	8	8	26 PPP
KHEYS	36.23	16.1	7	0	0					
MESSINA	37.72	95.8	7	10	-3	13	0	1	8	38 PP
COLUMBIA	38.19	255.1	7	16	-1					
SOFIA	39.13	84.0	7	25	0	13	27	6	9	1 PP
MOSCOW	39.26	58.6	7	26	0					
FLORISSANT	40.00	269.0	7	32	0					
ST. LOUIS 1	40.03	268.7	7	33	1					
ATHENS	42.52	89.1	7	53A	0					
ISTANBUL UN.	43.41	81.7	8	0A	0					
ISTANBUL KA.	43.43	81.6	8	0	0				9	40 PP
SIMFEROPOL	43.70	73.8	8	2	0	14	42	14		
RAPID CITY	43.72	284.5	8	4	2					
SAN JUAN	43.94	225.0	8	3	-1					
LITTLE ROCK	43.96	266.4	8	3	-1					
FAYETTEVILLE	44.07	269.3	8	4A	-1				10	0 PP
TAMANRASSET	44.33	120.8	8	7	0	14	45	7	9	50 PP
HUNGRY HORSE	46.74	295.9	8	26	0					
BOZEMAN	46.93	291.3	8	28	0					
BUTTE	47.50	292.6	8	33	1					
SVERDLOVSK	48.97	46.5	8	43A	-1					
FLAMING GRGE	49.23	285.5	8	45	-1					
TRINIDAD	49.33	215.1	8	47	0					
COLLEGE	49.46	328.8	8	46	-2					
SALT LAKE C.	50.68	287.1	8	56	-1					
CARACAS	51.43	221.7	9	2K	0					
TIFLIS	51.64	70.0	9	4K	0					
KSARA	52.37	83.4	9	8	-2	16	48	18	11	12 PP
HELWAN	52.73	90.4	9	13	1					
GLEN CANYON	53.24	283.5	9	17	1					
JERUSALEM	53.50	85.6	9	19	1	17	15	29		
BOULDER CITY	55.74	285.0	9	35	1					
TUCSON TELE.	56.15	279.0	9	38	1					
TUCSON	56.28	279.0	9	39	1					
UKIAH	57.92	293.4	9	50	0					
PASADENA	58.93	286.0	9	58	1			10	18	
TEHERAN	59.52	70.4	10	0	-1					
SHIRAZ	64.78	74.0	10	35A	-1	19	26	14	12	57 PP
FRUNSE	65.37	49.7	10	40K	0					
ALMATA	66.01	47.8	10	45K	1					
ANDIJAN	66.06	52.5	10	46A	2					
STALINABAD	66.14	56.3	10	44	-1					
WARSAK DAM	71.14	57.3	11	15	-1					
QUETTA	71.98	63.0	11	21K	0				11	29 14 2 PP
ULAN-BATOR	72.07	25.8	11	22	1					
ADDIS ABABA	73.45	98.3	11	32	3					
LAHORE	74.48	56.7	11	36	1					
HUANCAYO	75.32	220.8	11	41	1					
LA PAZ	77.02	212.5	11	50	0	21	34	1		
DEHRA DUN	77.26	54.6	11	56	5	21	52	16		
LWIRO	77.39	113.2	11	51	-1					
CHATRA	84.34	49.4	12	30	2					
POONA	85.10	64.3	12	32	0					
SHILLONG	87.42	46.3	12	43A	-1					
CHITTAGONG	90.25	47.8	13	1	4					
MIRNY	153.40	135.2	19	43	-2					
CAPE HALLETT	160.14	202.6	19	56	2				20	43 PKP2

OCTOBER 15 1.H 54.M 5.S EPICENTRE 55.54 -35.22 DEPTH= 0.KM

A= 0.46433 B=-0.32781 C= 0.82276 D=-0.5767 E=-0.8169
G= 0.6721 H=-0.4745 K=-0.5684 HT= -7.4

SE= 3.12

	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
SCORESBY SD.	16.09	16.2	6	24	155						8	24
ABERDEEN	18.33	71.2	4	18K	1	7	48	8				
DURHAM	19.14	78.3	4	29K	2	8	4	6				
KEW	21.01	86.6	4	46	-2	8	24	-14				
JERSEY	21.06	93.7	4	54	6						11	45
SERRA PILAR	22.64	118.4	5	5A	1							
SEVEN FALLS	23.57	264.0	5	12	-1							
PARIS	23.85	90.5	5	28	12							

DE BILT	23.85	81.3			9	40	11				
THULE	24.22	341.7	5	15	-4				7	30	
LISBON	24.23	123.1	5	21K	2						
SKALSTUGAN	24.82	51.8	5	23	-2						
SHAWINIGAN	24.99	264.7	5	26	-1						
BENSBERG	25.47	82.5	5	34	3						
TOLEDO	25.88	114.2	5	33	-2						
CLERMONT-FD.	25.89	96.0	5	43	8						
BREBEUF	26.08	263.5	5	36	-1						
COPENHAGEN	26.51	69.7	5	42	1	10	20	6			
STRASBOURG	26.97	86.8	5	50	5				6	15	
OTTAWA	27.33	265.3	5	48	0						
STUTTGART	27.73	85.3	5	43	-9						
JENA	27.96	79.7	5	52	-2	10	43	5	6	47	PP
GRANADA	28.16	117.5	5	OK	-56						
COLLMBERG	28.58	78.1	6	4	4				7	9	
ALICANTE	28.88	111.9	5	58	-5	10	41	-11	6	47	PP
RESOLUTE	29.61	332.3	6	7	-2						
SODANKYLA	30.41	42.4	6	16	0						
NURMIJARVI	31.12	55.9	6	22	0						
LJUBLJANA	32.20	86.0	6	25	-7						
APATITY	32.95	41.1	6	36	-2	12	0	3			
SETIF	33.62	108.0	6	42	-2						
LWOW	35.41	73.9	7	4	4						
KHEYS	36.26	16.1	7	14	7						
COLUMBIA	38.08	255.0	7	24	2						
MOSCOW	39.35	58.5	7	33	0						
FLORISSANT	39.89	268.9				13	50	7			
ST. LOUIS 1	39.92	268.6	7	39	1	13	46	3			
ISTANBUL KA.	43.54	81.5							10	44	
SIMFEROPOL	43.81	73.7				14	47	6	9	55	
LITTLE ROCK	43.85	266.3	8	9	-1						
FAYETTEVILLE	43.96	269.2	8	11	0						
TAMANRASSET	44.42	120.6	8	11	-3						
HUNGRY HORSE	46.64	295.8	8	31	-1						
SVERDLOVSK	49.05	46.4	8	50	-1						
FLAMING GRGE	49.12	285.4	8	50	-1						
COLLEGE	49.41	328.7	8	53	0						
TIFLIS	51.74	69.9	9	14	3	16	41	8			
KSARA	52.48	83.3	9	18	1						
HELWAN	52.83	90.2	9	21	1						
GLEN CANYON	53.13	283.4	9	21	-1						
JERUSALEM	53.61	85.5	9	26	1				10	35	
EUREKA	53.72	288.6	9	25	-1						
RENO	55.73	291.3	9	44A	3						
SHASTA	56.23	294.0	9	46	2						
FRESNO	57.76	289.1	9	58	3						
LICK	58.32	290.8	10	0A	1						
SHIRAZ	64.88	73.9	10	40	-3						
QUETTA	72.08	62.8	11	30	2						
MIRNY	153.47	135.2	19	48	-5						

OCTOBER 17 15.H 45.M 30.S EPICENTRE 4.98 -78.19 DEPTH= 0.KM

A= 0.20398 B=-0.97517 C= 0.08623 D=-0.9788 E=-0.2047
G= 0.0177 H=-0.0844 K=-0.9963 HT= 7.0

SE= 2.05

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
CHINCHINA	2.56	90.1	0	45	2	1	11	-5				
BOGOTA	4.12	94.8	1	10K	5	1	40	-15				
BALBOA HTS.	4.18	341.0	1	5	-1	1	52	-5				
FUQUENE	4.46	83.5	1	13	3							
GALERAZAMBA	6.44	26.4	1	41	3	2	54	0				
CARACAS	12.43	63.1	2	55A	-6	5	9	-12				
SAN SALVADOR	13.88	309.3	3	21	1							
HUANCAYO	17.16	170.5	4	2	-1	7	30	17				
TRINIDAD	17.55	70.3	4	7	0							
COMITAN	17.68	310.4									10	19
GRENADA	17.72	65.6	4	9	-1							
SAN JUAN	17.79	40.5	4	10	0	7	26	-1				
ST. VINCENT	18.57	62.9	4	19	-1							
FORT FRANCE	19.36	58.8	4	30	0						8	23
MERIDA	19.37	326.0	4	20	-10	8	15	12	4	30	6	30

BARBADOS	20.04	65.0	4	37	0								
OAXACA	21.79	304.8				9	23	31	5	12			
VERA CRUZ	22.49	310.4	4	59	-3	9	0	-5			7	6	
LA PAZ	23.55	155.2	5	13	0	9	30	6			5	32	PP
TACUBAYA	25.00	306.8	5	24K	-3	10	7	18	5	35	6	4	PP
COLUMBIA	28.99	355.1	6	3	0								
LITTLE ROCK	32.42	337.9	6	31	-3								
WASHINGTON	33.78	1.6	6	46	1								
FAYETTEVILLE	34.28	336.6	6	49K	-1	12	14	-3	7	12	8	12	PP
MORGANTOWN	34.53	357.6	6	55	3								
ST. LOUIS 1	35.25	343.6	6	58	0	12	29	-3					
FLORISSANT	35.44	343.5	6	59	-1	12	32	-3					
PALISADES	36.08	5.5	7	6K	1	13	16	31			15	36	SS
CLEVELAND	36.46	355.8	7	9K	1	12	53	2			8	23	PP
WESTON	37.74	8.3	7	20K	1	13	10	0					
SANTA LUCIA	38.87	169.9	7	30	1	13	30	3			9	30	PP
OTTAWA	40.32	2.7	7	42K	1								
BREBEUF	40.56	4.9	7	44K	1	13	56	3					
TUCSON TELE.	40.81	315.8	7	46	1								
TUCSON	40.83	315.6	7	46	1	14	2	5	8	11	9	27	PP
HALIFAX	41.50	15.7	7	52	2	14	8	1					
SHAWINIGAN	41.68	5.6	7	53K	1								
SEVEN FALLS	42.46	7.4	7	59K	1								
GLEN CANYON	44.13	320.7	8	13	1						10	8	PP
RAPID CITY	44.73	334.3	8	16	-1								
FLAMING GRGE	45.42	326.6	8	22	0						10	7	PP
BOULDER CITY	45.67	317.4	8	25	1								
SALT LAKE C.	46.70	324.7	8	33	1								
PASADENA	47.06	313.3	8	34	-1	16	27	60					
RUTH	47.63	321.0	8	47	7								
EUREKA	48.39	320.6	8	46	0						10	23	
FRESNO	49.50	315.5	8	54	0								
BOZEMAN	49.59	330.0	8	55	0								
RENO	50.91	318.6	9	41K	0								
LICK	51.06	315.2	9	7K	1								
CONCORD	51.66	315.7	9	11K	1								
BERKELEY	51.74	315.5	9	12K	1								
SAN FRANCSCO	51.83	315.3	9	11	-1								
HUNGRY HORSE	52.92	330.7	9	19	-1	16	50	1					
UKIAH	53.00	316.4	9	20	-1								
SHASTA	53.20	318.5	9	20K	-2								
ARCATA	54.41	318.0	9	31A	0								
CORVALLIS	55.75	322.2	9	41K	0								
PENTICTON	56.36	328.7	9	44A	-1								
VICTORIA	57.94	326.1	9	55K	-1								
PORT STANLEY	59.07	165.4	10	0	-4								
RESOLUTE	70.32	355.3	11	14K	-3	20	26	-3					
LISBON	70.58	50.8	11	19K	0								
SERRA PILAR	71.40	48.3	11	22K	-2				11	53	11	38	PCP
MALAGA	74.05	53.4	11	40A	1						14	7	PP
TOLEDO	74.65	50.1	11	44K	1	21	21	2			21	51	
GRANADA	74.73	53.0	11	45A	2	22	3	44			14	39	PP
ALMERIA	75.60	53.4	11	47K	-1								
COLLEGE	76.94	335.7	11	54	-2								
RELIZANE	77.97	54.7	12	0	-2				12	21	15	6	PP
TORTOSA	78.20	49.5	12	0	-3								
DURHAM	78.23	35.2	12	0A	-3				12	11			
KEW	78.56	38.6	12	4	-1	21	59	-2					
ALGIERS UNI.	80.02	53.7	12	9	-4								
PARIS	80.13	41.5	12	14	1								
CLERMONT-FD.	80.39	44.6	12	15	0								
NORD	81.07	7.5	12	17K	-1								
SETIF	81.91	54.3	12	23	0				12	39			
TAMANRASSET	82.30	67.8	12	26K	1	22	46	6			15	33	PP
BESANCON	82.41	43.1	12	22	-3								
ISOLA	83.14	46.2	12	35	6								
BENSBERG	83.23	39.4	12	30K	1						12	59	
MONACO	83.42	46.7	12	30	0	12	49						
MUNSTER	83.52	38.4	12	31	0								
STRASBOURG	83.62	41.8	12	32	1	12	48		13	41			
HEIDELBERG	84.24	41.0	12	34	-1								
EBINGEN	84.42	42.2	12	36	0								
TUBINGEN	84.48	41.8	12	35	-1								
STUTTGART	84.62	41.6	12	35	-1						15	50	PP
RAVENSBURG	84.87	42.6	12	38	0								
SKALSTUGAN	85.78	26.7	12	42	0								
GOTEBORG	85.92	32.6	12	43	0								
JENA	86.02	39.4	12	42	-2						13	1	
HALLE	86.22	38.8	12	44	0						15	43	

COLLMBERG	86.89	38.9	12	48K	0						13	8
TOLMEZZO	87.26	43.8	12	48	-2	23	27	-2			15	35 PP
BYRD STATION	87.39	186.6	12	50	0							
TRIESTE	87.83	44.6	12	53	1							
PRUHONICE	87.99	40.2	12	55	2				13	10		
LJUBLJANA	88.33	44.1	12	55	0				13	11		
UPPSALA	88.65	30.2	12	54	-2							
KIRUNA	88.67	22.0	12	56	0							
UMEA	89.28	26.0	12	59	0							
VIENNA-H.	89.36	41.8	13	0	0							
SODANKYLA	91.09	22.0	13	7	-1						15	58
NURMIJARVI	91.99	28.9	13	11	-1							
HELSINKI	92.22	29.2	13	12	-1							
SOUTH POLE	94.95	180.0	13	25	0						30	18 PKKP
SOFIA	95.07	46.5	13	28	2							
CAPE HALLETT	101.20	196.8	18	1	247						27	8 PS
HELWAN	104.26	57.6									18	32
KSARA	106.88	52.6	14	21	777						18	45 PP
LWIRO	107.11	90.8	18	47	777							
ADDIS ABABA	115.64	77.6									20	1 PP
TANANARIVE	125.35	109.6	19	7	4							
MATUSIRO	126.49	323.5	19	5	0						32	43 PS
BRISBANE	126.68	239.5	19	10	5							
CANBERRA	127.11	228.8	19	7A	1							
RABAUL	129.81	268.7	19	12	0							
QUETTA	131.66	41.5	19	17	2				19	42	22	44 PKS
WARSAK DAM	131.83	34.2	19	16	1							
CHARTERS TS.	134.26	246.8	19	19	-1							
PORT MORESBY	134.83	261.7	19	22	1							
POONA	143.87	49.0	19	36	-1							
CHATRA	145.35	23.4	19	40K	0						23	4
SHILLONG	148.13	17.2	19	45K	1							
MUNDARING	149.95	205.0	19	52	5							
HONG KONG	150.31	336.4	19	54	6							
CHITTAGONG	151.12	19.4	19	58	9							

OCTOBER 17 19.H 2.M 15.S EPICENTRE 31.49 -40.81 DEPTH= 0.KM
A= 0.64659 B=-0.55832 C= 0.51982 D=-0.6536 E=-0.7569
G= 0.3934 H=-0.3397 K=-0.8543 HT= 1.3

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
HALIFAX	22.13	312.8	5	1	2	9	5	6				
SAN JUAN	26.33	246.3	5	38	-1							
LISBON	26.79	65.6	5	44A	0							
SERRA PILAR	27.55	60.5	5	45K	-5							
PALISADES	28.19	299.0				10	43	2				
SHAWINIGAN	28.79	310.7	6	3	1							
GRANADA	31.11	69.2	6	33K	11						7	43
ALMERIA	32.02	69.8	6	30K	0						7	35 PP
RELIZANE	34.52	71.5	6	50	-2						8	6 PP
KEW	35.71	44.1	7	2	0							
ALGIERS UNI.	36.45	69.5	7	5	-3							
CLERMONT-FD.	36.69	54.4	7	12	2							
PARIS	36.77	49.2	7	12	1							
BESANCON	38.83	52.4	7	28	0							
MONACO	39.60	58.0	7	35	0							
BENSBERG	40.15	46.8	7	39	0						7	59
STRASBOURG	40.19	50.5	7	40	0							
WITTEVEEN	40.22	43.8	7	40	0							
ST. LOUIS 1	40.67	294.1	7	44	0							
STUTTGART	41.20	50.4	7	47	-1							
TAMANRASSET	41.88	90.2	7	55	1	14	21	8			9	36 PP
LITTLE ROCK	42.90	288.8	7	59	-3							
JENA	42.91	47.4	8	2	0						8	26
HALLE	43.21	46.6	8	4	0						9	11
COLLMBERG	43.84	47.0	8	10A	0						8	27
TRIESTE	44.11	55.2	8	13	1						10	5
FAYETTEVILLE	44.14	291.0	8	12A	0							
GOTEBORG	44.28	37.8	8	15	2							
LJUBLJANA	44.65	54.6	8	16	0							
PRUHONICE	44.73	49.0	8	17	0							
SKALSTUGAN	46.02	29.8	8	28	1							

UPPSALA	47.59	35.6	8 39	0		
UMEA	49.51	30.7	8 50	-4		
RAPID CITY	49.78	303.2	8 56	0		
KIRUNA	50.44	25.6	10 1	60		
RESOLUTE	50.63	343.8	9 2	-1		
NORD	51.04	4.4	9 5	-1		
SODANKYLA	52.69	26.7	9 18	0		
LA PAZ	54.45	212.8	9 30	-1		
HUANCAYO	54.50	222.9	9 32	0		
FLAMING GRGE	54.86	300.4	9 34	0	10 23	
BOZEMAN	55.03	306.4	9 36	0		
HUNGRY HORSE	56.51	310.0	9 44	-2		
GLEN CANYON	57.55	296.3	9 54	0		
TUCSON TELE.	58.32	290.9	9 59	0		
TUCSON	58.44	290.8	10 1	1	10 39	
EUREKA	60.10	300.3	10 11	0		
BOULDER CITY	60.34	296.2	10 15	2		
HELWAN	60.98	71.0	10 17	0		
RENO	62.89	301.5	10 31A	1		
KSARA	63.15	65.2	10 32K	0		
JERUSALEM	63.38	67.6	10 34	1		
PASADENA	63.55	295.3	10 36	1		
CORVALLIS	63.68	307.8	10 36	1		
FRESNO	63.84	298.6	10 37	0		
SHASTA	64.36	303.5	10 40	0		
LICK	65.01	299.8	10 44A	0		
UKIAH	65.51	302.1	10 48	1		
COLLEGE	68.70	334.0	11 7	0		
LWIRO	73.91	102.9	11 39	0		
ADDIS ABABA	76.49	87.6	11 55	1		
QUETTA	88.03	55.6	12 55A	2		
TERRE ADELIE	144.62	181.5	19 36	-3		

OCTOBER 17 22.H 15.M 29.S EPICENTRE 14.68 -92.58 DEPTH= 46.KM

A=-0.04355 B=-0.96678 C= 0.25188 D=-0.9990 E= 0.0450
G=-0.0113 H=-0.2516 K=-0.9678 HT= 5.8

DEPTH OF FOCUS= 0.002R

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	
COMITAN	1.62	15.5	0 23	-4	0 48	1			
SAN SALVADOR	3.43	106.5	0 51	-1	1 34	2			
SANTIAGO MA.	4.16	106.1	1 4	2	2 4	13			
OAXACA	4.65	300.5	1 19	10	2 12	9		1 43	
VERA CRUZ	5.63	323.4			2 30	3		1 34	
MERIDA	6.84	23.9	1 37	-3	3 1	4		2 4	
PUEBLA	6.90	309.5			3 7	8		2 39	0 7
TACUBAYA	7.88	307.5	1 51K	-3	3 28	5		3 41	
CHIHUAHUA	18.68	320.2	4 13	-3	7 45	5		8 5	
CHINCHINA	19.28	118.3	4 24K	1	8 12	19			
LITTLE ROCK	20.01	0.6	4 30	-1					
FUQUENE	20.68	114.4	4 37	-1	8 41	19			
BOGOTA	20.79	116.9	4 40	1	8 40	16		5 0	
FAYETTEVILLE	21.37	356.4	4 48A	3	8 53	18	5 2	5 22	PP
COLUMBIA	21.89	26.5	4 52	2					
ST. LOUIS 1	23.95	4.5	5 11	0	9 37	16			
FLORISSANT	24.10	4.2	5 12	0	9 38	14			
TUCSON TELE.	24.13	319.9	5 12	0				6 12	
TUCSON	24.14	319.5	5 13	1	10 1	37	5 33	6 11	
CARACAS	25.37	96.4	5 21	-3	10 11	26			
SAN JUAN	25.62	78.1	5 36	9				6 26	PP
MORGANTOWN	27.21	21.7	6 16	35	12 0	105			
WASHINGTON	27.73	26.6	5 45	-1				8 18	
GLEN CANYON	27.92	326.1	5 47	-1				9 48	
BOULDER CITY	29.09	320.8	5 58	0				7 33	
PASADENA	30.16	314.5	6 8	0	11 22	20			
RAPID CITY	30.67	344.9	6 12	0					
PALISADES	30.85	28.2	6 12	-2	11 43	30		7 45	PPP
SALT LAKE C.	30.94	330.8	6 14	-1					
HUANCAYO	31.58	146.4	6 18	-2	11 34	10			
EUREKA	32.12	324.7	6 24	-1			7 6		
FRESNO	32.74	317.2	6 29K	-1					
WESTON	33.13	29.4	6 34	0					

OTTAWA	33.77	21.6	6	39	0							
LICK	34.28	316.6	6	44K	1						8	17
RENO	34.40	321.2	6	45A	0							
BOZEMAN	34.59	337.0	6	48	2							
BREBEUF	34.64	23.7	6	46	-1				7	9		
BERKELEY	34.98	316.9	6	50	0						9	21
BUTTE	35.47	335.8	6	54	0							
SHAWINIGAN	35.84	23.5	6	59K	2							
SHASTA	36.67	320.7	7	3	-1							
SEVEN FALLS	37.07	24.8	7	9	2							
ARCATA	37.82	319.8	7	14K	0							
HUNGRY HORSE	37.95	336.6	7	14	-1						9	4
HALIFAX	38.66	33.6				13	38	24				
LA PAZ	39.28	141.2	7	24	-2							
CORVALLIS	39.58	325.0	7	29K	1							
PENTICTON	41.02	333.0	7	40	0						9	14
VICTORIA	42.22	329.5	8	0K	10							
RESOLUTE	60.01	359.3	10	1	-3							
COLLEGE	62.40	336.7	10	17	-3							
NORD	73.51	8.6	11	27	-2						13	2
TOLEDO	79.63	51.4	12	19	15							
SKALSTUGAN	83.44	25.8	12	23	-1						13	58
BENSBERG	84.75	38.7	12	31	1							
BESANCON	85.05	42.5	12	30	-2							
STRASBOURG	85.82	40.9	12	21	-15							
UMEA	86.60	24.2	12	43	4						14	17
STUTTGART	86.72	40.4	12	38	-2							
COLLMBERG	88.12	37.2									13	39
TAMANRASSET	91.65	66.1	13	3	0						14	38
BYRD STATION	95.60	184.6	13	24	3						14	31
SOUTH POLE	104.59	180.0	14	28	26							
CAPE HALLETT	106.08	198.4									27	43 SP
SHIRAZ	124.54	37.2	18	54A	0						21	22
QUETTA	131.23	23.7	19	8	1						22	36 PKS

OCTOBER 20 11.H 5.M 58.S EPICENTRE -11.15 164.82 DEPTH= 14.KM

A=-0.94713 B= 0.25701 C=-0.19207 D= 0.2619 E= 0.9651
G= 0.1854 H=-0.0503 K=-0.9814 HT= 6.4

SE= 2.25

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
NOUMEA	11.20	172.2	2	41	-2	4	39	-10					
RABAUL	14.30	297.9	3	21	-3	5	58	-6			6	3	
SUVA	14.89	119.4	3	32	0	6	37	19			4	20	
PORT MORESBY	17.47	274.1	4	5	0	7	25	7			8	44	0
BRISBANE	19.73	213.3	4	32	0	8	12	4					
CHARTERS TS.	19.95	241.3	4	35	0	8	18	5					
AFIAMALU	23.01	99.3	5	3K	-3	9	23	12					
RIVERVIEW	25.81	206.9	5	32K	-1	9	56	-3	5	41	9	2	PCP
ONERAHI	26.00	162.1	5	38	4	10	16	14					
CANBERRA	28.03	208.3	5	52K	-1	10	38	3	5	57	9	7	PCP
KARAPIRO	28.35	162.0	5	54K	-2						9	7	
TONGARIRO	29.52	163.0	6	4	-2	11	11	12					
TUAI	29.66	160.3	6	5	-2	11	5	4					
COBB RIVER	30.62	168.2	6	17	1								
WELLINGTON	31.27	165.5	6	18	-4	11	34	7			7	21	
MELBOURNE	31.98	210.5	6	27K	-1	11	40	2			9	16	PCP
GEBBIES PASS	33.14	169.6	6	34	-4								
ADELAIDE	33.55	220.8	6	40K	-2	12	4	2			9	20	PCP
ROXBURGH	34.43	174.4	6	46	-3	12	26	10					
FORT NELSON	35.12	202.5	7	55A	60				8	7			
MUNDARING	49.25	237.3	8	49	-1						10	13	
PERTH	49.56	237.4	8	53	0	16	10	11			10	55	PP
MANILA	50.36	299.7	8	59	0						10	55	PP
BAGUIO CITY	51.62	301.3	9	6	-2	16	29	1					
MATUSIRO	53.64	333.4	9	21K	-2								
LEMBANG	56.59	269.1	9	41K	-4	17	35	0					
DJAKARTA	57.47	269.7	9	49	-2						14	58	
TERRE ADELIE	57.80	190.7	9	51	-2								
ZO-SE	59.30	316.5	10	2	-2	18	10	0					
HONG KONG	59.75	304.0	10	6	-1	18	20	4					
CANTON	60.80	304.4	10	13K	-1	18	33	4					
CAPE HALLETT	61.21	178.1	10	14A	-3	19	8	33			23	2	SS

NANKING	61.51	315.9	10	17K	-2	18	40	2		
VLADIVOSTOK	61.81	333.2	10	19K	-2					
PETROPAVLOVK	64.13	355.9	10	34	-2					
CHANGCHUN	65.45	329.6	10	44K	-1	19	28	0		
WILKES	65.99	201.0	10	46	-2	19	32	-2	19	55 PS
SCOTT BASE	66.70	179.6	10	52A	-1					
MEDAN	67.40	278.6	10	56A	-1				21	48
PEKING	67.99	321.6	10	58K	-3	19	59	1	13	30 PP
KUNMING	70.40	301.8	11	16K	0	20	28	1		
CHENGTU	71.64	307.6	11	21	-2	20	39	-2	14	3 PP
MIRNY	72.63	203.5	11	27	-2				11	44 PCP
BYRD STATION	76.61	170.0	11	50	-2				17	7
TOCKLAI	77.67	300.6	12	0	2					
ULAN-BATOR	77.97	324.4	11	58	-2	21	50	-1		
CHITTAGONG	78.87	295.5	12	3	-1	21	58	-3	15	4 PP
SOUTH POLE	78.93	180.0	12	4	-1					
SHILLONG	79.78	298.7	12	7K	-2	22	11	0	22	55 PS
IRKUTSK	81.64	327.3	12	18	-1					
ARCATA	83.35	46.2	12	28A	0					
UKIAH	83.36	48.1	12	27	-1					
BERKELEY	83.65	49.6	12	28K	-2	22	54	4	28	8 SS
COLLEGE	83.67	18.4	12	27	-3					
CONCORD	83.82	49.5	12	30K	0					
LICK	83.94	50.2	12	30K	-1					
VINEYARD	83.95	50.9	12	30	-1					
MAWSON	84.28	202.1	12	22	-11	22	57	0		
SHASTA	84.49	46.9	12	32K	-2					
FRESNO	85.16	51.2	12	36	-1					
CORVALLIS	85.20	43.0	12	36K	-1					
PASADENA	85.66	54.1	12	38K	-2	23	13	3	24	14 PS
RENO	85.99	48.6	12	41	0					
TIKSI	86.00	349.2	12	39K	-2					
VICTORIA	86.52	39.2	12	41	-3					
BOULDER CITY	88.79	53.1	12	55	0				16	23 PP
EUREKA	88.82	49.5	12	54	-1				16	20 PP
PENTICTON	89.15	39.3	12	53	-3					
RUTH	89.50	49.9	12	59K	1					
TUCSON	91.15	57.5	13	5	-1	24	8	7	17	38 PP
TUCSON TELE.	91.26	57.4	13	6	0					
GLEN CANYON	91.56	52.8	12	7	-61				31	7 PKKP
HUNGRY HORSE	92.43	41.3	13	10	-2				30	25 PKKP
BUTTE	92.86	43.8	13	12	-2					
BOZEMAN	93.82	44.4	13	17	-1					
POONA	94.38	287.9	13	20	-1					
BOMBAY	95.41	288.1							24	49
WARSAK DAM	98.82	302.9	13	39	-2					
ANDIJAN	99.02	309.8	13	41	-1					
QUETTA	102.26	298.6	13	55	-1	24	39	5	33	2 SS
LITTLE ROCK	106.77	57.0							18	25 PP
FLORISSANT	108.42	52.8							18	57 PP
ST. LOUIS 1	108.53	52.9							28	17 PS
SANTA LUCIA	111.10	132.4							28	36
SHIRAZ	114.75	297.5	18	41	1	25	29	2		
TEHERAN	115.41	304.3	18	39	-3				29	27 PS
HUANCAYO	115.98	109.3	18	46	3					
KIRUNA	118.72	345.4	18	46	-2					
MOSCOW	119.60	328.8	17	48	-62					
TIFLIS	119.66	311.8	18	51	1					
BREBEUF	119.86	43.7	18	50A	0					
CHINCHINA	119.93	90.7	18	50	0	25	57	11	20	14 PP
SHAWINIGAN	120.13	42.4	18	50	-1					
SCORESBY SD.	120.56	2.6	18	52A	0					
PALISADES	120.74	48.8							30	8 PS
LA PAZ	120.87	116.9	18	55	3					
PULKOVO	120.91	335.1							18	52 PP
SEVEN FALLS	121.23	41.3	18	52A	-1					
BOGOTA	121.39	91.4	18	54	1				20	18 PP
UMEA	121.80	342.4	18	52	-2					
FUQUENE	121.87	90.5	18	48	-6				20	30 PP
NURMIJARVI	122.67	337.9	18	55	-1					
HELSINKI	122.78	337.5	18	55	-1					
PRETORIA	124.09	228.4	19	29	31					
SKALSTUGAN	124.15	345.6	18	57	-2					
KIMBERLEY	124.65	223.3	19	49A	49					
UPPSALA	125.60	340.3	19	0	-1					
SIMFEROPOL	126.13	318.2	19	10	8					
HALIFAX	126.84	41.9	19	3	-1					
BULAWAYO	126.86	234.4	18	43	-21				19	4

			P	O-C	S	O-C	*PP	SUPP.
	DELTA DEG.	AZ. DEG.	M S	S	M S	S	M S	M S
ADDIS ABABA	126.90	273.0	19 7	3				
KSARA	128.31	304.4	19 7	0	26 20	8	21 15 PP	
GOTEBORG	129.11	341.6	19 7	-1				
CARACAS	129.22	85.5	19 10A	2			21 19 PP	
WARSAW	129.68	331.8	19 10	1			21 21 PP	
LWOW	129.71	327.8	19 9	0			23 9	
BROKEN HILL	129.81	240.5	19 10A	1				
SAN JUAN	130.35	75.4	19 10	0			22 23 SKP	
COPENHAGEN	130.60	339.8					21 25 PP	
ISTANBUL KA.	131.09	315.6					21 26 PP	
ISTANBUL UN.	131.15	315.6					22 40 PP	
KRAKOW	131.63	330.3					21 35 PP	
SKALNATE PL.	132.04	329.2					22 34 PKS	
POTSDAM	132.97	336.6	19 16	1			21 35 PP	
HELWAN	132.99	300.5	19 26A	11			21 41 PP	
COLLMBERG	133.83	335.7	19 17K	0			21 48 PP	
WINDHOEK	133.92	223.3	19 17	0				
HURBANOVO	133.93	329.0	19 29	12			22 43 PKS	
HALLE	134.10	336.6	19 18	1			21 52 PP	
SOFIA	134.10	320.3	19 17	0			22 52	
PRUHONICE	134.17	333.5	19 18	0			21 49 PP	
BRATISLAVA	134.27	330.0	19 17	-1			21 47 PP	
LWIRO	134.28	255.7	19 6	-12			21 52 PP	
VIENNA-H.	134.57	330.6	19 19	1			21 53 PP	
BELGRADE	134.64	324.4	19 19A	1			24 52 PPP	
JENA	134.69	336.4	19 17K	-2			21 47 PP	
DURHAM	135.17	348.9			26 32	5		
DE BILT	135.95	342.0	19 20	-1			22 2 PP	
BENSBERG	136.29	339.6	19 21	0			21 58 PP	
LJUBLJANA	137.01	329.6	19 23	0			22 13 PP	
HEIDELBERG	137.02	337.2	19 22	-1				
STUTTGART	137.31	336.2	19 12	-11			22 8 PP	
TRIESTE	137.68	329.7	19 23	-1			22 57 SKP	
RAVENSBURG	137.96	335.0	19 23	-2				
KEW	138.00	346.1	19 19	-6			22 9 PP	
STRASBOURG	138.05	337.2	19 25	0			22 12 PP	
PADOVA	138.76	330.9					20 2	
BASLE	138.98	336.5					21 28	
PARIS	139.66	341.9	19 28	0			22 26 PP	
BESANCON	139.83	337.6	19 27	-1				
PAVIA	140.19	332.9	19 31A	2			22 29 PP	
ROME	140.96	326.6	19 23	-7			22 33 PP	
MESSINA	141.53	319.7	19 26	-5			23 5	
ISOLA	141.91	333.8	19 50	18				
LUANDA	145.45	236.0	19 40	2				
SETIF	148.88	326.6	19 44	1			23 20 PP	
ALGIERS UNI.	149.65	330.2	19 48K	3			23 23 PP	
TOLEDO	149.73	342.9	19 45	0			19 50 PKP2	
RELIZANE	151.66	332.3	19 54	6				
ALMERIA	151.96	337.9	19 41A	-7	26 33	-19	23 35 PP	
GRANADA	152.06	340.0	19 17K	-31				
MALAGA	152.74	340.8	19 52K	3			23 34 PP	
TAMANRASSET	157.10	303.0	19 56K	1			24 8 PP	

OCTOBER 22 8.H 22.M 1.S EPICENTRE -10.38 161.09 DEPTH= 69.KM

A=-0.93074 B= 0.31891 C=-0.17895 D= 0.3241 E= 0.9460
G= 0.1693 H=-0.0580 K=-0.9839 HT= 6.5

DEPTH OF FOCUS= 0.006R

SE= 2.45

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HONIARA	1.46	309.9	0 24	-1				
RABAUL	10.76	304.1	2 32	-1				
NOUMEA	12.92	157.2	3 2	0	5 21	-4		
PORT MORESBY	13.76	272.8	3 17	4	5 50	5		
CHARTERS TS.	17.25	234.2	4 0K	2	7 14	9		
SUVA	18.49	116.6	4 10	-3	7 43	10		5 49
RIVERVIEW	25.06	199.8	5 20A	1	9 36	0	5 28	5 57 PP
CANBERRA	27.16	202.0	5 39A	0	10 17	7	5 57	10 43 *SS
ONERAHI	28.01	156.6	5 49	2				6 0
GUAM	28.71	325.2	5 50K	-3				
KARAPIRO	30.35	157.0	6 7A	0	10 43	-18		12 41 SCP
MELBOURNE	30.94	205.3	6 14A	2	11 22	11	6 33	13 31 SS

TONGARIRO	31.46	158.2	6	17A	0				6	37
CHATEAU	31.47	158.2	6	17A	0				9	7
TUAI	31.74	155.7	6	19	-1				7	32
ADELAIDE	31.86	216.3	6	21A	0				11	32
WELLINGTON	33.06	160.9	6	30A	-1	12	4	20	7	39
KAIMATA	33.27	166.0	6	32	-1				7	51
FORT NELSON	34.57	197.9	6	45A	1	12	13	6		
GEBBIES PASS	34.68	165.2	6	44	-1				8	19
ROXBURGH	35.69	170.1	6	51	-2	12	35	11	8	23
MUNDARING	46.62	235.6	8	24	1	15	9	3		
MANILA	46.82	301.4	8	21	-4	15	1	-8		
PERTH	46.92	235.8	8	27	2	15	19	9	10	36 PP
BAGUIO CITY	48.11	303.1	8	33	-2	15	29	2		
MERA	49.34	336.9				15	44	0	10	10
OSIMA	49.39	336.4	8	45	0	15	44	-1	11	37
OMAESAKI	49.71	335.2	8	45	-2	15	48	-1	9	1
AJIRO	49.74	336.3	8	48	1					
SIOMISAKI	49.80	332.1	8	47	-1	15	51	0		
MISIMA	49.86	336.2	8	44	-4	15	50	-2	12	7
SHIZUOKA	49.95	335.6	9	2	13				15	53
TOKYO C.M.O.	50.04	337.3	9	4	14	16	5	11		
YAKUSIMA	50.12	325.1	8	51	1					
HUNATU	50.27	336.2	8	54	3	15	57	0		
KAKIOKA	50.37	338.0	8	49	-3					
TUKUBASAN	50.39	337.9	8	49K	-3	15	34	-25	9 11	10 46 PP
KOHU	50.50	336.2	8	56	3	16	1	1		
TITIBU	50.57	336.8	8	57	3					
KUMAGAYA	50.60	337.2	8	53	-1	16	1	-1		
SIMIDU	50.61	329.1							9	42
IIDA	50.66	335.4	8	56	2					
KAMEYAMA	50.67	333.7	8	54	0	16	3	0	10	21
NAGOYA	50.72	334.4	8	54	-1	16	4	1	9	9
MIYAZAKI	50.74	327.1	8	55	0	16	6	2		
UTUNOMIYA	50.77	337.9	8	53	-2					
NARA	50.80	333.0	8	51	-4					
TOKUSIMA	50.87	331.5	8	55	-1					
OSAKA	50.91	332.7	8	59	3	16	6	0		
MAEBASI	50.94	337.1	8	55	-1				9	38
SUMOTO	50.94	332.0	9	0	4	16	5	-1	10	12
KAGOSIMA	50.94	326.0	9	0	4	16	20	14		
KOTI	50.95	330.2	8	58	2	16	6	-1	9	9
HONOLULU	50.97	51.7	9	2	5					
GIHU	51.00	334.4	8	54	-3	16	7	0		
OIWAKE	51.08	336.6	9	3	6					
ABUYAMA	51.08	332.9	8	57A	0					
KIPAPA	51.10	51.6	8	56K	-2					
HIKONE	51.12	333.8	8	58	0	16	11	2		
KYOTO	51.13	333.2	8	57	-1	16	0	-9		
SHIRAKAWA	51.15	338.6	8	55	-3					
MATUMOTO	51.24	336.0	9	0	1					
TAKAMATU	51.33	331.2	8	59	0	16	11	-1		
MATUSIRO	51.39	336.4	8	57K	-3	16	10	-3	9 15	19 59 SS
HUKUSIMA	51.62	339.1	9	6	4					
OOITA	51.66	328.3	9	1	-1	16	16	0		
HUKUI	51.79	334.3	9	9	6					
KUMAMOTO	51.82	327.2	9	10	7					
TOYAMA	51.94	335.6	9	3	-1	16	21	1		
SENDAI	51.94	339.8	9	3	-1	16	17	-3		
ISINOMAKI	51.94	340.3	9	3	-1					
TOYOOKA	51.97	332.7	9	3	-1	16	21	0		
YAMAGATA	52.11	339.3	9	4	-1					
NAGASAKI	52.19	326.4	9	6K	0	16	24	0		
NIIGATA	52.28	338.0	9	2	-4					
SAGA	52.37	327.2	9	12	5	16	30	4		
HUKUOKA	52.58	327.5	9	10	1	16	28	-1		
AIKAWA	52.67	337.3	9	24	15				9	56
HAMADA	52.75	329.9	9	8K	-2	16	30	-1		
SAKATA	52.87	339.2	9	18	7					
LEMBANG	52.93	269.2	9	10	-1	16	35	1		
MORIOKA	53.14	340.8	9	8	-5					
AKITA	53.52	339.9	9	16	0	16	45	3	12	24
DJAKARTA	53.80	269.9	9	16A	-2	16	47	2		
AOMORI	54.28	341.1	9	21	0					
HAKODATE	55.19	341.6	9	26	-2	17	2	-2	9	41
KUSIRO	55.24	345.1	9	26	-2	17	6	1		
OBIHIRO	55.50	344.1	9	37	7					
MORI	55.51	341.6	9	32	2	17	11	3		
MURORAN	55.59	342.0	9	45	14					

TOMAKOMAI	55.69	342.6	9 42	11						
SAPPORD	56.16	342.7	9 30	-5	17 15	-2			17 46	
ABASHIRI	56.25	345.5	9 34	-1						
SUTTSU	56.25	341.6	9 35	0	17 18	0				
ZO-SE	56.26	318.6	9 34	-2	17 17	-1				
CANTON	57.36	306.0	9 43	0	17 35	2				
TERRE ADELIE	57.92	189.1	9 46	-1	18 43	63				
NANKING	58.45	317.9	9 49	-2	17 47	0			11 56	PP
VLADIVOSTOK	59.53	335.5	9 57	-1	18 2	1			18 27	PS
CAPE HALLETT	62.14	176.9	10 15	-1	18 41	7			22 59	SS
CHANGCHUN	62.99	331.6	10 20A	-2	18 44	-1				
PETROPAVLOVK	63.18	358.4	10 21	-2	18 47	0	10 35		12 39	PP
MEDAN	63.66	279.2	10 29	3	19 13	20				
PEKING	65.15	323.3	10 34	-2	19 10	-2				
WILKES	65.42	200.0	10 37A	-1	19 18	3	10 51		20 9	SCS
KLYUCHI	66.45	359.9	10 43	-1	19 27	0			11 2	PCP
KUNMING	66.89	303.0	10 46	-1	19 33	0			13 15	PP
SCOTT BASE	67.52	178.7	10 53	2	19 47	7				
CHENGTU	68.28	308.9	10 56	0	19 49	-1				
MAGADAN	70.18	354.5	11 3	-4	20 7	-5			11 26	*SP
PORT BLAIR	71.38	286.1	11 13	-1	20 25	-1				
CHITTAGONG	75.24	296.5	11 36	-1	21 9	0	12 3		14 29	PP
SHILLONG	76.20	299.6	11 40K	-2	21 19	-1	12 11		14 34	PP
YAKUTSK	76.21	345.4							14 47	PP
BYRD STATION	78.01	169.9	11 53	1			12 58		14 52	PP
CALCUTTA	78.34	295.7	12 10	16	21 45	2				
IRKUTSK	79.04	328.4	11 57	-1	21 51	1	12 19		22 6	SCS 0
SOUTH POLE	79.69	180.0	12 2	0					14 46	PP
CHATRA	80.61	299.5	12 6	-1	22 7	0	12 34			
BOKARO	80.97	296.3	12 11	3	22 11	1				
KERGUELEN I.	82.88	221.2	12 16	-2	23 18	48				
MADRAS	83.59	284.4	12 24K	2	22 19	-18			19 2	
MAWSON	83.60	202.4	12 21	-1	22 39	2	12 47		23 6	
COLLEGE	84.14	19.5	12 22K	-3	22 38	-4				
TIKSI	84.59	350.2	12 26	-1					28 5	SS
ARCATA	85.50	47.2	12 32A	1						
UKIAH	85.61	49.1	12 32A	0						
SAN FRANCSCO	85.79	50.6	12 34	1						
BERKELEY	85.97	50.5	12 34A	0	22 55	-5			13 47	
CONCORD	86.14	50.5	12 36	1						
HYDERABAD	86.15	288.4	12 35	0	22 53	-9			23 32	PS
LICK	86.29	51.2	12 36A	1	23 8	5			12 53	
VINEYARD	86.33	51.8	12 36	0						
SHASTA	86.67	47.8	12 37	0	23 1	-6				
MINERAL	87.15	48.3	12 39A	-1					13 10	
CORVALLIS	87.16	43.9	12 41K	1						
FRESNO	87.56	52.1	12 42	1						
PASADENA	88.21	55.0	12 45	0	23 9	-12	13 2		16 12	PP
RENO	88.26	49.4	12 45A	0						
VICTORIA	88.27	40.1	12 44	-1						
DEHRA DUN	89.24	300.9	13 5	16	23 27	-4			18 14	PPP
POONA	90.66	288.6	12 54	-2	23 13	-31			22 43	SKKS
EUREKA	91.13	50.2	12 59A	1					30 22	PKKP
BOMBAY	91.69	288.8	12 59	-2	23 29	-24				
RUTH	91.83	50.6	13 3A	1						
SEMIPALATNSK	92.13	320.8	13 0	-3	23 53	-4			16 37	PP
ALMATA	92.80	313.3	13 5	-1	23 32	-31				
TUCSON	93.85	58.1	13 11	0	24 21	9				
TUCSON TELE.	93.96	58.0	13 12A	1						
GLEN CANYON	94.04	53.3	13 13	1			13 36		30 24	PKKP
HUNGRY HORSE	94.29	41.8	13 12A	-1	24 21	6				
FRUNSE	94.39	312.6	13 13	0	23 41	-35			24 26	SCS
SALT LAKE C.	94.48	49.5	13 14K	0						
BUTTE	94.85	44.3	13 16K	1						
WARSAK DAM	95.34	303.4	13 16	-2						
BOZEMAN	95.85	44.8	13 20K	0						
FLAMING GRGE	96.35	49.7	13 21A	-1			13 45			
TASHKENT	98.11	310.5	13 28	-2	24 0	0			24 49	SCS
DUZHANBE	98.18	307.7	13 35	5	23 59	-2				
QUETTA	98.68	299.1	13 32	-1	23 59	-4			17 42	PP
RAPID CITY	101.22	47.0	13 45K	1						
KHEYS	102.29	350.6			24 22	1			18 7	PP
TACUBAYA	102.46	72.3	13 49	-1	24 11	-11			18 3	PP
RESOLUTE	103.64	15.4	14 17	22	24 27	0			17 31	PP
ASHKABAD	106.32	306.5			24 37	-2				
FAYETTEVILLE	107.91	55.4	18 3	777					18 39	PP
TANANARIVE	108.32	246.1							18 11	PP
LITTLE ROCK	109.42	56.8	18 26	777						
FLORISSANT	110.87	52.4			25 1	2			19 0	PP

ST. LOUIS 1	110.98	52.6	18	24	-1	25	2	3				
SHIRAZ	111.15	297.8	18	49	24						29	38 SP
APATITY	113.33	340.7				25	2	-6			19	38 PP
SANTA LUCIA	114.29	133.9									28	59 PS
GORIS	115.60	308.8									22	30 PPP
TIFLIS	116.41	311.5	18	36	0	25	25	5				
KIRUNA	117.02	344.3	18	39	2							
MOSCOW	117.03	328.0									20	0 PP
PULKOVO	118.65	334.1									35	59 SS
HUANCAYO	119.69	110.3									18	47 PP
SCORESBY SD.	119.92	1.2	18	43	0						20	20 PP
UMEA	119.92	341.1	18	54	11							
OTTAWA	120.43	43.1	18	44	0							
NURMIJARVI	120.54	336.7	18	44	0							
BREBEUF	121.80	42.5	18	49K	3							
SHAWINIGAN	122.01	41.1	18	47	0							
SKALSTUGAN	122.45	344.1	18	46	-1							
KIMBERLEY	122.62	226.1	18	41K	-7							
PALISADES	122.96	47.6	18	49	1	25	46	4	19	8	20	16 PP
SEVEN FALLS	123.04	39.9	18	46	-3							
SIMFEROPOL	123.10	317.4									20	47 PP
ADDIS ABABA	123.19	274.0	18	49	0							
CHINCHINA	123.61	90.9	18	50	0	25	48	4			20	31 PP
UPPSALA	123.61	338.8	19	5	15							
BULAWAYO	124.26	237.0	18	51A	0							
WESTON	124.40	45.4	18	49	-2							
LA PAZ	124.47	118.2	18	54	3						20	40 PP
KSARA	124.84	304.0	18	53	1	26	7	19			20	59 PP
BOGOTA	125.07	91.6									20	35 PP
FUQUENE	125.54	90.7									20	47 PP
JERUSALEM	125.78	301.7	18	54	0						21	17 PP
REYKJAVIK	126.29	1.6	19	9	14							
LWOW	127.07	326.4	18	57	1						22	10 PSP
GOTEBORG	127.18	339.8	18	37	-20							
WARSAW	127.24	330.3									20	56 PP
ISTANBUL KA.	127.95	314.6									21	14 PP
ISTANBUL UN.	128.02	314.6	18	56	-2						21	1
BUCHAREST	128.55	319.6									20	53 PP
HALIFAX	128.67	40.0	18	58	-1							
KRAKOW	129.11	328.6									21	15 PP
HELWAN	129.43	300.2	19	1	0						21	26 PP
RACIBORZ	129.97	329.5	19	3	1						22	17
POTSDAM	130.76	334.6	19	3	0						21	30 PP
LWIRO	130.88	257.9	19	6K	2						21	23 PP
HURBANOVO	131.34	327.2									22	27 PKS
ABERDEEN	131.54	347.8									22	54
COLLMBERG	131.57	333.7	19	5K	0						21	27 PP
BRATISLAVA	131.73	328.2	19	7	2						21	28 PP
PRUHONICE	131.80	331.5	19	6K	1						21	29 PP
WINDHOEK	131.86	226.9	19	7	1							
HALLE	131.88	334.5	19	5	-1						21	35 PP
VIENNA-H.	132.06	328.7	19	7K	1	26	11	3				
JENA	132.46	334.2	19	6	-1				19	39	21	31 PP
PLAUEN	132.53	333.4	19	3	-4						19	24
CHEB	132.73	332.9									22	26 PKS
CARACAS	132.82	85.3									21	30
MUNSTER	133.25	337.7	19	8	0						22	32
SAN JUAN	133.69	74.5	19	9	0							
BENSBERG	134.22	337.2	19	12	2						21	26 PP
LJUBLJANA	134.45	327.5	19	11	1						21	55 PP
HEIDELBERG	134.82	334.7	19	10	-1							
TOLMEZZO	134.99	328.8	19	7	-4						21	41 PP
STUTTGART	135.06	333.7	19	11	-1				19	27	22	3 PP
TRIESTE	135.11	327.6	19	12	0						21	56 PP
STRASBOURG	135.85	334.6							19	30	22	12 PP
TARANTO	136.19	319.4									39	59 SS
PADOVA	136.25	328.6									23	59 PP
KEW	136.29	343.2									22	9 PP
BASLE	136.75	333.8									21	57
PARIS	137.72	339.0									22	20 PP
ROME	138.25	324.3									22	50 PKS
CHIAVARI	138.31	329.3	19	48	31							
ISOLA	139.53	331.0	19	28	8						22	33 PP
CLERMONT-FD.	140.01	335.9	19	21	0							
TORTOSA	145.16	333.8	19	33	3							
SETIF	146.14	323.3	19	33	2						23	2 PP
ALGIERS UNI.	147.07	326.5	19	33	0						22	55 PP
TOLEDO	147.78	338.3	19	37	3						20	0

RELIZANE	149.17	328.1	19 41	5			20 6	23 21	PP	
ALMERIA	149.74	333.2	19 36K	-1	26 31	-5	20 2	23 24	PP	
GRANADA	149.95	335.1	19 59	22			20 35	42 17	SS	
MALAGA	150.67	335.7	19 43K	5				23 41	PP	
TAMANRASSET	153.59	300.9	19 44A	1			20 11	23 30	PP	
MBOUR	175.59	334.7	20 4	2				26 12	PP	

OCTOBER 22 19.H 17.M 51.S EPICENTRE 46.34 21.30 DEPTH= 0.KM

A= 0.64554 B= 0.25164 C= 0.72108 D= 0.3632 E=-0.9317
G= 0.6718 H= 0.2619 K=-0.6929 HT= -4.0

SE= 4.86

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
KECSKEMET	1.25	298.5						0 24	PG
BELGRADE	1.63	201.7						0 18	PG
BUDAPEST	1.94	307.1	0 34	-1	1 2	2			
UZHGOROD	2.39	16.1	0 44	3				3 19	
RAKHOV	2.53	49.9	0 44	1	1 21	6		1 7	
HURBANOVO	2.61	307.1			1 9	-8		0 55	PG
CAMPULUNG	2.82	110.9	0 46	-1	1 22	-1			
SKALNATE PL.	2.93	346.4	0 48	-1	1 17	-8		1 2	PG
BRATISLAVA	3.40	304.2	0 52	-4				1 7	PG
CERNAUTI	3.70	56.7						2 5	S*
ZAGREB	3.74	264.0	1 9	9				1 52	SG
KRAKOW	3.83	346.7	1 4	2	1 58	10			
VIENNA-H.	3.86	301.5	1 0	-2	1 47	-2		1 16	PG
BUCHAREST	3.89	117.8	1 13	10	1 49	-1		1 37	PG
SOFIA	3.92	157.5	0 51	-12	1 42	-8		0 59	PP
LWOW	3.94	26.7	1 11	8	1 55	4		2 12	
CHORZOW	4.24	339.6	1 10	2	2 2	3		1 33	PG
RACIBORZ	4.28	332.2	1 10	2	2 12	13		1 20	PP
LJUBLJANA	4.71	269.0	1 6	-8	1 59	-11		1 24	PG
KISHINEV	5.23	79.8	1 18	-4				1 53	
TRIESTE	5.30	265.3	1 18	-5	2 19	-6		1 41	PGPG
TOLMEZZO	5.73	273.6			2 3	-33		1 28	PG
PRUHONICE	5.80	311.4	1 27A	-3	2 34	-4		1 54	PG
WARSAW	5.90	358.3						3 27	SG
TARANTO	6.56	208.1			3 31	34		2 26	
PADOVA	6.65	265.4			2 51	-8		3 22	S*
CHEB	7.04	305.4	1 54	7	2 53	-16		2 13	PG
PLAUEN	7.36	307.7	1 44	-8	3 14	-3		3 32	SG
COLLMBERG	7.39	315.2	1 50	-2	3 12	-6		2 28	PG
PRATO	7.62	254.9	2 19	24	3 48	25			
ISTANBUL KA.	7.71	130.3	1 45	-11				3 48	SG
ROME	7.74	238.2	2 15	18	3 47	21		3 1	P*
JENA	7.91	309.1	1 58	-1	3 18	-12		2 27	PG
HALLE	8.03	313.4	2 3	2	3 30	-4		2 46	PG
POTSDAM	8.08	321.4						3 58	
RAVENSBURG	8.10	284.5	2 2	0	3 38	3		4 34	SG
CHUR	8.12	277.9	1 59	-3	3 6	-30			
STUTTGART	8.49	291.0	2 3	-4				4 11	SG
PAVIA	8.56	266.6						5 18	
TUBINGEN	8.58	289.3	2 12	4				4 49	
EBINGEN	8.59	286.9	2 3	-6				4 30	SG
HEIDELBERG	8.99	294.5	2 8	-6				4 59	SG
SIMFEROPOL	9.09	94.1	2 18	2				5 21	
MESSINA	9.18	209.7			3 55	-7		4 8	SS
YALTA	9.24	96.8	2 18	0				4 28	
ALUSHTA	9.36	95.3	2 21	2	4 1	-6		5 30	
STRASBOURG	9.44	288.7	2 23	3	4 14	6		3 2	
NEUCHATEL	9.89	279.0						2 49	
BENSBERG	10.43	301.5	2 35	1				5 35	
BESANCON	10.55	280.5	2 34	-2					
MUNSTER	10.58	307.2	2 53	17					
GOTEBORG	12.73	336.8	2 42	-23					
SOTCHI	13.34	95.3						5 33	
UPPSALA	13.71	352.2	3 18	0				7 2	
MOSCOW	13.90	41.5	3 20	-1					
HELSINKI	14.03	7.6	3 23	1					
NURMIJARVI	14.34	6.7	3 26	-1	6 16	9			
PULKOVO	14.49	18.5	3 27	-1					
TIFLIS	17.50	96.8	4 10	3					
UMEA	17.53	358.4	4 12	4					

SKALSTUGAN	18.01	346.9	4 13	-3				
SODANKYLA	21.27	5.7	4 50	0				
KIRUNA	21.56	359.1	4 53	0			9 17	
APATITY	22.19	12.3	5 3	3	9 36	36	8 56	PCP
TAMANRASSET	26.75	213.9	5 32	-11				
SHIRAZ	29.46	113.5	6 0	-8				
HUNGRY HORSE	77.96	331.3	11 57	-5				

OCTOBER 23 6.H 32.M 20.S EPICENTRE 31.39 -40.76 DEPTH= 0.KM

A= 0.64775 B=-0.55840 C= 0.51828 D=-0.6529 E=-0.7574
G= 0.3926 H=-0.3384 K=-0.8552 HT= 1.4

SE= 1.83

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
HALIFAX	22.23	312.9	5	OK	1	9	6	6					
SAN JUAN	26.32	246.5	5	38	-1								
WESTON	26.65	302.9	5	42	0								
MBOUR	27.60	122.4	5	48	-3						6	41	PP
SEVEN FALLS	27.86	312.9	5	54K	1								
PALISADES	28.28	299.1	6	3	6	10	7	-35					
SHAWINIGAN	28.89	310.8	6	3	1								
BREBEUF	29.11	308.3	6	6	2								
MALAGA	30.47	70.0	6	17A	1								
GRANADA	31.11	69.1				13	22	115					
MORGANTOWN	32.74	295.5	6	37K	1								
COLUMBIA	33.84	285.4	6	48	2								
KEW	35.76	44.0				12	36	-4					
ALGIERS UNI.	36.44	69.4	7	7	-1								
PARIS	36.81	49.1	7	12	1						7	41	
ABERDEEN	37.02	34.4									8	28	
SETIF	38.38	70.0	7	16	-8						8	45	PP
BENSBERG	40.20	46.7	7	41K	2								
SCORESBY SD.	40.51	9.6	7	44	2								
ST. LOUIS 1	40.75	294.2	7	44	0	14	1	6					
FLORISSANT	40.85	294.5				14	3	6					
STUTTGART	41.24	50.3	7	47	-1								
TAMANRASSET	41.84	90.1	7	54	1				8	19	9	37	PP
JENA	42.95	47.3	8	2	0	14	34	6			9	34	PP
LITTLE ROCK	42.97	288.9	8	0	-2								
COLLMBERG	43.88	46.9	8	9	-1	14	41	0			13	0	
TRIESTE	44.14	55.1	8	13	1								
FAYETTEVILLE	44.22	291.1	8	11K	-1				8	32			
GOTEBORG	44.34	37.7	7	33	-40						8	16	
LJUBLJANA	44.67	54.5	8	16	0								
PRUHONICE	44.76	48.9	8	17	0	15	0	6			10	0	PP
SKALSTUGAN	46.09	29.7	8	27	0								
THULE	46.94	351.4	8	33	-1								
UMEA	49.58	30.6	8	56	2								
RAPID CITY	49.87	303.3	8	56	-1								
KIRUNA	50.51	25.5	9	1	-1								
RESOLUTE	50.74	343.8	9	2	-1								
LWOW	50.89	49.0	9	4	0								
NORD	51.14	4.4	9	4	-2								
SOFIA	51.27	58.2	9	9	2						10	12	PCP
SODANKYLA	52.76	26.7	9	19	0								
PULKOVO	54.03	36.3									17	12	
LA PAZ	54.39	212.9	9	31	0								
HUANCAYO	54.45	223.0	9	31	0						11	49	PP
FLAMING GRGE	54.94	300.5	9	33	-2						10	40	
BOZEMAN	55.12	306.4	9	35	-1								
APATITY	55.39	26.7	9	38	0								
ISTANBUL KA.	55.80	59.1	9	40	-1								
HUNGRY HORSE	56.61	310.1	9	45	-2								
SALT LAKE C.	56.79	300.8	9	48	0								
GLEN CANYON	57.64	296.4	9	54	0								
MOSCOW	58.35	40.6	9	57	-2								
TUCSON TELE.	58.40	291.0	9	59	0								
TUCSON	58.51	290.9	10	0	0								
PENTICTON	60.00	312.2	10	7	-3								
EUREKA	60.18	300.4	10	11	-1								
BOULDER CITY	60.42	296.3	10	14	1								
KHEYS	60.68	10.7	10	15	0								
HELWAN	60.97	71.0	10	16	-1						10	36	
RENO	62.98	301.5	10	31K	1								

KSARA	63.15	65.2	10 32	0						
PASADENA	63.63	295.4	10 35	0	19	16	8			
FRESNO	63.93	298.6	10 36	-1						
MINERAL	64.00	302.9	10 36K	-1						
LICK	65.10	299.8	10 45A	1						
VINEYARD	65.12	299.1	10 45	1						
BERKELEY	65.36	300.6	10 45	-1	19	34	4			
COLLEGE	68.81	334.0	11 7	-1					11	46
SVERDLOVSK	70.12	35.0	11 14	-2					12	23
LWIRO	73.85	102.9	11 39	1					21	43
ADDIS ABABA	76.45	87.6	11 58	5						
SHIRAZ	77.73	62.8	12 0A	0					19	38
QUETTA	88.06	55.6	12 55	2						
HONG KONG	121.46	27.4							15	25
TERRE ADELIE	144.51	181.5	19 35	-3						
RABAUL	150.34	333.2							19	40

OCTOBER 24 5.H 12.M 13.S EPICENTRE -15.03 167.07 DEPTH= 188.KM

A=-0.94170 B= 0.21627 C=-0.25773 D= 0.2238 E= 0.9746
G= 0.2512 H=-0.0577 K=-0.9662 HT= 5.7

DEPTH OF FOCUS= 0.025R

SE= 1.88

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
HONIARA	8.91	307.9	2	3	-3						3	33	
SUVA	11.33	107.5	2	42	4	4	42	1			4	22	
BRISBANE	18.10	224.9	4	0	0	7	14	1					
RABAUL	18.19	304.8	4	0	-1								
PORT MORESBY	20.25	283.8	4	24	2	8	10	16					
CHARTERS TS.	20.46	252.8	4	26	2	8	9	11					
AFIAMALU	20.51	89.6	4	17	-8								
ONERAHI	21.66	163.7	4	38	2						5	24	
RIVERVIEW	23.61	214.7	4	56A	1	9	4	11	5	24	5	34	PP 0
KARAPIRO	24.01	163.4	4	57A	-2								
TONGARIRO	25.20	164.4	5	10	0								
TUAI	25.29	161.3	5	8	-3								
CANBERRA	25.90	215.5	5	17A	0				5	42	8	41	PCP
GEBBIES PASS	28.97	171.6	5	41	-3								
MELBOURNE	29.97	216.6	5	54	1				6	23			
ROXBURGH	30.41	176.9				11	17	35					
MOORLANDS	32.23	208.2	6	15A	2						9	0	PCP
ADELAIDE	32.28	226.9	6	13	0	11	20	8			15	37	
TARRALEAH	32.46	209.1	6	17	2						6	50	SP
FORT NELSON	32.55	207.4	6	17	2						6	49	SP
MUNDARING	49.14	240.6	8	30	-1								
PERTH	49.46	240.7									19	32	SS
KIPAPA	49.86	44.2	9	4	28								
TERRE ADELIE	54.45	192.2	9	9	-1								
CAPE HALLETT	57.29	178.9	9	28K	-2	17	18	8			10	14	PCP
MATUSIRO	58.08	332.7	9	34A	-2				10	1	10	21	PCP
LEMBANG	58.79	271.1	9	40K	-1								
SCOTT BASE	62.84	180.1	10	7K	-1								
WILKES	63.21	202.2	10	10A	0	18	32	7					
HONG KONG	63.73	304.5	10	16K	2						19	21	
VLADIVOSTOK	66.24	332.6	10	30A	0								
MIRNY	69.98	204.2	10	53	0	19	55	8					
BYRD STATION	72.43	169.9	11	5	-3						13	46	PP
SOUTH POLE	75.06	180.0	11	22	-1						12	11	
MAWSON	81.53	202.1	11	58	0								
ULAN-BATOR	82.38	323.9	12	3	1								
CHITTAGONG	82.51	295.5	12	5	2	22	14	12	12	48			
SHILLONG	83.55	298.5	12	10A	2								
BERKELEY	84.52	48.6	12	13	0				12	42	21	35	
CONCORD	84.70	48.6	12	13	-1				12	43			
LICK	84.76	49.3	12	14A	0				12	43			
FRESNO	85.90	50.4	12	20	0				12	54			
IRKUTSK	86.07	326.8	12	20	-1								
PASADENA	86.18	53.3	12	22	1	22	1	-37	12	51			
COLLEGE	86.67	17.6	12	22	-2								
RENO	86.93	47.8	12	25K	0								
CHATRA	87.95	298.3	12	31	1								
BOULDER CITY	89.38	52.5	12	37	1				13	7			

EUREKA	89.69	48.9	12 38	0	13 7	16 10	PP
TIKSI	90.21	348.7	12 41	1			
PENTICTON	90.77	38.8	12 43	0		29 24	
TUCSON TELE.	91.51	57.0	12 47	1	13 17		
GLEN CANYON	92.17	52.4	12 49	0	13 18		
HUNGRY HORSE	93.90	41.0	13 26	29		29 59	PKKP
FLAMING GRGE	94.93	49.1	13 1	-1	13 30		
SHIRAZ	118.44	295.8	18 27K	2			
PALISADES	121.55	50.9				36 54	SS
SODANKYLA	121.73	343.2	18 32	0			
KIRUNA	123.01	345.6	18 34	0			
SCORESBY SD.	124.30	3.7	18 38	1			
UMEA	126.14	342.5	18 39	-1		19 13	
BULAWAYO	126.25	230.6	18 42	2			
NURMIJARVI	127.07	337.8	18 43	1			
SKALSTUGAN	128.43	345.9	19 10	25			
SAN JUAN	129.09	78.4	18 54	8			
ADDIS ABABA	129.17	269.5	18 52	6			
BROKEN HILL	129.66	236.3	18 49	2			
KSARA	132.26	302.2	18 54	2		21 22	PP
JERUSALEM	133.16	299.6	18 57	3			
HELWAN	136.78	297.7	19 3	3			
COLLMBERG	138.26	335.6	18 56	-7		19 39	
HALLE	138.51	336.6	18 52	-11		19 38	
PRUHONICE	138.61	333.2	19 7	3		22 24	PP
JENA	139.10	336.4	19 2	-2		19 35	
BENSBERG	140.67	339.9	19 6	-2			
LJUBLJANA	141.45	329.0	19 6	-3		19 46	
STUTTGART	141.73	336.2	19 7	-2	19 51		
STRASBOURG	142.46	337.3	19 13	2		20 25	
BASLE	143.40	336.5	19 11	-1		28 50	
PARIS	144.01	342.6	19 15	2	19 46		
NEUCHATEL	144.08	336.6	19 15	2			
BESANCON	144.23	337.8	19 15	1			
ROME	145.39	325.7	19 18A	2		19 51	
MESSINA	145.88	317.9	19 19	2			
ISOLA	146.34	333.7	19 20	3		19 26	PKP2
CLERMONT-FD.	146.51	339.5	19 22A	4		19 54	
MONACO	146.53	332.8	19 22	4		19 56	
BAGNERES	149.89	340.7	19 30	7			
SETIF	153.30	325.5	19 29	1	20 39	19 51	PKP2
TAMANRASSET	160.93	296.6	19 41K	4	20 25	24 10	PP

OCTOBER 27 15.H 39.M 17.S EPICENTRE 71.39 -9.06 DEPTH= 0.KM

A= 0.31711 B=-0.05057 C= 0.94704 D=-0.1575 E=-0.9875
G= 0.9352 H=-0.1491 K=-0.3211 HT=-12.1

SE= 2.58

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
NORD	10.41	353.8	2 29	-4	4 23	-9		
KIRUNA	10.81	94.8	2 37	-2	4 27	-15		4 49 S*
SKALSTUGAN	11.25	123.4	2 42	-3	4 30	-23		
SODANKYLA	13.05	90.4	3 6	-3	5 27	-9		
UMEA	13.35	109.9	3 8	-5	5 26	-18		5 58 S*
ABERDEEN	14.57	164.8	3 28K	-1	6 23	10		
APATITY	15.13	83.8	3 37	0	6 24	-2		6 59
UPPSALA	15.77	123.5	3 41	-4	6 25	-16		5 45
GOTEBORG	16.29	136.6	3 55	3				7 12 S*
THULE	16.46	314.2	3 50	-4				
NURMIJARVI	17.23	111.9	4 4	1	7 2	-13		
KHEYS	17.31	30.5	4 8	4				4 18 PP
HELSINKI	17.59	112.2	4 6	-2	7 10	-13		
COPENHAGEN	18.25	138.5	4 13A	-3	7 42	4		
PULKOVO	19.53	106.2	4 32	0	7 57	-10		8 25 SS
KEW	20.38	164.2	4 40	-1	8 30	5		
DE BILT	20.38	154.2			8 31	6		
MUNSTER	20.88	150.1	4 45	-1				
POTSDAM	21.47	140.9	4 50	-2	8 54	8		
BENSBERG	21.78	151.6	4 54	-1				5 15
HALLE	22.09	143.4	5 0	2	8 57	-1		5 29 PPP
COLLMBERG	22.48	141.9	5 1K	-1				5 24 PP
JENA	22.56	144.5	5 2	-1	9 7	1		5 12 PP
PLAUEN	23.09	143.9	5 5	-3				6 0

RESOLUTE	23.20	317.7	5 13	4						
PARIS	23.28	160.4	5 9	-1	9 39	20				
WARSAW	23.42	129.1	5 13	2	9 19	-3				
HEIDELBERG	23.54	150.0	5 13	0						
PRUHONICE	24.05	140.6	5 19K	2	9 38	5				
STRASBOURG	24.19	152.0	5 19	0	9 43	8			5 39	
STUTTGART	24.24	149.5	5 19	0	9 48	12				
TUBINGEN	24.44	150.0	5 22	1						
RACIBORZ	24.74	135.2	5 24	0						
EBINGEN	24.77	150.4	5 25	1					6 12	
MOSCOW	25.10	104.0	5 32	4					9 55	
KRAKOW	25.17	132.7	5 29	1					9 57	
BESANCON	25.24	155.5	5 30	1						
RAVENSBURG	25.26	149.6	5 29	0						
SKALNATE PL.	26.06	133.0	5 37	0	10 13	7				
VIENNA-H.	26.07	139.2	5 37	0						
BRATISLAVA	26.30	138.2	5 42A	3						
CLERMONT-FD.	26.35	160.6	5 41	2						
LWOW	26.39	127.3	5 45	5					11 49	SSS
PAVIA	27.72	151.6			11 5	31				
SIMFEROPOL	33.58	118.5	6 48	4	12 8	2			13 19	PCS
MESSINA	35.59	145.7	7 2	1	12 32	-5			8 21	PP
ISTANBUL UN.	35.84	127.2	7 9	6						
SETIF	36.06	159.9	7 2	-3						
COLLEGE	41.13	334.7	7 47	0						
PALISADES	43.75	262.1			14 50	10			17 50	SS
KSARA	44.45	122.9	8 15	1					9 57	PP
HELWAN	47.02	129.7	8 38	3					10 24	
TEHERAN	47.19	105.3	8 32	-4						
ASHKABAD	47.35	97.1	8 41	4					15 34	PS
TAMANRASSET	49.35	162.2	8 50	-3						
SHIRAZ	53.19	107.0	9 22	0	16 51	-1	9 30			
QUETTA	57.25	92.6	9 52	1						
RIVERVIEW	140.92	26.6							11 52	
SOUTH POLE	161.27	180.0	20 55	53					27 3	

OCTOBER 27 22.H 27.M 59.S EPICENTRE -15.35-174.90 DEPTH= 265.KM
A=-0.96094 B=-0.08578 C=-0.26313 D=-0.0889 E= 0.9960
G= 0.2621 H= 0.0234 K=-0.9648 HT= 5.7

DEPTH OF FOCUS= 0.037R

SE= 1.73

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
AFIAMALU	3.34	65.0	0 56K	-2					
SUVA	6.97	245.6	1 45	4	2 41	-19			
NOUMEA	18.95	245.8	4 3	0	5 22	-118			
ONERAHI	22.48	203.3	4 41	3					
KARAPIRO	24.02	198.8	4 52	0			5 47		
CHATEAU	25.20	197.6	5 2	-1					
TONGARIRO	25.20	197.7	5 1	-2					
HONIARA	25.25	280.5	5 3	-1					
WELLINGTON	27.34	197.1	5 22	-1					
COBB RIVER	27.79	200.3	5 26	-1					
BRISBANE	32.29	242.9	6 3K	-3	10 52	-7			
RABAUL	34.23	285.5	6 21	-2				8 54	
RIVERVIEW	35.71	232.8	6 29A	-6					
CHARTERS TS.	37.24	256.9	6 48K	0	12 16	1			
PORT MORESBY	37.50	274.5	6 51	1	12 24	5		9 3	PCP
KIPAPA	40.12	24.8						8 2	
MELBOURNE	41.86	229.9	7 26K	0	13 23	0	8 8		
ADELAIDE	45.84	236.0	7 57	0					
GUAM	49.13	303.6	8 23	0				9 43	PCP
CAPE HALLETT	57.62	185.3	9 25A	1	17 7	7			
SCOTT BASE	63.18	184.3	10 4	2					
MUNDARING	64.28	241.7	10 9	0					
TUKUBASAN	66.62	321.5	10 23K	-1					
MATUSIRO	67.98	320.6	10 31K	-1				11 52	
BYRD STATION	69.22	171.2	10 41	1			11 42	38 45	PKPPKP
MANILA	69.95	292.2	10 48	4					
BAGUIO CITY	71.07	293.7	10 52	1					
FRESNO	73.36	43.4	11 5	0					
SOUTH POLE	74.74	180.0	11 13	0				38 15	PKPPKP
RENO	74.92	41.1	11 15A	1					

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LEMBANG	76.19	266.6	11 21K	0				
BOULDER CITY	76.32	46.3	11 22	1				
TUCSON	77.42	51.3	11 28	1			12 31	
TUCSON TELE.	77.55	51.3	11 30	2			12 32	
VICTORIA	78.29	32.1	11 32K	0				
HONG KONG	78.89	296.9	11 37K	2				
PENTICTON	80.76	33.0	11 44	-1				
COLLEGE	82.59	11.3	11 54	-1			12 53	
BUTTE	82.91	38.5	11 56	0				
BANFF	83.97	33.0	12 0K	-2				
ARGENTINE I.	84.52	156.7	12 6	2				
MAWSON	87.37	198.9	12 18	0				
FAYETTEVILLE	91.61	53.1	12 37A	-1			13 19	
HUANCAYO	95.87	104.1	13 1	3				
SHILLONG	99.33	294.0	13 15A	2				
PALISADES	108.13	51.4			24 12 7			27 48 PS
WARSAK DAM	117.82	300.6	18 15	0				
QUETTA	121.72	296.2	18 25	3			19 31	
APATITY	124.69	347.2	18 28	0				
TANANARIVE	126.09	232.2	18 36	5				20 28 PP
SODANKYLA	126.15	349.9	18 25	-6				
KIRUNA	126.63	352.8	18 29	-3				
UMEA	130.46	351.2	18 29	-10				
SKALSTUGAN	131.57	355.7	18 41	0				
KIMBERLEY	132.20	203.5	18 43	1				
NURMIJARVI	132.72	347.0	18 32	-11				22 11 PKS
HELSINKI	132.96	346.6	18 36	-8				
TEHERAN	134.06	305.1	18 41	-5				
SHIRAZ	134.25	296.5	18 47K	1			19 4	21 17 PP
UPPSALA	134.63	351.1	18 40	-7				
GOTEBORG	137.41	354.5	18 43	-9				
BULAWAYO	137.83	213.9	18 42K	-11				
WINDHOEK	140.52	197.6	18 53	-5				
BROKEN HILL	142.44	219.1	18 59K	-3				
WITTEVEEN	142.60	358.4	19 1	-1				
KRAKOW	143.36	344.0	19 1	-2				
MUNSTER	143.42	357.4	18 3	-60				
HALLE	143.53	352.8	19 1	-2			20 10	23 3
COLLMBERG	143.59	351.6	19 1	-3				22 16 PP
RACIBORZ	143.77	345.7	19 3	-1				
JENA	144.13	353.0	19 3	-1			20 12	21 29
BENSBERG	144.45	357.7	19 5K	0				20 12
PLAUEN	144.49	352.2	19 1	-4				
PRAGUE	144.56	349.6	19 7	2				
PRUHONICE	144.62	349.5	19 6K	1			20 12	20 32 *SPKP
SONNEBERG	144.72	353.2	19 4	-1				
BRATISLAVA	145.81	345.7	19 9	2			20 16	
HURBANOVO	145.81	344.2	19 11	4				
VIENNA-H.	145.91	346.5	19 9	2				
HEIDELBERG	145.92	355.8	19 9	2			20 14	
STUTTGART	146.50	355.0	19 9	1			20 17	22 38 PP
ADDIS ABABA	146.53	263.1	19 13	5				
PARIS	146.57	3.1	19 10	2			20 15	
KSARA	146.70	309.1	19 11	2			20 16	22 43
TUBINGEN	146.76	355.2	19 12K	3			20 15	
STRASBOURG	146.79	356.8	19 10	1				20 17
ISTANBUL KA.	147.01	325.7	19 10K	1				19 12 PKP2
ISTANBUL UN.	147.07	325.7	19 9K	0			20 15	
EBINGEN	147.11	355.2	19 10	1				
RAVENSBURG	147.45	354.3	19 11	1				
BASLE	147.85	356.8	18 47	-23				
JERUSALEM	148.06	306.1	19 13	2				22 43
BESANCON	148.19	358.9	19 12	1				
TOLMEZZO	148.35	349.5	19 1	-10				19 23
CHUR	148.38	354.2	19 12K	1				
LJUBLJANA	148.39	347.4	19 13K	2			19 21	19 16 PKP2
NEUCHATEL	148.41	357.6	19 16	5				
SOFIA	148.57	333.8	19 13	2			21 30	19 17 PKP2
TRIESTE	148.93	348.2	19 14	2			20 22	19 18 PKP2
PADOVA	149.50	350.6	19 19	6				21 5 PP
CLERMONT-FD.	149.63	2.7	19 16A	3				
LWIRO	150.75	235.3	19 17	2				
ISOLA	151.22	357.1	19 17	2				23 7 PP
MONACO	151.65	356.4	19 24	8				
HELWAN	151.90	305.4	19 18	2				20 34
ATHENS	152.10	327.4	19 23K	6				
TOLEDO	154.29	16.4	19 23	3				19 46
GRANADA	156.93	18.0	19 59K	36				
ALMERIA	157.56	16.1	19 25K	1				23 44 PP

ALGIERS UNI.	158.59	4.5	19 22	-3				20 3		
SETIF	159.24	359.3	19 27	1				20 6	PKP2	
RELIZANE	159.28	10.5	19 26	0		20 35		23 18	PP	
TAMANRASSET	172.60	357.0	19 40K	3		20 47		24 54	PP	

OCTOBER 28 4.H 18.M 39.S EPICENTRE 71.38 -9.24 DEPTH= 0.KM

A= 0.31699 B=-0.05155 C= 0.94703 D=-0.1605 E=-0.9870
G= 0.9347 H=-0.1520 K=-0.3212 HT=-12.1

SE= 2.66

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
AKUREYRI	6.59	213.8	1 37	-4	2 54	-3			
SIDA	8.34	208.0	2 3	-2	3 52	11		2 46	
REYKJAVIK	8.70	219.5	2 16	6	3 55	5		2 39	
VIK	8.82	209.9	2 19	7	4 9	16			
NORD	10.40	354.0	2 30A	-4	4 14	-18			
KIRUNA	10.86	94.6	2 37	-3				4 49	S*
SKALSTUGAN	11.29	123.1	2 43	-3					
BERGEN	12.47	144.8	2 58	-4	5 12	-10		3 14	PPP
SODANKYLA	13.11	90.2	3 8	-2	5 18	-20			
UMEA	13.40	109.6	3 11	-3	5 30	-15		6 4	S*
ABERDEEN	14.59	164.4	3 28A	-2	6 18	5		6 46	SS
APATITY	15.18	83.6	3 35	-2	6 23	-4		6 33	SS
UPPSALA	15.82	123.2	3 42	-4	6 27	-15			
GOTEBORG	16.32	136.3	3 51	-1				7 7	S*
THULE	16.42	314.2	3 46	-7	6 37	-19			
DURHAM	17.01	164.7	4 1	0	7 14	4			
NURMIJARVI	17.28	111.7	4 2	-2	7 3	-13			
KHEYS	17.34	30.5	4 6	1				4 13	PP
HELSINKI	17.64	112.0	4 9	0	7 13	-11			
COPENHAGEN	18.29	138.2	4 15A	-2	7 44	5			
PULKOVO	19.59	106.0	4 31	-1	7 57	-11		8 9	SS
WITTEVEEN	19.93	150.8	4 35	-1					
KEW	20.39	163.8	4 39A	-2	8 27	2			
DE BILT	20.41	153.9	4 42	1	8 33	8			
MUNSTER	20.90	149.8	4 44	-2					
POTSDAM	21.51	140.6	4 52	-1	8 51	4		5 41	
BENSBERG	21.81	151.3	4 55A	-1	8 50	-3			
HALLE	22.12	143.1	4 58	-1	9 2	4		5 17	PP
COLLMBERG	22.52	141.7	5 2A	-1	9 11	5		5 40	PPP
JERSEY	22.52	167.7	5 2	-1	9 21	15			
JENA	22.60	144.2	5 2	-1	9 9	2		5 12	PP
SONNEBERG	23.05	145.2	5 7	-1	9 17	2		5 30	PP
PLAUEN	23.13	143.6	5 5	-4	9 16	-1			
RESOLUTE	23.16	317.6	5 9	0	9 22	5			
WARSAW	23.46	128.9	5 13A	1	9 25	3		5 40	PP
CHEB	23.56	143.6	5 16	3	9 26	2		5 47	PP
HEIDELBERG	23.57	149.8	5 14A	1					
PRAGUE	23.97	140.5	5 19A	2	9 30	-1		6 4	PPP
PRUHONICE	24.08	140.4	5 19A	1	9 35	2			
STRASBOURG	24.22	151.7	5 20A	1	9 41	5		6 1	PP
STUTTGART	24.27	149.3	5 19	-1	9 41	5		6 3	PPP
TUBINGEN	24.47	149.7	5 23A	1					
RACIBORZ	24.78	134.9	5 24	-1	9 51	6		6 4	PP
EBINGEN	24.79	150.1	5 26A	1					
MOSCOW	25.16	103.8	5 30A	2	9 52	0		6 1	PP
KRAKOW	25.21	132.5	5 30	1	9 50	-2			
BASLE	25.21	152.6	5 29A	0	9 51	-1			
BESANCON	25.26	155.2	5 28A	-1					
RAVENSBURG	25.29	149.3	5 30	1					
NEUCHATEL	25.64	153.8	5 33	0	10 11	11		17 21	
SKALNATE PL.	26.10	132.8	5 40	3				6 11	PP
VIENNA-H.	26.11	139.0	5 37	0	10 6	-1			
CHUR	26.18	150.0	5 38A	0	10 21	13			
BRATISLAVA	26.34	138.0	5 38K	-1	10 18	7		6 0	PP
CLERMONT-FD.	26.37	160.3	5 39A	-1	11 21	69			
LWOW	26.43	127.0	5 41	1	10 12	-1		6 25	PP
HURBANOVO	26.86	136.6	5 45	1				6 3	PP
TOLMEZZO	27.21	145.0	5 47	0				6 47	PPP
BUDAPEST	27.41	135.8	5 55	6	10 34	5			
PAVIA	27.75	151.3	5 51	-1	10 33	-1			
LJUBLJANA	27.83	143.1	5 52	-1	10 33	-3		6 49	PP
PADOVA	27.97	147.3	5 49	-5	11 9	31		7 2	PPP

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TRIESTE	28.07	144.4	5	55	0	10	39	0			9	48
CHIAVARI	28.61	151.5	5	55	-5	10	44	-4			12	4
BAGNERES	28.77	165.6	6	0A	-1							
PRATO	29.32	149.1	6	10	4	10	47	-12				
TIMISOARA	29.54	134.0	6	19	11							
BELGRADE	30.25	135.6	6	16K	1	11	18	4			6	54 PP
SERRA PILAR	30.33	179.0	6	8A	-7	11	1	-14			7	11 PP
BARCELONA	30.58	163.1	6	11	-7							
TORTOSA	31.03	165.6	6	28	6	11	39	13				
COIMBRA	31.26	178.8	6	31	7	11	28	-2				
ROME	31.48	148.1	6	28A	2	11	35	2			7	34 PP
SVERDLOVSK	31.58	80.2	6	27	1							
TOLEDO	31.69	172.4	6	26A	-1	11	29	-8			7	40 PP
BUCHAREST	31.97	128.5	6	29A	-1	10	51	-50			7	29
LISBON	32.74	179.9	6	37K	1							
SOFIA	32.92	133.1	6	38	0	11	55	-1			7	50 PP
ALICANTE	33.41	167.4	6	39	-3	11	50	-14			7	44 PP
SIMFEROPOL	33.63	118.3	6	45	1	12	6	-1			13	16 PCS
TARANTO	33.74	142.2	6	49	4	11	49	-20				
GRANADA	34.40	172.0	6	56K	5	12	26	7			8	3 PP
TIKSI	34.68	21.8	6	56	3						8	18 PPP
ALMERIA	34.78	170.5	6	54A	0	12	2	-23	7	3	7	59 PP
MALAGA	34.82	173.2	6	58K	3						8	16 PP
ALGIERS UNI.	35.27	162.8	6	58A	0	12	28	-4			8	14 PP
MESSINA	35.62	145.4	6	58	-3	12	36	-2			8	19 PP
ISTANBUL KA.	35.87	126.9	7	2	-2	12	43	1				
ISTANBUL UN.	35.88	127.0	7	4	0							
RELIZANE	36.07	166.4	6	57	-8				7	8	8	17 PP
SETIF	36.08	159.7	7	5K	0						8	28 PP
SOTCHI	36.51	112.9	7	8	-1	12	48	-3				
HALIFAX	37.20	253.7	7	15	0							
SEVEN FALLS	37.24	263.1	7	15	0							
ATHENS	37.52	135.1	7	17K	0							
SHAWINIGAN	38.36	264.6	7	25	1							
MAKHACH-KALA	39.42	104.9	7	33	0	13	36	0				
BREBEUF	39.57	264.6	7	34	-1	13	41	3				
TIFLIS	39.73	108.6	7	38K	2	13	43	3			15	48
OTTAWA	40.33	266.6	7	42	1							
COLLEGE	41.11	334.6	7	48	1	14	4	3			9	29 PP
WESTON	41.63	260.2	7	53K	1	11	15	-174				
GORIS	42.23	108.3	7	56	0	14	19	1			9	46 PCP
SEMIPALATNSK	43.15	69.3	8	5	1						9	43 PP
PALISADES	43.70	262.0	8	18	10	14	44	5			9	58 PP
YAKUTSK	43.88	26.5	8	8	-2							
KSARA	44.49	122.7	8	14K	-1	14	44	-7			9	57 PP
PENNSYLVANIA	45.15	265.7	8	22	2							
KIZYL-ARVAT	45.61	98.3	8	26	2						10	16 PP
CLEVELAND	45.71	269.6	8	25A	0							
JERUSALEM	46.25	124.3	8	31	2	15	21	5				
MORGANTOWN	46.88	267.1	8	35	1							
HELWAN	47.06	129.5	8	36	1	17	27	120				
TCHIMKENT	47.07	83.8	8	37	2	15	29	2			10	26 PP
BANFF	47.23	304.6	8	35	-2							
TEHERAN	47.25	105.1	8	38	1							
ASHKABAD	47.41	96.9	8	41	3							
TASHKENT	47.85	84.6	8	43	2						15	43 PS
IRKUTSK	48.07	49.2	8	42K	-1						10	36 PP
FRUNSE	48.18	78.9	8	45K	1						10	34 PP
ALMATA	48.52	76.6	8	48K	1						10	40 PP
SAMARKAND	48.61	87.7	8	47	0						10	39 PP
BAIRAM-ALI	48.93	93.4	8	51	1	15	53	-1			10	45 PP
RYBACHE	49.02	77.8	8	52	2						10	44 PP
ANDIJAN	49.35	82.1	8	55K	2	16	1	1			9	11
TAMANRASSET	49.37	162.0	8	52A	-1	15	53	-7			10	44 PP
HUNGRY HORSE	49.40	301.8	8	52	-1							
NARYN	49.88	78.5	8	59	2						16	25 PS
PENTICTON	49.99	306.8	8	57	-1							
RAPID CITY	50.17	290.6	8	56	-3							
STALINABAD	50.18	86.6	9	1	2						16	15 PS
FLORISSANT	50.98	276.4	9	5	0	16	23	1				
BOZEMAN	51.02	298.0	9	7	1							
ST. LOUIS 1	51.08	276.2	9	5	-1	16	24	1				
KULYAB	51.11	86.1	9	7	1						16	27 PS
BUTTE	51.12	299.4	9	6	-1							
VICTORIA	51.69	309.4	9	9	-2							
KHOROG	52.06	84.6	9	16	2						16	41 PS
COLUMBIA	52.38	265.1	9	16	0							
ULAN-BATOR	52.73	49.4	9	11	-8	16	31	-15				

SHIRAZ	53.24	106.8	9	23A	1	16	44	-9	9	33	17	29	*SS
FAYETTEVILLE	54.67	278.5	9	31K	-2				9	36	10	3	PCP
WARSAK DAM	55.26	86.3	9	36	-1	17	21	1					
LITTLE ROCK	55.29	276.2	9	35	-2								
PETROPAVLOVK	55.60	8.8	9	47	7						17	27	
SALT LAKE C.	55.75	295.3	9	40	-1								
MBOUR	57.17	188.9	9	51	0	17	49	3					
QUETTA	57.31	92.4	9	52K	0	17	50	3	10	4	12	4	PP
UGLEGORSK	58.11	21.8									10	27	
EUREKA	58.12	299.2	9	57	-1								
MINERAL	58.84	304.3	10	2A	-1								
RENO	59.12	302.5	10	5K	0								
GLEN CANYON	59.20	294.4	10	4	-1								
CHANGCHUN	60.63	36.3	10	15K	0	18	35	4					
DEHRA DUN	60.74	81.9	10	20	4	18	36	4			14	4	PPP
BOULDER CITY	61.06	296.8	10	17	-1								
BERKELEY	61.35	303.9	10	20K	0						22	21	
LICK	61.68	303.2	10	22A	0								
FRESNO	61.71	301.4	10	22	0								
VINEYARD	62.16	302.7	10	25	0								
PEKING	62.37	44.9	10	26	-1	18	56	3			19	14	PS
SAN JUAN	62.39	243.8	10	27	0								
VLADIVOSTOK	62.49	31.2									10	36	
TUCSON TELE.	63.25	291.7	10	32	-1								
TUCSON	63.37	291.8	10	33	0								
PASADENA	63.72	299.0	10	35	-1	19	13	3			23	23	SS
CHATRA	66.85	75.0	10	57K	1						12	2	
CHENGTU	68.20	58.5	11	4K	0	20	6	2			13	37	PP
ADDIS ABABA	68.91	128.1	11	12	3								
SHILLONG	69.47	71.1	11	11K	-1	20	15	-4			20	29	PS
MATUSIRO	69.92	27.5	11	15A	0	20	28	3			28	19	SSS
CARACAS	70.11	242.1	11	16	0	20	29	2					
NANKING	70.59	45.2	11	19	0	20	36	3					
CALCUTTA	71.25	75.4				20	50	10					
ZO-SE	72.05	43.4	11	31	3	20	51	2					
CHITTAGONG	72.47	72.3	11	30K	0	20	45	-9			14	14	PP
KUNMING	73.09	61.5	11	34	0	21	2	1			25	46	SS
FUQUENE	76.86	247.3	11	56	0								
LWIRO	77.54	140.9	11	58	-1						22	0	
BOGOTA	77.77	247.4	12	2	1	21	56	3			22	44	PS
CANTON	77.87	52.5									26	52	
CHINCHINA	77.90	249.0	12	1	0	21	57	3					
LA PAZ	96.21	235.7	13	32	1								
SANTA LUCIA	113.01	232.9									26	33	
CANBERRA	142.09	29.6	19	40	6								
MELBOURNE	143.84	35.7	19	43A	6								
ONERAHI	144.27	355.0									20	57	
KARAPIRO	146.38	353.2	19	44	2						20	20	
MAWSON	146.82	138.2	19	43	1								
CHATEAU	147.65	353.1	19	46	2								
TONGARIRO	147.65	353.1	19	44	0								
TARRALEAH	148.45	35.7	19	49	4								
MOORLANDS	148.72	34.8	19	50	5								
FORT NELSON	149.22	34.8	20	1A	15								
WILKES	158.56	106.6									44	24	SS
SOUTH POLE	161.27	180.0	20	47	45						24	37	PP
BYRD STATION	162.16	212.3	20	15	12						24	44	PP
SCOTT BASE	173.41	172.6									25	40	PP
CAPE HALLETT	179.05	169.9									25	57	PP

OCTOBER 28 7.H 46.M 33.S EPICENTRE 71.34 -9.21 DEPTH= 0.KM

A= 0.31769 B=-0.05154 C= 0.94679 D=-0.1601 E=-0.9871
G= 0.9346 H=-0.1516 K=-0.3218 HT=-12.1

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	
AKUREYRI	6.56	214.1	1	43	3								
REYKJAVIK	8.67	219.7	2	13	3								
NORD	10.45	354.0	2	31K	-3	4	21	-12					
KIRUNA	10.85	94.4	2	38	-2	4	39	-4					
SKALSTUGAN	11.26	123.0	2	42	-4	4	36	-17					
SODANKYLA	13.10	90.1	3	7	-3								
UMEA	13.38	109.5	3	13	-1	5	33	-12			6	4	S*
ABERDEEN	14.54	164.4	3	27K	-2						6	7	

APATITY	15.18	83.5	3 37	-1	6 24	-3		
UPPSALA	15.79	123.1	3 44	-2				7 5 S*
GOTEBORG	16.29	136.2	3 49	-3				6 52
DURHAM	16.97	164.7	4 0K	-1	7 19	10		
NURMIJARVI	17.26	111.6	4 3	-1	7 4	-12		
KHEYS	17.38	30.4	4 7	1				4 19 PP
HELSINKI	17.62	111.9	4 9	0				
COPENHAGEN	18.25	138.1	4 16A	-1	7 44	6		
PULKOVO	19.57	105.9	4 31	-1	7 58	-10		8 21 SS
WITTEVEEN	19.89	150.8	4 34	-2				
KEW	20.35	163.9	4 41	0	8 29	5		
DE BILT	20.37	153.9	4 40	-1	8 39	14		
MUNSTER	20.86	149.8	4 46	0				
POTSDAM	21.47	140.6	4 51	-1	8 50	3		
BENSBERG	21.77	151.2	4 55A	0				6 55
HALLE	22.08	143.1	4 58	-1	9 7	9		5 18 PP
COLLMBERG	22.48	141.6	5 2A	-1	9 10	5		5 27 PP
JERSEY	22.48	167.7	4 15	-48				9 17
JENA	22.56	144.1	5 3	0	9 9	2		6 1
SONNEBERG	23.01	145.2	5 6	-2				5 32
PLAUEN	23.09	143.6	5 6	-3				
RESOLUTE	23.20	317.7	5 10	0				
PARIS	23.26	160.1	5 11	1	9 37	18		
WARSAW	23.43	128.8	5 11	-1	9 28	6		
HEIDELBERG	23.53	149.7	5 14	1				
PRAGUE	23.94	140.4	5 19	2				
PRUHONICE	24.05	140.3	5 19A	1	9 39	6		
STRASBOURG	24.18	151.7	5 20	1	9 49	14		6 8
STUTTGART	24.23	149.2	5 20	0	9 47	11		6 1
TUBINGEN	24.43	149.7	5 22	0				
RACIBORZ	24.75	134.9	5 26	1	9 57	12		9 2 PCP
EBINGEN	24.75	150.1	5 25	0				
MOSCOW	25.14	103.7	5 30	2	9 50	-2		
BASLE	25.17	152.6	5 30K	1				
KRAKOW	25.18	132.4	5 29	0				
BESANCON	25.22	155.2	5 30	1				
RAVENSBURG	25.25	149.3	5 30	1				
NEUCHATEL	25.60	153.8	5 37	4				
SKALNATE PL.	26.06	132.7	5 45	8				6 41 PPP
VIENNA-H.	26.07	138.9	5 39	2				
CLERMONT-FD.	26.33	160.3	5 39	-1				
LWOW	26.40	127.0	5 40	0				10 20
LJUBLJANA	27.80	143.0	5 53	0				6 36
ROME	31.44	148.1						16 30
SIMFEROPOL	33.61	118.5	6 49	5	12 9	2		
TARANTO	33.70	142.2						13 55
ALGIERS UNI.	35.23	162.9	6 58	0				
MESSINA	35.58	145.4	6 57	-4	12 37	0		8 19 PP
ISTANBUL KA.	35.84	126.9	7 2	-2				8 23 PP
ISTANBUL UN.	35.85	127.0	7 5	1				
SETIF	36.04	159.7	7 5A	0			7 17	
SEVEN FALLS	37.24	263.1	7 11	-4				
SHAWINIGAN	38.37	264.6	7 21	-4				
TIFLIS	39.71	108.5	7 38	2				9 14 PP
OTTAWA	40.33	266.7	7 48	7				
COLLEGE	41.15	334.6	7 49	1				
PALISADES	43.70	262.0			14 54	15		18 18 SS
KSARA	44.47	122.7	8 16	1	14 31	-19		9 59 PP
KIZYL-ARVAT	45.59	98.3	8 33	9				
JERUSALEM	46.22	124.3	8 29	0				10 7 PP
TCHIMKENT	47.07	83.8	8 36	0				10 22 PP
ASHKABAD	47.40	96.9	8 40	2				15 37 PS
TASHKENT	47.85	84.6	8 46	4				11 49
NAMANGAN	48.92	82.6						8 58
TAMANRASSET	49.33	162.0	8 53A	0			9 4	
HUNGRY HORSE	49.42	301.9	8 53	-1				
FERGANA	49.50	82.9						9 27
PENTICTON	50.02	306.8	8 58	0				
RAPID CITY	50.19	290.6	8 57	-3				
FLORISSANT	50.99	276.4	9 6	0				
ST. LOUIS 1	51.09	276.2	9 6	-1				
KULYAB	51.11	86.1	9 7	0				11 22 PP
COLUMBIA	52.38	265.2	9 15	-1				
SHIRAZ	53.23	106.8	9 23K	0	16 55	2		11 27 PP
FAYETTEVILLE	54.68	278.6	9 31	-2			9 52	
WARSAK DAM	55.26	86.3	9 35	-3				
LITTLE ROCK	55.30	276.3	9 37	-1				
SALT LAKE C.	55.78	296.3	9 41	0				

QUETTA	57.30	92.4	9 52	0				
EUREKA	58.15	299.3	9 58	0				
RENO	59.15	302.5	10 5	0				
GLEN CANYON	59.22	294.4	9 44	-22			10 5	
BOULDER CITY	61.08	296.8	10 18	0				
TUCSON TELE.	63.28	291.8	10 33	0				
TUCSON	63.39	291.8	10 34	0				
MATUSIRO	69.95	27.5	11 25	10			28 15	SSS
KARAPIRO	146.43	353.2	19 47	5				
CHATEAU	147.69	353.1	19 52	8				
TARRALEAH	148.48	35.8	20 0	15				
SOUTH POLE	161.23	180.0	20 47	45				
BYRD STATION	162.13	212.2	21 2	59				

OCTOBER 28 13.H 18.M 19.S EPICENTRE 52.11 157.59 DEPTH= 118.KM

A=-0.57017 B= 0.23510 C= 0.78717 D= 0.3812 E= 0.9245
G=-0.7277 H= 0.3001 K=-0.6167 HT= -6.2

DEPTH OF FOCUS= 0.013R

SE= 2.15

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PETROPAVLOVK	1.12	34.9	0 25	1	0 43	1		
SEVERO-KUR.	1.72	213.6	0 29	-2	0 50	-4		
KLYUCHI	4.64	23.2	1 13	3	2 6	3		
MAGADAN	8.38	335.6	2 3	3				4 51
OKHA	9.00	285.0	2 12	4				4 3
KURILSK	9.41	226.8	2 12	-2				4 1
UGLEGORSK	10.32	259.1	2 29	3	4 26	6		
NEMURO	11.93	227.3	2 47	0	5 20	22		4 47
ABASHIRI	12.02	232.9	2 50	1				
WAKKANAI	12.44	243.7	2 56	2	5 18	8		
KUSIRO	12.74	229.4	2 54	-4	5 30	12		15 22 SCS
OBIHIRO	13.36	232.2	3 7	1				
HIROO	13.79	230.1	3 7	-5	5 30	-12		
URAKAWA	14.15	231.1	3 12	-4	5 43	-7		
SAPPORO	14.18	236.8	3 13	-4	6 11	20		15 22 SCS
TOMAKOMAI	14.38	235.1	3 23	4				
MURORAN	14.91	235.5	3 38	12				
SUTTSU	14.95	238.3	3 27	0	6 29	20		3 47 PP
MORI	15.28	235.8	3 30	-1	7 10	53		15 30 SCS
HAKODATE	15.39	234.6	3 27	-5	6 13	-6		15 28 SCS
HATINOHE	15.99	229.9	3 36	-4	6 59	26		15 30 SCS
AOMORI	16.13	232.2	3 40	-1	7 5	29		15 34 SCS
MIYAKO	16.49	227.1	3 45	-1	6 50	6		15 33 SCS
MORIOKA	16.82	228.9	3 43	-7	6 39	-13		15 32
MIZUSAWA	17.30	227.8	3 55	-1	7 9	7		
AKITA	17.31	231.2	3 57	1	7 10	8		15 32 SCS
ISINOMAKI	17.78	226.1	3 57	-4	7 20	7		15 39 SCS
SAKATA	18.08	230.1	4 7	2				
SENDAI	18.10	226.7	4 0	-5	7 26	6		15 37 SCS
YAMAGATA	18.37	227.8	4 2	-6	7 32	7		15 14
HUKUSIMA	18.72	226.6	4 12K	0	7 48	15		
ONAHAMA	19.20	224.4	4 16	-1	7 47	4		
NIIGATA	19.23	229.8	4 19	1	8 8	24	4 40	5 10 *SP
SHIRAKAWA	19.35	226.1	4 18	-1	7 52	6		
VLADIVOSTOK	19.43	252.6	4 16	-4			4 40	8 23 SS
MITO	19.86	224.4	4 25K	1	8 7	11		15 45 SCS
UTUNOMIYA	19.98	225.8	4 25K	0	8 2	4		15 42 SCS
KAKIOKA	20.11	224.7	4 26	-1	8 5	4		
TUKUBASAN	20.16	224.9	4 26K	-1	8 0	-2		4 48 PP
TAKADA	20.27	229.8	4 28	0	8 5	1		15 46
MAEBASI	20.46	227.1	4 31K	1	8 17	9		15 39
KUMAGAYA	20.53	226.2	4 29	-2	8 17	8		
WAZIMA	20.70	232.8	4 32	-1	8 20	8		
HONGO	20.73	224.7	4 35	2	8 19	6		
MATUSIRO	20.74	229.0	4 33K	0	8 14	1		15 46 SCS
OIWAKE	20.76	228.0	4 35	2	8 18	5		
TOKYO C.M.O.	20.76	224.7	4 34	1	8 22	9		5 6
TITIBU	20.81	226.5	4 34	0	8 23	9		
YOKOHAMA	21.02	224.5	4 34A	-2				5 47
MATUMOTO	21.09	229.0	4 38	1				
TOYAMA	21.09	231.1	4 36K	-1	8 13	-6		
KOHU	21.30	227.0	4 40	1	8 31	8		

HUNATU	21.35	226.3	4 40A	1	8 31	7			15 47	SCS
MERA	21.38	223.5	4 43	4	8 31	7				
KANAZAWA	21.49	231.8	4 43	2						
MISIMA	21.59	225.4	4 40K	-1	8 32	4				
OSIMA	21.70	224.1	4 46	3	8 35	5			5 58	
SHIZUOKA	21.96	226.2	4 46	1	8 43	8				
HUKUI	22.08	231.7	4 50	4	8 43	6				
OMAESAKI	22.35	226.0	4 51K	2	8 44	2				
GIHU	22.35	229.8	4 50K	1	8 44	2			8 37	
NAGOYA	22.44	229.1	4 50K	0	8 55	12			5 50	
TSURUGA	22.48	231.4	4 51	1	8 51	7				
HIKONE	22.70	230.5	4 54	2	8 50	2			15 55	SCS
KAMEYAMA	22.94	229.5	4 56	1	9 22	30			16 17	SCS
MAIZURU	22.95	232.3	4 55	0						
CHANGCHUN	22.99	261.8	4 53K	-2	8 51	-2	5 20		5 33	*SP
TOYOOKA	23.18	233.3	4 58	1	9 2	6			15 57	SCS
ABUYAMA	23.35	231.1	5 0K	1						
TIKSI	23.36	337.4	4 58	-1			5 22		8 50	PCP
NARA	23.38	230.4	5 1	2	9 5	5				
SAIGO	23.41	236.8	5 2	3	9 9	9				
TOTTORI	23.52	234.3	5 2K	2						
OSAKA	23.55	230.8	5 3K	3	9 15	13				
KOBE	23.69	231.4	5 3	1	9 19	14				
OWASE	23.71	228.9	5 4K	2	9 13	8				
YONAGO	24.00	235.5	5 6K	1	9 10	0				
WAKAYAMA	24.06	230.8	5 7	2	9 36	25				
SUMOTO	24.10	231.4	5 6K	0	9 13	1			15 59	SCS
SIOMISAKI	24.42	228.7	5 9	0	9 15	-2				
TOKUSIMA	24.47	231.6	5 13	4						
TAKAMATU	24.53	232.8	5 8	-2	9 22	3			16 2	SCS
HAMADA	25.07	236.7	5 17A	2	9 32	4				
HIROSIMA	25.30	235.4	5 18K	1	9 33	1			16 5	SCS
MUROTO	25.33	231.1	5 19	1	9 37	4				
KOTI	25.41	232.5	5 19K	1	9 34	0			16 5	SCS
MATUYAMA	25.54	234.1	5 20K	0	9 38	2			16 6	SCS
SIMIDU	26.30	232.4	6 33	66	11 7	79			17 15	SCS
OOITA	26.61	235.0	5 20K	-9	9 46	-8				
HUKUOKA	26.97	237.3	5 32K	-1	10 3	4			16 11	SCS
ASOSAN	27.15	235.4	5 35	1						
SAGA	27.27	237.0	5 39	4					9 12	
KUMAMOTO	27.41	235.8	5 37	0	10 11	5			16 7	
MIYAZAKI	27.76	233.6	5 42	2	10 18	6				
NAGASAKI	27.90	236.9	5 42K	1	10 17	3				
KAGOSIMA	28.48	234.5	5 46K	0	10 27	3			16 17	
TOMIE	28.56	238.3	5 46K	-1	10 28	3				
YAKUSIMA	29.42	233.2	5 55	0	10 41	3			16 22	
COLLEGE	30.19	43.8	6 1A	0	10 49	-2				
PEKING	30.75	263.5	6 5K	-1	10 58	-1	6 30			
IRKUTSK	32.04	291.8	6 18K	0			6 45		7 38	PPP
ULAN-BATOR	32.30	283.1	6 19	-1			6 43			
ZO-SE	33.87	246.0	6 33K	0	11 48	0			7 47	PP
NANKING	34.53	249.9	6 38K	-1	11 58	0	7 3		7 57	PP
TAIPEI	38.42	239.3	7 13	1	12 46	-12				
HWALIEN	39.23	238.2	7 27	9						
GUAM	39.91	199.7	7 25	1						
KHEYS	40.56	345.6	7 30	1	13 30	0	7 57		9 48	PPP
TAMU	40.94	237.6	7 6	-26	13 30	-5				
CHENGTU	44.36	262.6	8 0K	0			8 24		8 33	*SP
CANTON	44.46	246.6	8 7K	6	14 30	4	8 31		8 43	*SP
HONG KONG	44.62	245.0	8 3K	1	14 27	-2	8 13		8 29	*SP
RESOLUTE	44.81	21.1	8 5	1	14 35	4			17 49	SCS
KIPAPA	45.86	114.7	8 12A	0					10 1	PP
HONOLULU	45.91	114.9	8 12A	-1	14 47	0			9 59	PP
BAGUIO CITY	46.07	233.3	8 13	-1	14 49	0				
SEMIPALATNSK	46.26	300.2	8 14	-1			8 42		10 6	PP
NORD	46.50	358.8	8 17	0	14 55	-1				
ALBERNI	47.03	61.0	8 23	2						
MANILA	47.32	231.6	8 26	2					10 18	PP
VICTORIA	48.22	61.1	8 30A	-1						
THULE	48.44	13.1	8 32A	0	15 19	-4	8 57		10 30	PP
KUNMING	49.14	258.5	8 38K	0	15 36	3	9 3		9 15	*SP
PENTICTON	49.77	58.3	8 42	-1						
BANFF	50.74	54.3	8 49A	-1						
ALMATA	52.35	294.5	9 2	0			9 31		11 1	PP
ARCATA	52.57	69.3	9 5A	1					9 29	
TOCKLAI	52.82	266.7	9 10	4						
HUNGRY HORSE	53.27	56.3	9 8A	-1	16 32	3	9 36		10 45	PP
APATITY	53.57	336.7	9 9K	-2	16 27	-6	9 37		11 9	PP

FRUNSE	53.93	295.4	9	13	-1						11	17 PP
UKIAH	54.22	70.4	9	15A	-1						9	42
MINERAL	54.34	68.2	9	16A	-1						10	20 PCP
SODANKYLA	55.29	339.2	9	22	-2	16	53	-3			11	28 PP
SHILLONG	55.46	268.1	9	23K	-2				9	51		
BUTTE	55.54	57.7	9	24A	-1	17	3	3			18	59
SAN FRANCSCO	55.58	71.1	9	26	0							
BERKELEY	55.62	70.9	9	26A	0	17	7	6			9	51 PCP
CONCORD	55.66	70.7	9	28A	2				11	28		
RENO	55.91	67.8	9	29A	1	17	12	7			9	54
BRANNER	55.97	71.2	9	29A	0							
KIRUNA	56.18	341.9	9	28	-2						39	24 PKPPKP
RABAUL	56.28	186.5	9	29	-2						9	54
LICK	56.34	70.9	9	30A	-1	16	54	-16			9	54 PCP
BOZEMAN	56.57	57.1	9	34A	1	17	20	7				
VINEYARD	56.89	71.3	9	34	-1						9	57
CHATRA	57.45	272.8	9	39K	0						11	54 PP
FRESNO	57.80	70.2	9	41A	0							
CHITTAGONG	57.86	265.5	9	41	-1				10	12	11	53 PP
TASHKENT	57.90	297.3	9	41	-1						18	6 PS
EUREKA	58.12	65.5	9	44	0						38	38 PKPPKP
RUTH	58.85	65.0	9	48	-1	17	49	6				
SALT LAKE C.	59.50	61.8	9	53A	0	18	0	8				
UMEA	59.72	339.6	9	53	-2						39	19 PKPPKP
CALCUTTA	59.86	268.5	9	57K	1						10	42 PCP
DUZHANBE	60.09	295.3	9	55	-2							
BOKARO	60.48	271.5	9	59K	-1						10	36 PCP
DEHRA DUN	60.52	282.4	10	1	1						12	16 PP
PASADENA	60.58	71.3	10	0A	-1	18	5	0	10	19	21	59 SS
PULKOVO	60.66	332.5	9	59	-2	18	4	-2	10	27	12	11 PP
BOULDER CITY	61.21	67.6	10	5A	0	18	20	7			12	20 PP
SKALSTUGAN	61.50	343.2	10	5	-2							
NURMIJARVI	61.56	335.7	10	5	-2	18	23	5			19	41 SCS
MOSCOW	61.65	326.2	10	7	-1	18	16	-3	10	34	12	25 PP
RAPID CITY	61.67	53.9	10	6A	-2	18	23	4			12	12 PP
WARSAK DAM	61.74	289.8	10	6	-2						18	58 *SS 0 66
HELSINKI	61.78	335.3	10	8	-1							
LAHORE	61.86	285.9	10	9K	0							
PORT MORESBY	61.92	191.7	10	8	-2	18	24	2	10	31	19	7 *SS
GLEN CANYON	62.33	64.7	10	11A	-1				10	38	38	52 PKPPKP
AKUREYRI	62.51	358.0	10	16	3							
UPPSALA	63.82	338.8	10	20	-2							
REYKJAVIK	64.10	359.8	10	25	1							
SIDA	64.40	357.9	10	27	1							
VIK	64.78	358.3	10	34	6							
PORT BLAIR	65.50	257.1	10	33	0	19	10	3			12	47 PP
ASHKABAD	66.19	301.5	10	38	1						13	13 PP
TUCSON TELE.	66.19	67.6	10	37A	0						39	3 PKPPKP
TUCSON	66.20	67.8	10	37A	0	19	22	7			39	6 PKPPKP
VIZIANAGRAM	66.20	269.1	10	23	-14	19	23	8			10	52
GOTEBORG	67.00	340.8	10	41	-1	19	28	3			11	20
QUETTA	67.19	290.1	10	42K	-2	19	29	2			13	3 PP
COPENHAGEN	68.77	339.7	10	53K	0	19	48	2	11	33	13	27 PP
HYDERABAD	69.80	272.6	10	58K	-2	20	43	45			13	28 PP
WARSAW	69.81	333.2	10	59K	-1	19	55	-3	11	9	13	28 PP
ABERDEEN	69.82	348.4	11	1K	1	20	1	3	11	16	20	50 PS
TIFLIS	69.94	312.7	11	0K	-1						20	50 SCS
GORIS	71.00	310.3	11	7	0						20	54 PS
LWOW	71.07	330.3	11	7	0	20	10	-3			11	28 PCP
EDINBURGH	71.17	348.7				20	11	-3			20	52 SKS
TEHERAN	71.47	304.5	11	10	0	20	6	-11				
CHIHUAHUA	71.61	67.0	11	25	14	20	35	16				
POTSDAM	71.70	338.0	11	10	-1	20	19	-1			13	50 PP
SIMFEROPOL	71.78	321.4	11	11K	-1	20	17	-4	11	37	13	47 PP
POONA	71.79	276.9	11	11K	-1						11	16 PCP
FLORISSANT	71.92	49.6	11	12A	0	20	23	1				
KRAKOW	72.07	332.8	11	13	0				11	46		
DURHAM	72.09	347.5	11	12	-1	20	20	-4	11	44	13	57 PP
ST. LOUIS 1	72.11	49.6	11	13A	-1	20	27	2				
CHORZOW	72.11	333.5	11	12	-2				11	39	13	54 PP
MADRAS	72.12	268.2	11	14	0						11	23 PCP
BOMBAY	72.14	277.9	11	12	-2	20	23	-2			13	53 PP
FAYETTEVILLE	72.21	53.9	11	13A	-1	20	27	1	11	32	24	51 SS
SUVA	72.28	159.2	10	53	-22	20	33	7			11	10
DJAKARTA	72.32	233.9	11	15K	0	20	30	3				
LEMBANG	72.49	232.9	11	15K	-1	20	30	1				
RACIBORZ	72.52	333.9	11	16K	0						13	58 PP
CHARTERS TS.	72.57	191.2	11	14	-2	20	29	-1				
OTTAWA	72.60	36.3	11	17K	1							

WITTEVEEN	72.63	342.0	11	20	3				11	50			
SHAWINIGAN	72.66	33.8	11	17K	0								
COLLMBERG	72.72	337.6	11	17K	0	20	33	2			13	51	PP
SKALNATE PL.	72.76	332.3	11	16	-1	20	39	7			11	27	PCP
HALLE	72.77	338.3	11	16	-1	20	31	-1	11	54	14	15	PP
SEVEN FALLS	72.81	32.3	11	18K	0								
BACAU	73.00	326.8	11	18	-1	20	40	5			14	42	PP
MUNSTER	73.26	341.1	11	21	1						14	44	
BREBEUF	73.27	34.9	11	19	-1	20	37	-1					
JENA	73.39	338.3	11	21	0	20	35	-4			14	23	PP
PRAGUE	73.51	336.2	11	24	2	20	51	11			21	17	*SS
PRUHONICE	73.56	336.1	11	22K	0	20	42	1			13	57	PP
DE BILT	73.60	342.7	11	24	2	20	50	9	11	57	14	8	PP
FOCSANI	73.65	326.2	11	24	1	21	22	40					
PLAUEN	73.67	337.8	11	19	-4	20	43	1	11	50	21	26	PS
SONNEBERG	73.99	338.4	11	24	-1				11	49	14	11	PP
CHEB	74.00	337.5	11	30	5	21	3	17			22	7	PPS
LITTLE ROCK	74.17	53.5	11	25	-1	20	48	0					
BENSBERG	74.30	341.1	11	26K	0	20	52	3					
NOUMEA	74.49	171.5	11	26	-1	20	54	3					
HURBANOVO	74.53	333.0	11	27	-1	20	56	4	11	53	14	7	PP
BRATISLAVA	74.56	333.8	11	27	-1	20	54	2	11	55	11	36	PCP
BUDAPEST	74.65	332.3	11	30	2	20	57	4					
VIENNA-H.	74.68	334.3	11	29K	1	20	58	5					
CAMPULUNG	74.77	327.4	11	30	1	20	59	5			14	47	PP
KEW	75.12	345.9	11	31K	0	20	59	1			14	20	PP
BUCHAREST	75.15	326.3	11	30K	-1	20	56	-2	12	9	14	35	PP
HEIDELBERG	75.46	339.6	11	33K	0								
TIMISOARA	75.56	330.1	11	33	0								
SHIRAZ	75.65	299.8	11	33A	-1	21	33	29	11	46	14	45	PP
PENNSYLVANIA	75.71	40.2	11	35	1	21	5	0	12	2	21	37	*PS
MORGANTOWN	75.85	42.2	11	36K	1	21	7	1					
STUTTGART	75.93	339.0	11	35K	-1	21	4	-3			12	14	*SP
TUBINGEN	76.21	339.1	11	37K	0								
STRASBOURG	76.44	339.9	11	39K	1	21	12	-1	12	18	14	31	
EBINGEN	76.56	339.0	11	39K	0								
BELGRADE	76.63	330.2	11	40K	0	21	14	-1			14	38	PP
RAVENSBURG	76.79	338.4	11	41K	1								
WESTON	76.80	35.0	11	40A	0	21	17	0	12	7	12	24	*SP
ISTANBUL KA.	77.01	322.6	11	39	-3	21	17	-2					
COLOMBO	77.05	264.5	11	44	2	21	17	-2					
PALISADES	77.06	37.4	11	44	2	21	18	-1	12	6	16	18	PPP
ISTANBUL UN.	77.07	322.7	11	40K	-2								
LJUBLJANA	77.20	334.6	11	42	-1	21	23	2	12	23	14	30	PP
PARIS	77.24	343.4	11	44	1	21	20	-1					
TOLMEZZO	77.27	335.7	11	43	0	21	41	19	12	38			
HALIFAX	77.32	28.8	11	44K	1								
BASLE	77.48	339.7	11	45K	1	21	27	3					
SOFIA	77.61	327.3	11	46	1	21	55	30	12	12	15	1	PP
JERSEY	77.62	346.5	11	46A	1	21	41	16					
WASHINGTON	77.65	40.7	11	44A	-1				12	8	14	46	PP
CHUR	77.69	338.2	11	46K	1								
TRIESTE	77.78	334.9	11	46	0	21	27	0			14	29	PP
BESANCON	78.08	340.7	11	48K	1								
NEUCHATEL	78.11	339.9	11	48A	0	21	33	2					
PADOVA	78.48	336.1	11	51K	1	21	34	0			14	37	PP
BRISBANE	79.27	184.4	11	54A	0	21	37	-6					
PAVIA	79.35	337.9	11	54K	0						15	0	PP
MANZANILLO	80.01	72.0	12	4	6						22	19	*PS
CLERMONT-FD.	80.06	342.2	11	59K	1	21	56	5					
PRATO	80.10	336.1	11	59	1	21	52	0					
CHIAVARI	80.12	337.5	11	49	-10	21	51	-1			16	29	PPP
COLUMBIA	80.13	46.0	11	59K	0	21	51	-1	12	25			
KSARA	80.43	314.1	11	59K	-1	22	0	5	12	39	15	8	PP
ISOLA	80.78	339.0	11	59	-3	22	1	2					
MONACO	81.12	338.6	12	4	0								
TARANTO	81.57	330.5	12	11	5	22	9	2			15	49	
ROME	81.60	334.4	12	7K	1	22	9	2	12	32	15	8	PP
ATHENS	81.69	324.8	12	4K	-3								
JERUSALEM	82.45	313.5	12	12	1						15	23	PP
TACUBAYA	82.71	67.9	12	15	3	22	13	-5			22	22	SKS
BAGNERES	83.21	343.6	12	20K	5								
MESSINA	84.17	330.8	12	16	-3	22	24	-9	12	39	15	32	PP
CUGLIERI	84.22	336.6									16	11	
REGGIO CALA.	84.23	330.7	12	18	-2	22	26	-7					
BARCELONA	84.44	341.7	12	22	1	23	31	55					
VERA CRUZ	84.61	65.7	12	21	-1	22	34	-3					
TORTOSA	85.33	342.8	12	24	-1	22	48	4					

RIVERVIEW	85.76	185.4	12	28A	1	22	41	-7	12	53	22 54 S
HELWAN	85.80	315.4	12	28K	1	22	41	-8			
OAXACA	85.99	67.5	12	37	9	23	5	14			
SERRA PILAR	86.37	349.6	12	31A	1	22	45	-9	12	56	15 54 PP
MERIDA	86.76	59.7	12	34	2						
TOLEDO	87.00	346.0	12	35K	2	23	5	5	13	4	15 58 PP
COIMBRA	87.27	349.3	12	36K	1	23	7	4			
CANBERRA	87.38	187.0	12	36A	1	22	50	-14	13	2	23 8 S
ALICANTE	87.91	342.9	12	29	-9	22	41	-28			16 0 PP
ADELAIDE	88.27	195.4	12	39	0	22	53	-19	13	7	16 5 PP
ONERAHI	88.73	166.4	12	44	2						14 30
ALGIERS UNI.	88.74	339.8	12	41K	-1				13	8	16 10 PP
SETIF	88.76	337.8	12	40A	-2	23	0	-17	13	10	16 12 PP
LISBON	88.81	349.7	12	43K	1	23	22	5			16 13 PP
GRANADA	89.58	345.1	12	46A	0	23	34	10			16 22 PP
ALMERIA	89.71	344.1	12	45K	-1	23	23	-2			16 20 PP
AUCKLAND	89.87	166.3				23	6	-21			23 31 S
MALAGA	90.15	345.6	12	47K	-1	23	40	11			16 19 PP
RELIZANE	90.23	341.5	12	44	-5	23	9	-21	13	12	16 5 PP
MELBOURNE	90.24	190.0	12	49A	0	23	6	-24	13	19	23 38 S
KARAPIRO	91.02	165.9	12	52A	0				13	18	16 27 PP
MUNDARING	91.23	214.2	12	53	0						
TONGARIRO	92.27	166.1	12	55	-3						16 32 PP
CHATEAU	92.27	166.1	12	55	-3						16 31 PP
COBB RIVER	93.74	168.6	13	6	1	24	4	3			13 35
WELLINGTON	94.20	167.1	13	6	-1	24	7	2			17 15 PP
TARRALEAH	94.52	188.3	13	10	2						13 54 PP
ROXBURGH	97.73	171.7				23	48	0			17 18 PP
ADDIS ABABA	99.84	298.6	13	33	1	24	7	8			
SAN JUAN	100.17	41.8	13	38K	4				14	7	17 42 PP
TAMANRASSET	101.53	333.8	13	39K	-1	24	11	4	14	8	17 44 PP
CARACAS	106.85	46.1	18	19	777						37 51 SS
CHINCHINA	107.47	56.8	14	8	777	24	37	3			18 36 PP
FUQUENE	108.01	54.8				24	33	-3			18 41 PP
BOGOTA	108.56	55.6				24	42	4			18 48 PP
MBOUR	113.62	354.2				25	8	9			19 14 PP
LWIRO	114.63	301.0	18	29A	3	25	12	9			19 22 PP
TANANARIVE	116.99	273.6	18	36K	5						20 5 PP
HUANCAYO	121.80	66.7	18	44	4						20 19 PP
WILKES	123.41	200.7									20 52 PP
CAPE HALLETT	124.44	175.4	18	44	-1	25	34	-2	19	12	20 29 PP
BROKEN HILL	124.90	293.6	18	46	0						
LUANDA	128.00	313.1									20 57 PP
BULAWAYO	129.34	289.2	18	41	-14						
LA PAZ	129.44	62.8	18	57	2				19	24	21 4 PP
SCOTT BASE	129.82	177.5	18	56A	0						21 10 PP
PRETORIA	133.89	284.8	19	7	4						
PIETERMZBURG	135.37	279.1	18	57	-9						22 22
WINDHOEK	137.75	299.0	19	1	-10						
KIMBERLEY	138.13	285.2	19	3A	-8						
MAWSON	138.29	215.0	19	41	29						20 3
BYRD STATION	139.62	164.5	19	5	-9				19	43	20 1 *SP
SANTA LUCIA	140.83	80.9	19	9	-7						22 18 PP
SOUTH POLE	141.92	180.0	19	11	-7						22 45 SKP
HERMANUS	145.48	284.2	19	28	4						22 25
ARGENTINE I.	155.15	138.1	19	47	8						
PORT STANLEY	158.24	103.1	20	19	36						21 1

OCTOBER 28 22.H 29.M 27.S EPICENTRE 35.05 141.29 DEPTH= 45.KM
A=-0.64026 B= 0.51313 C= 0.57163 D= 0.6254 E= 0.7803
G=-0.4461 H= 0.3575 K=-0.8205 HT= 0.1

DEPTH OF FOCUS= 0.002R

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
TYOSI	0.76	332.0	0	14A	-1	0	27	0				
MERA	1.21	264.4	0	17K	-4							
YOKOHAMA	1.40	286.4	0	23K	0	0	47	6				
HONGO	1.41	298.5	0	22K	-2							
TOKYO C.M.O.	1.41	297.1	0	23K	-1	0	46	4			0	58
KAKIOKA	1.49	322.9	0	24	-1	0	50	7				
MITO	1.49	333.6	0	27K	2	0	47	4				
TUKUBASAN	1.52	320.7	0	26K	1							

OSIMA	1.59	260.6	0	23K	-3				1	6
AJIRO	1.80	270.8	0	27	-2	0	54	3			
UTUNOMIYA	1.89	322.8	0	31A	1	0	54	1			
KUMAGAYA	1.91	305.8	0	30A	-1	1	1	7			
MISIMA	1.92	272.9	0	28K	-3	0	55	1			
ONAHAMA	1.93	350.7	0	31	0	0	51	-3			
TITIBU	2.03	298.0	0	31	-1	1	15	18			
NAGATURO	2.06	258.2	0	30	-3						
HUNATU	2.11	283.1	0	32A	-1	0	59	0			
SHIRAKAWA	2.24	337.6	0	35	0	1	0	-2			
MAEBASI	2.26	307.4	0	36	0	1	7	4			
HATIDYOZIMA	2.31	213.1	0	36	0	0	58	-6			
KOHU	2.32	286.4	0	35	-1				1	31	
SHIZUOKA	2.37	269.0	0	37	0	1	4	-1			
OMAESAKI	2.56	260.9	0	39	-1	1	12	2	0	58	
OIWAKE	2.57	300.7	0	40	0	1	31	21			
HUKUSIMA	2.78	346.5	0	44	1	1	18	2			
IIDA	2.87	280.5	0	45	1	1	30	12			
MATUSIRO	2.91	301.7	0	44K	-1	1	22	3			
HAMAMATU	2.95	264.7	0	51	6	1	32	12			
MATUMOTO	2.96	294.9	0	46	0				1	13	
TAKADA	3.20	310.7	0	49	0	1	32	6			
SENDAI	3.23	354.5	0	50	1	1	30	3			
YAMAGATA	3.29	347.0	0	50K	0	1	29	0			
ISINOMAKI	3.38	0.4	0	52	1	1	29	-2			
NIIGATA	3.39	328.5	0	42	-10	1	24	-7	1	2	
NAGOYA	3.54	273.2	0	54	0	1	48	13			
TOYAMA	3.71	297.6	0	59K	3	2	3	24			
GIHU	3.72	276.8	0	56	0	1	50	11			
AIKAWA	3.85	321.4	0	59	1	1	56	13	7	3	
TU	3.94	266.3	1	9	10						
KAMEYAMA	3.96	268.6	1	3	3	1	53	7			
SAKATA	4.02	343.5	1	3	2	1	55	8			
KANAZAWA	4.05	292.8	1	13	12						
MIZUSAWA	4.08	358.2	1	1	0	1	48	-1			
HIKONE	4.14	274.5	1	2	0	2	10	20			
WAZIMA	4.25	304.5	1	5	1						
HUKUI	4.25	285.1	1	7	3	2	5	12	3	22	
TSURUGA	4.31	279.5	1	5	0	2	2	8	4	36	
OWASE	4.31	258.4	1	4	-1	2	5	11			
NARA	4.50	266.9	1	8	1	2	9	10			
KYOTO	4.56	271.3	1	7	-1	2	5	4			
MIYAKO	4.63	6.5	1	8	-1	1	59	-3			
TORISIMA	4.63	190.7	1	9	0	2	0	-2			
MORIOKA	4.65	358.9	1	8	-1	1	56	-7			
ABUYAMA	4.70	269.5	1	8A	-2						
OSAKA	4.75	266.9	1	13	2	2	28	23	2	37	
SIOMISAKI	4.84	252.4	1	10	-2	2	8	0			
MAIZURU	4.85	276.7	1	16	4	2	42	34			
KOBE	5.04	267.6	1	20	5						
WAKAYAMA	5.11	262.6	1	16	0	2	29	15			
SUMOTO	5.30	264.2	1	18A	-1	2	34	15			
TOYOOKA	5.31	277.1				2	37	17	1	38	
HATINOHE	5.48	1.9	1	17	-4	2	18	-6			
TOKUSIMA	5.62	261.9	1	28	5	2	39	12			
HIMEJI	5.70	266.5				2	33	3			
AOMORI	5.78	356.1	1	26	1	2	34	3			
TOTTORI	5.83	276.6	1	27	1	3	4	31			
MUROTO	6.16	255.1	1	32	1	2	51	10			
YONAGO	6.51	275.7	1	40	5	3	5	16			
SAIGO	6.59	282.4				3	33	42	2	10	
KOTI	6.59	259.1	1	31	-6	2	53	2			
HAKODATE	6.77	356.6	1	38	-1	2	55	-1			
MORI	7.07	355.6	1	39	-4	3	6	3			
MATUYAMA	7.13	262.7	1	50K	6	3	18	13			
URAKAWA	7.19	8.9	1	44	-1	3	3	-3	4	4	
MURORAN	7.27	358.2	1	46	0	3	7	-1			
SIMIDU	7.28	254.3							3	45	
HIROSIMA	7.33	267.2	1	49	2	3	30	20			
HIROO	7.40	11.8	1	45	-3	3	6	-5			
UWAZIMA	7.47	258.4	1	47	-2						
HAMADA	7.57	271.5	1	52	2	3	44	28	4	19	
TOMAKOMAI	7.58	1.6							2	14	
SUTTSU	7.79	354.2							2	17	
OBIHIRO	8.00	10.1	1	54	-2						
SAPPORO	8.01	0.3				3	14	-13			
OOITA	8.22	260.0	1	56A	-3	3	44	12			
KUSIRO	8.28	16.0	1	55	-5	3	25	-8			

ASOSAN	8.75	258.7	2	8	1					5	13	
MIYAZAKI	8.81	252.1	2	9	2					4	32	
NEMURO	8.92	20.6	2	6	-3	3	34	-15		5	9	
KUMAMOTO	9.08	258.8	2	12	1					5	21	
HUKUOKA	9.14	263.9	2	10	-2	4	4	9		4	53	
ABASHIRI	9.25	13.5	2	8	-5	3	48	-9				
SAGA	9.28	262.0	2	15	1					5	20	
UNZENDAKE	9.46	259.0	2	23K	7	4	25	22				
KAGOSIMA	9.63	251.9	2	17	-2					4	59	
NAGASAKI	9.76	259.5	2	20A	0	4	25	15				
YAKUSIMA	10.17	246.2	2	28	2	4	30	10		8	33	
WAKKANAI	10.37	1.5								4	6	
TOMIE	10.69	260.5	2	29	-4							
VLADIVOSTOK	10.87	320.7	2	34	-2							
KURILSK	11.34	24.3				4	50	2				
UGLEGORSK	14.04	2.1				5	55	2				
CHANGCHUN	15.13	310.2	3	30	-2	6	24	5				
ZO-SE	17.31	262.5	3	56A	-4	7	14	5				
NANKING	18.99	267.4	4	14	-6					8	1	
TAIPEI	19.78	245.0	4	43	14							
PEKING	20.50	291.5	4	31A	-5	8	19	1				
GUAM	21.72	170.9	4	50	1	8	40	-1	5 12	5	24	*SP
PETROPAVLOVK	21.78	29.1	4	53	4	8	52	10				
KLYUCHI	25.12	26.1	5	24	2							
BAGUIO CITY	26.21	230.2	5	27	-5	10	33	34				
HONG KONG	26.88	249.1	5	36	-2	10	1	-9		14	49	SS
CANTON	27.09	251.4	5	36	-4	10	15	2		6	22	PP
MANILA	27.24	226.9	5	37	-5					7	24	
ULAN-BATOR	28.55	307.3	5	51	-2							
IRKUTSK	31.37	314.8	6	17A	-1					13	27	SSS
CHENGTU	31.50	272.7	6	15	-5	11	25	2		7	21	PP
KUNMING	34.61	264.1	6	42	-5	12	11	-1		7	56	PP
TIKSI	37.23	353.5	7	8	-1	12	54	2		8	30	PP
RABAUL	40.36	163.1	7	36	1							
SHILLONG	43.33	271.4	7	55	-4	14	24	1		9	41	PP
PORT MORESBY	44.55	171.7	8	5	-4	14	37	-4		15	10	*SS
CHITTAGONG	44.78	267.3	8	9	-2							
SEMIPALATNSK	46.09	309.0	8	19	-2	15	5	2				
CHATRA	46.66	275.4	8	24	-2							
CALCUTTA	47.53	269.5	8	31	-2					18	41	
BOKARO	49.05	272.5	8	42	-2	15	49	4				
COLLEGE	50.83	31.4	8	59	1	16	13	4				
FRUNSE	51.23	300.0	9	0	-1	16	13	-2		16	22	PS
LEMBANG	52.37	224.0	9	6K	-3							
DEHRA DUN	52.66	283.8	9	16	4	16	47	13		11	27	PP
ANDIJAN	53.42	298.0	9	16	-1					16	54	PS
KHEYS	54.57	348.5	9	25	-1	17	5	5		11	34	PP
CHARTERS TS.	55.03	174.3	9	24	-5	17	5	-1				
LAHORE	55.12	286.7	9	30	0							
TASHKENT	55.47	299.6	9	31	-1					17	33	PS
WARSAK DAM	56.34	290.6	9	36	-3							
HYDERABAD	58.15	269.7	9	50	-1	17	50	2		18	3	PS
POONA	61.36	273.3	10	14	1	18	33	4		10	54	PCP
QUETTA	61.46	288.4	10	11A	-3	18	29	-1	10 36	12	27	PP
BOMBAY	62.02	274.3	10	16	-2	18	41	4		18	53	PS
COLOMBO	62.75	258.7				19	9	23				
NORD	63.03	356.5	10	23	-2					18	57	
BRISBANE	63.04	168.5	10	24	-1	18	53	3				
KARACHI	63.83	283.0	10	28	-2							
APATITY	64.46	336.1	10	32K	-2	19	8	0		13	7	PP
ASHKABAD	64.55	299.7	10	34	0					13	3	PP
SODANKYLA	66.76	337.5	10	48	-1							
KIRUNA	68.34	339.5	10	59	1							
MOSCOW	68.79	323.9	11	0	-1					13	32	PP
RIVERVIEW	69.14	171.2	11	25	22	20	7	3		21	7	
PENTICTON	69.67	43.6	11	7	0							
PULKOVO	69.85	329.8	11	9	1	20	15	2		20	44	PS
CANBERRA	70.37	173.3	11	8	-3							
TEHERAN	70.51	300.3	11	11	-1	20	27	7				
UMEA	71.06	336.3	11	17	2							
NURMIJARVI	71.65	332.2	11	17	-2	20	35	1	11 45	11	32	PCP
HELSINKI	71.75	331.8	11	20	1							
TIFLIS	71.97	308.5	11	20	0					14	4	PP
GORIS	72.11	305.9	11	21	0	20	42	3				
MELBOURNE	72.59	176.9	11	30	6	20	46	2				
SHIRAZ	72.74	294.3	11	23	-2	20	50	4		14	10	PP
HUNGRY HORSE	73.31	42.4	11	27	-1							
SKALSTUGAN	73.73	338.8	11	30	-1							
BERKELEY	73.95	54.9	11	33	1	21	39	39				

LICK	74.65	55.1	11	39A	3						
RENO	74.68	52.4	11	39	3						
UPPSALA	74.70	334.2	11	36	0						
BUTTE	75.46	43.8	11	42	1						
FRESNO	76.19	54.8	11	47	2						
BOZEMAN	76.53	43.4	10	34	-73					11 38	
SIMFEROPOL	76.67	315.8	11	49	1	21	29	-1		14 45	PP
EUREKA	77.18	50.7	11	50	-1						
GOTEBORG	78.28	334.9	11	56	-1						
WARSAW	78.68	327.2	12	0	1	21	53	2		12 12	PCP
PASADENA	78.76	56.2	11	59	0	21	53	1		25 17	SS
LWOW	78.93	324.1	11	59	-1	21	59	5		12 12	PCP
SALT LAKE C.	78.98	47.8	12	1	1						
KARAPIRO	79.26	153.1	11	59	-3						
COPENHAGEN	79.65	333.4	12	3	-1	22	7	6	12 17	22 27	*SS
BOULDER CITY	79.94	53.1	12	6	0						
FLAMING GRGE	80.36	46.5	12	7	-1					14 10	
TONGARIRO	80.37	153.7	12	17	9						
KRAKOW	80.69	326.1	12	8	-2					15 24	PP
GLEN CANYON	81.44	50.7	12	13	-1					15 18	PP
RACIBORZ	81.46	326.9	12	16	2	22	27	7		12 28	PCP
BUCHAREST	81.46	319.0	12	12A	-2	22	27	7		22 21	SKS
RAPID CITY	81.86	41.1	12	22	6						
POTSDAM	81.93	330.9	12	16	0	22	30	5		15 38	PP
ISTANBUL KA.	81.98	315.0	12	16	0	22	45	19			
ISTANBUL UN.	82.05	315.0	12	15	-2					15 30	PP
KSARA	82.23	305.9	12	21K	3	22	43	15		15 33	PP
COLLMBERG	82.78	330.2	12	20A	0	22	57	23		15 29	PP
BUDAPEST	82.94	324.7	12	35	14						
HALLE	83.05	330.9	12	20	-2	22	38	2	12 35	15 29	PP
ABERDEEN	83.07	340.9				22	43	6		28 13	SS
PRAGUE	83.11	328.7	12	25	3						
PRUHONICE	83.13	328.6	12	20	-2	22	41	4		15 34	PP
BRATISLAVA	83.34	326.1	12	25	2	23	2	23		15 36	PP
VIENNA-H.	83.61	326.5	12	25	0	22	49	7			
JENA	83.64	330.7	12	24	-1					15 51	PP
PLAUEN	83.74	330.1	12	23	-2				12 36		
JERUSALEM	83.91	304.6	12	26	0	23	0	15			
CHEB	83.96	329.7	12	29	3						
SOFIA	84.11	319.1	12	28	1						
BELGRADE	84.13	322.1	12	30K	3	22	50	3			
MUNSTER	84.34	333.3	12	43	15						
TUCSON	84.83	54.1	12	34	3						
TUCSON TELE.	84.85	53.9	12	32	1						
DURHAM	85.02	339.4	12	36	4	22	51	-5		23 1	S
DE BILT	85.12	334.6	12	33	1	22	59	2			
BENSBERG	85.32	332.9	12	35K	2						
HEIDELBERG	85.98	331.2	12	39	3						
LJUBLJANA	86.09	326.0	12	37	0						
STUTTGART	86.25	330.5	12	38	0	23	2	-6			
TRIESTE	86.75	326.1	12	54	14	23	7	-6			
STRASBOURG	87.01	331.2	12	33	-8						
KEW	87.49	337.1	12	46	2	23	9	-11		23 25	
HELWAN	87.71	305.2	12	46	1	23	33	11			
PARIS	88.81	334.2	12	52	2	23	34	2			
PAVIA	89.15	328.4								24 25	PS
CHIAVARI	89.76	327.7				24	1	20		16 11	
ROME	90.21	324.4				23	55	10		16 27	
MONACO	91.05	328.5	13	14	13						
MESSINA	91.47	320.2				23	43	-13		16 35	PP
FLORISSANT	92.35	37.8				23	36	-28		24 6	S
ST. LOUIS 1	92.54	37.9	13	24	16	24	10	5			
LITTLE ROCK	94.35	41.7	13	27	11						
ADDIS ABABA	94.97	284.6	13	13	-6	23	59	-27		17 11	PP
PALISADES	97.69	26.1				24	8	5		24 48	SKKS
WILKES	103.80	192.3								18 11	PP
TAMANRASSET	108.82	317.1	18	25	777					18 48	PP
CAPE HALLETT	108.95	171.0	14	21	777	25	3	7		19 1	PP
LWIRO	109.63	281.4	18	55	777					35 18	SS
SCOTT BASE	113.69	174.3								19 29	PP
SOUTH POLE	124.86	180.0	18	53	-2					24 57	
BYRD STATION	125.85	167.7	18	56	-1						
CARACAS	127.41	35.8	19	14	14					21 33	PP
HUANCAYO	139.71	64.5	19	32	9						
ARGENTINE I.	146.11	161.0	19	35	1						
LA PAZ	147.89	62.4	19	45	8				19 59	23 6	PP

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OCTOBER 29 4.H 16.M 58.S EPICENTRE 15.47 -46.33 DEPTH= 0.KM

A= 0.66584 B=-0.69741 C= 0.26510 D=-0.7233 E=-0.6905
G= 0.1831 H=-0.1917 K=-0.9642 HT= 5.7

SE= 1.95

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
BARBADOS	13.08	261.4	3	8	-1							
FORT FRANCE	14.33	269.0	3	29	3							
ST. VINCENT	14.66	262.9	3	27	-3	6	5	-10				
GRENADA	15.34	259.1	3	36	-3							
TRINIDAD	15.44	253.7	3	38	-2							
SAN JUAN	19.16	281.5	4	29	2	7	49	-9				
CARACAS	20.67	258.7	4	42A	-2	8	34	4				
MBOUR	28.38	88.3	5	58	0	10	49	5				
BOGOTA	29.33	251.3				11	17	18			6	54 PP
CHINCHINA	30.61	253.2	6	13	-5							
HALIFAX	32.53	336.8	6	36	2							
PALISADES	34.91	322.2	6	56	1	12	37	10				
COLUMBIA	36.28	306.9	7	7	0							
SEVEN FALLS	37.55	332.3	7	19	2							
BREBEUF	37.71	328.2	7	19A	0							
MORGANTOWN	37.96	316.0	7	22A	1							
SHAWINIGAN	38.03	330.1	7	23	2							
LA PAZ	38.37	215.0	7	24	0	13	21	1			8	55 PP
OTTAWA	38.74	326.5	7	28	1							
SERRA PILAR	41.43	44.3	7	53K	3							
ST. LOUIS 1	44.85	309.6	8	18A	1	14	55	0				
FLORISSANT	45.01	309.8	8	19	0	14	57	-1				
LITTLE ROCK	45.44	303.8	8	22	0							
FAYETTEVILLE	47.20	305.1	8	36A	0						9	4
TAMANRASSET	49.32	73.1	8	52A	-1	15	55	-4			10	41 PP 0
SETIF	50.29	55.6	8	59	-1							
KEW	51.26	35.2	9	6	-1	16	32	6				
ABERDEEN	53.22	28.3									27	47
RAPID CITY	55.70	313.1	9	39	-1							
STUTTGART	56.00	41.2	9	41	-1							
JENA	58.03	39.2	9	56	-1	18	11	14			10	12
PLAUEN	58.27	39.8	9	54	-4							
HALLE	58.41	38.6	9	58	-1						10	15
LJUBLJANA	58.84	45.3	10	2	0						10	36
COLLMBERG	58.99	39.1	10	4	1							
POTSDAM	59.31	37.8	10	4	-2							
PRUHONICE	59.64	40.8	10	7	-1	18	49	31			10	33
FLAMING GRGE	59.74	308.5	10	8	-1						11	42
TUCSON TELE.	60.40	298.6	10	13	0							
TUCSON	60.50	298.5	10	14	0							
GLEN CANYON	61.19	303.9	10	19	0							
BOZEMAN	61.46	313.8	10	21	1							
SALT LAKE C.	61.58	308.2	10	21	0							
BOULDER CITY	63.79	302.7	10	37	1							
HUNGRY HORSE	63.80	316.5	10	35	-1							
EUREKA	64.69	306.6	10	41	-1							
SOFIA	64.77	49.8	10	42	0						11	15 ?CP
RESOLUTE	64.84	347.3	10	43	0							
LWOW	65.67	42.0	10	48	0							
PASADENA	66.59	300.8	10	55	1							
NORD	67.33	4.5	10	54	-5							
PENTICTON	67.55	317.3	10	59	-1							
PORT STANLEY	67.64	187.7	11	6	5							
RENO	67.66	306.7	11	2	1							
MINERAL	69.00	307.7	11	9A	0							
ISTANBUL UN.	69.01	51.6	11	7	-2							
LICK	69.21	304.4	11	12K	2							
SODANKYLA	69.28	23.3	11	9	-2							
SHASTA	69.59	308.1	11	12	-1						12	21
ARCATA	70.86	308.3	11	23K	3							
HELWAN	71.92	63.2	11	27	0							
KSARA	75.18	58.6	11	47K	1							
LWIRO	76.29	96.2	11	50	-2							
BROKEN HILL	79.67	108.1	12	11A	0							
COLLEGE	80.93	334.9	12	18	1							
ADDIS ABABA	82.95	82.6	12	34	6							
SHIRAZ	89.92	59.3	13	3	1							

OCTOBER 29 9.H 37.M 42.S EPICENTRE -15.71-172.84 DEPTH= 59.KM

A=-0.95561 B=-0.12009 C=-0.26905 D=-0.1247 E= 0.9922
G= 0.2670 H= 0.0335 K=-0.9631 HT= 5.6

DEPTH OF FOCUS= 0.004R

SE= 2.14

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
AFIAMALU	2.06	29.9	0	31K	-2	0	57	-1					
SUVA	8.70	252.6	2	9	4	3	48	5					
NOUMEA	20.64	248.3	4	34	-3	8	19	0					
ONERAHI	23.02	207.4	5	2	2								
KARAPIRO	24.40	202.7	5	13	-1						9	37	
TUAI	24.63	199.0	5	17	1								
CHATEAU	25.53	201.3	5	24	0								
TONGARIRO	25.53	201.3	5	25	1								
WELLINGTON	27.65	200.4	5	43	-1						6	6	
COBB RIVER	28.21	203.5	5	53	4	10	34	5					
KAIMATA	29.94	203.7	6	4	0						6	55	
GEBBIES PASS	30.52	201.0	6	13	4						11	33	
BRISBANE	33.92	244.1	6	33	-6	11	52	-7					
RIVERVIEW	37.10	234.2	7	3K	-3	12	43	-5	7	20	15	31	SS
CHARTERS TS.	39.10	257.4	7	20	-3	12	49	-29					
PORT MORESBY	39.51	274.2	7	27	1	13	26	2	7	44			
KIPAPA	39.66	21.9	7	29	2								
MELBOURNE	43.17	231.0	7	55	-1								
TARRALEAH	43.77	224.4	8	2K	1								
ADELAIDE	47.30	236.7	8	28	-1								
CAPE HALLETT	57.46	186.1	9	44	-1	17	42	6			20	3	SCS
SCOTT BASE	62.99	184.8	10	23K	0						10	43	PP
MUNDARING	65.86	241.7	10	39	-2								
BYRD STATION	68.57	171.4	10	57	-1								
MATUSIRO	69.52	319.6	11	5	1	20	10	4	11	30			
WILKES	70.37	204.6	11	9	0						20	26	
VINEYARD	71.23	41.6	11	17	3								
BERKELEY	71.36	40.2	11	15	0	20	39	12			11	33	
LICK	71.43	40.9	11	17K	1								
PASADENA	71.84	45.4	11	18	0	20	42	9			25	26	SS
FRESNO	72.26	42.3	11	22K	1								
SHASTA	73.05	37.8	11	26	1								
MINERAL	73.30	38.5	11	27K	0								
RENO	73.90	40.0	11	31A	1								
SOUTH POLE	74.39	180.0	11	32	-1						12	59	
TUCSON	76.10	50.4	11	43	0						12	2	
TUCSON TELE.	76.23	50.4	11	43	0								
EUREKA	76.29	41.8	11	43	-1								
MIRNY	77.37	204.1	11	50	0						12	12	
VICTORIA	77.55	31.1	11	50	-1								
GLEN CANYON	77.88	45.9	11	54	1						13	57	
ZO-SE	78.58	306.9				21	55	9					
PENTICTON	79.98	32.2	12	2	-2								
NANKING	80.84	306.9	12	8	-1						21	57	
FLAMING GRGE	81.34	43.3	12	12	1								
CHANGCHUN	81.77	319.9	12	14	0	22	27	7					
BUTTE	81.96	37.7	12	14	-1								
HUNGRY HORSE	82.40	35.1	12	16	-1								
COLLEGE	82.56	10.5	12	16	-2								
BOZEMAN	82.68	38.5	12	20	2								
ARGENTINE I.	83.40	156.3	12	21	-1								
PEKING	86.07	313.3	12	35	0	23	2	-1					
RAPID CITY	86.85	42.6	12	32	-7						12	55	
MAWSON	87.67	198.5	12	42	-1								
YAKUTSK	89.59	336.6	12	54	2								
FAYETTEVILLE	90.24	52.6	12	54	-1				13	23			
LITTLE ROCK	91.25	54.3	12	59	-1								
SANTA LUCIA	91.29	125.2	13	3	3	23	58	7			23	28	PKS 0 5
KUNMING	91.65	295.5	13	6	4	23	58	4			23	38	SKS
CHENGTU	92.15	301.1	13	9	5	24	4	5			23	39	SKS
FLORISSANT	93.97	50.9				23	47	-28					
ST. LOUIS 1	94.03	51.1	13	28	15	24	49	34					
TIKSI	95.43	344.3	13	17	-2								
PALISADES	106.80	51.3				24	53	10			27	59	PS
CARACAS	107.96	83.9	19	0	777						28	11	SKKS
QUETTA	123.66	296.0	18	52	1								

MOSCOW	133.75	336.6	19 13	3				22 51	PKS
SHIRAZ	136.18	296.5	19 15	0					
SIMFEROPOL	143.04	327.6	19 30	3					
LWOW	143.32	341.7	19 25	-2				20 0	
BROKEN HILL	143.37	216.2	19 27	0					
HALLE	144.09	354.9	19 28	-1				20 2	
COLLMBERG	144.19	353.7	19 28K	-1	20 0			21 44	PP
RACIBORZ	144.57	347.7	19 28	-2				20 50	
JENA	144.69	355.2	19 28	-2				22 48	PP
BENSBERG	144.84	360.0	19 30K	0					
SONNEBERG	145.26	355.5	19 31	0					
PRUHONICE	145.30	351.6	19 31A	0				22 52	PP
HEIDELBERG	146.37	358.2	19 35	2					
BRATISLAVA	146.61	347.9	19 35K	2	19 50				
HURBANOVO	146.66	346.4	19 28	-5					
VIENNA-H.	146.67	348.8	19 36	3				19 46	PKP2
STUTTGART	146.98	357.4	19 36	2					
STRASBOURG	147.22	359.3	19 38	4				20 8	
TUBINGEN	147.23	357.7	19 37	3					
EBINGEN	147.59	357.7	19 38	3					
RAVENSBURG	147.96	356.9	19 36	1					
BASLE	148.27	359.5						20 57	
ISTANBUL KA.	148.40	327.4	19 38	2				19 57	PKP2
ADDIS ABABA	148.45	261.6	19 41	5					
KSARA	148.46	310.1	19 40	4					
ISTANBUL UN.	148.46	327.5	19 36	0					
BESANCON	148.54	1.5	19 41	5					
BELGRADE	148.88	341.5	19 54A	17	26 35	-2		21 52	
ZAGREB	149.08	348.0						20 43	
LJUBLJANA	149.13	350.0	19 42	5				20 25	
TRIESTE	149.64	350.8	19 44	6					
SOFIA	149.74	336.0	19 45	7			20 9	20 19	*SPKP
CLERMONT-FD.	149.84	5.6	19 49	11					
JERUSALEM	149.87	307.1	19 41	3					
LWIRO	152.14	232.0	19 52	10					
ATHENS	153.44	329.8	19 52	9					
HELWAN	153.71	306.6	19 46	2					
GRANADA	156.58	22.0	20 36K	48					
TAMANRASSET	172.80	12.2	20 3	1			20 21	25 21	PP

OCTOBER 30 12.H 14.M 32.S EPICENTRE -23.44 -70.46 DEPTH= 7.KM

A= 0.30715 B=-0.86554 C=-0.39559 D=-0.9424 E=-0.3344
G=-0.1323 H= 0.3728 K=-0.9184 HT= 3.8

SE= 2.90

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
LA PAZ	7.25	18.0	1 50	1	3 18	6		2 3	PP
SANTA LUCIA	9.96	180.9	2 23A	-3	4 20	0			
HUANCAYO	12.24	336.9	2 57	0				11 28	
BOGOTA	28.11	352.3	5 56A	2					
FUQUENE	28.91	353.3	6 2K	1					
PORT STANLEY	29.83	164.2	6 8	-2					
BALBOA HTS.	33.41	343.5	6 43	2					
CARACAS	33.91	6.2	6 44	-1	11 58	-11			
GALERAZAMBA	34.34	351.6	6 52	3	12 19	3			
TRINIDAD	35.02	15.7	6 54	-1					
GRENADA	36.29	14.5	7 4	-2					
FORT FRANCE	39.02	14.4	7 24	-5					
SAN JUAN	41.78	6.2	7 47	-4				9 31	PP
ARGENTINE I.	41.99	176.1	7 53	0					
MERIDA	47.91	335.6	8 45	4	15 39	2		21 54	
VERA CRUZ	49.23	327.3	8 59	8	16 0	4		21 32	
TACUBAYA	50.98	324.3	9 6	2	16 21	1		10 20	PCP
COLUMBIA	58.00	349.6	9 52	-3	17 48	-7			
BYRD STATION	60.36	188.7	10 10	-2	17 49	-36		39 29	PKPPKP
LITTLE ROCK	61.52	339.6	10 15	-5	18 34	-6			
CHIHUAHUA	62.11	324.6	10 30	6	18 44	-3	10 57	26 28	
WASHINGTON	62.32	354.2	10 23	-2				13 24	
FAYETTEVILLE	63.32	338.6	10 28A	-4	18 42	-21	10 52	13 0	PP
MORGANTOWN	63.37	351.8	10 25	-7					
PALISADES	64.20	357.1	10 35	-2	19 11	-3		14 51	PPP
PENNSYLVANIA	64.28	353.8	10 37	-1	19 13	-2	10 47	20 29	SCS
MBOUR	64.41	59.7	10 38	-1	19 15	-1			

ST. LOUIS 1	64.48	342.9	10	35	-4	19	11	-6			
FLORISSANT	64.67	342.9	10	38	-2	19	12	-7			
SOUTH POLE	66.70	180.0	10	52	-1					39	20 PKPPKP
TUCSON	67.49	323.6	10	56	-3	19	34	-20		39	33 PKPPKP
TUCSON TELE.	67.50	323.7	10	57	-2				11 9	39	28 PKPPKP
HALIFAX	68.02	5.3	11	0A	-2						
OTTAWA	68.68	356.0	11	3	-3						
SHAWINIGAN	69.69	358.3	11	10K	-2						
SEVEN FALLS	70.23	359.7	11	14	-1						
BOULDER CITY	72.47	323.5	11	27	-2						
PASADENA	73.05	320.1	11	31	-1	21	0	1		25	40 SS
FLAMING GRGE	73.55	330.2	11	33	-2						
RAPID CITY	73.59	336.0	11	31	-4						
SCOTT BASE	73.66	190.7	11	35	-1	21	11	5		39	0 PKPPKP
SALT LAKE C.	74.57	328.6	11	42	1	21	15	-1			
RUTH	74.96	325.7	11	51	8	21	24	4			
EUREKA	75.66	325.3	11	45	-2						
FRESNO	75.83	321.1	11	48	0						
CAPE HALLETT	76.16	195.9	11	45	-5	21	32	-1		26	28 SS
HERMANUS	76.90	121.9	11	56	2	21	43	2			
LICK	77.29	320.5	11	56A	-1						
RENO	77.77	323.1	11	59	0						
CONCORD	77.97	320.7	11	58A	-2						
BERKELEY	78.01	320.5	11	58A	-3	21	55	2		27	4 SS
BOZEMAN	78.05	332.2	12	1	0						
BUTTE	78.99	331.6	12	3	-3						
WINDHOEK	79.22	109.9	12	8	1						
MINERAL	79.32	322.7	12	6K	-2						
UKIAH	79.42	321.0	12	10	2						
SHASTA	80.00	322.6	12	9	-2						
HUNGRY HORSE	81.42	332.3	12	17	-2	22	26	-3		15	34 PP
MAWSON	82.89	163.7	12	26	0						
KIMBERLEY	83.36	118.3	12	42	13						
BANFF	84.21	333.4	12	31	-2						
PENTICTON	84.61	330.2	12	34	-1						
COIMBRA	85.67	42.7	12	40	0						
VICTORIA	85.85	327.9	12	42A	1						
MALAGA	86.33	47.4	12	46K	2	23	22	4	13 8	16	8 PP
TAMANRASSET	86.96	63.7	12	45A	-2	23	21	-3		16	9 PP
ALBERNI	87.04	327.8	12	50	3						
GRANADA	87.12	47.3	12	51K	3	23	33	7		16	33 PP
ALMERIA	87.72	48.1	12	51A	1	23	35	4	13 17	16	26 PP
TOLEDO	88.27	44.9	12	54	1	23	22	-14		16	21 PP
RELIZANE	89.26	50.3	12	52	-6	23	47	1	13 39		
MIRNY	89.42	173.5	13	0	1						
ALICANTE	89.84	47.6	12	54	-7	23	51	0		29	48 SS
BULAWAYO	90.04	111.9	13	1A	0						
WILKES	90.50	180.4				23	58	1		25	14 PS
ALGIERS UNI.	91.52	50.4	13	8	0	24	1	-5		16	42 PP
WELLINGTON	91.72	223.2				24	17	9			
BROKEN HILL	92.30	106.7	13	15	3						
CHATEAU	92.36	225.3	13	13	1					14	13
TONGARIRO	92.37	225.3	13	13	1						
ROXBURGH	92.53	217.5				24	21	6		30	28 SS
SETIF	92.93	51.8	13	16	1				13 39	16	58 PP
KARAPIRO	93.05	226.3	13	15	0						
KEW	96.52	36.3	13	34	3	24	45	-2		17	18 PP
PARIS	96.82	39.5				25	10	61		17	25 PP
DURHAM	97.51	33.0				24	54	42		17	43 PP
LWIRO	97.60	95.8	13	37	1						
ABERDEEN	98.47	30.8				24	17	0		25	8 SKKS
PAVIA	99.37	44.8								17	44 PF
SCORESBY SD.	99.67	14.8				25	12	49		31	4
DE BILT	99.84	37.3				25	34	70		26	20 PS
STRASBOURG	99.87	41.3	13	40	-6	25	16	52			
ROME	100.31	48.9								17	55 PKS
STUTTGART	100.86	41.5	13	49	-2					17	51 PP
TRIESTE	102.53	45.6				24	41	4		25	48 S
JENA	103.05	40.0	18	8	247	24	34	-5		18	49 PP
COLLMBERG	104.02	40.0	14	7	2					18	24 PP
POTSDAM	104.43	39.0								25	55
PRUHONICE	104.51	41.6	14	24	17	24	51	5		18	24 PP
COPENHAGEN	105.18	35.6	14	12	777	24	52	3		18	26 PP
BRATISLAVA	105.53	44.0								18	31 PP
COLEGE	105.78	334.3	14	17	777					18	27
KRAKOW	107.85	42.6	18	23	777	25	3	2		18	51 PP
WARSAW	109.06	40.6								18	59 PP
LWOW	110.36	43.5								19	5 PP

BUCHAREST	110.56	49.5							19	12	PP
RIVERVIEW	110.63	216.2							19	7	PP
HELWAN	111.04	65.6	19	20	46						
ADDIS ABABA	111.13	89.1							19	21	PP
ISTANBUL UN.	111.89	53.5	19	20	45						
ISTANBUL KA.	111.96	53.5	19	15	39				28	56	
JERUSALEM	114.76	64.5							19	42	PP
PULKOVO	115.35	33.4							19	42	PP
KSARA	115.74	62.5							19	45	PP
SIMFEROPOL	116.28	50.0							19	45	PP
APATITY	116.74	24.7							19	54	PP
KHEYS	118.95	8.4							20	18	PP
MOSCOW	119.18	38.0	18	45	-5				20	10	PP
GORIS	124.81	57.3				25	56	-7			
TEHERAN	128.63	62.2	19	10	2				21	17	
SHIRAZ	129.04	70.1	18	57	-12	25	59	-16	21	32	PP
RABAUL	130.18	242.1							22	32	
TIKSI	130.54	352.1	19	15	3				22	34	SKP
PORT MORESBY	130.82	232.7	19	15	3				21	29	PP 01
ASHKABAD	134.21	59.3	19	21	3				21	50	PP
OKHA	140.81	328.7	19	34	3				22	41	PP
QUETTA	141.57	70.5	19	29	-3				22	38	PP
TASHKENT	142.01	52.3	19	29	-4				22	35	PP
DUZHANBE	142.27	56.8							33	2	PS
UGLEGORSK	143.82	323.2	19	42	6				22	57	PP
FERGANA	144.09	52.9				00			22	48	PP
SEMIPALATNSK	144.75	32.8	19	36	-1						
WARSAK DAM	145.24	63.7	19	38	0						
GUAM	145.25	259.7	19	8	-30				19	38	
FRUNSE	145.28	47.7	19	39	1						
BOMBAY	145.52	90.5	19	42	3						
POONA	146.38	91.5	19	44	4						
ALMATA	146.66	45.7	19	44	3						
LEMBANG	149.85	176.2	19	51A	5						
TUKUBASAN	150.72	302.8	19	49K	2				42	56	SS
IRKUTSK	150.94	6.6	19	50	3				23	30	PP
DEHRA DUN	151.15	69.4	19	51	3				22	46	
MATUSIRO	152.06	304.4	19	56A	7				23	39	PP
VLADIVOSTOK	153.04	322.1	19	52	2						
ULAN-BATOR	155.48	4.3	19	55	1						
CHANGCHUN	155.88	331.2	19	55	1				24	1	PP
MEDAN	157.64	150.4	20	12K	15						
CHATRA	159.47	75.9	19	59	0						
PEKING	162.54	342.8	20	6K	4				24	29	PP
SHILLONG	163.78	78.9	20	5K	2						
ZO-SE	167.15	308.9	20	8	2				25	1	PP
BAGUIO CITY	167.49	238.1	20	10	4						
NANKING	168.15	318.4	20	10	3				25	6	PP
CHENGTU	171.29	33.2	20	11	2				25	18	PP
KUNMING	173.58	73.6	20	13	3				25	35	PP
HONG KONG	175.58	256.0							29	40	PPP
CANTON	176.49	265.0	20	13	3				25	50	PP

OCTOBER 30 15.H 50.M 49.S EPICENTRE -1.18 126.75 DEPTH= 0.KM

A=-0.59825 B= 0.80105 C=-0.02041 D= 0.8012 E= 0.5984
G= 0.0122 H=-0.0164 K=-0.9998 HT= 7.2

SE= 3.30

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
MANILA	16.72	340.6	4	1	4							
BAGUIO CITY	18.52	341.0	4	19	-1	7	46	2				
LEMBANG	19.89	253.1	4	37K	1	7	27	-48				
DJAKARTA	20.49	255.5	4	43	1	7	34	-53				
PORT MORESBY	21.87	112.6	4	54	-2	8	59	5			9	16
GUAM	23.01	50.2	5	7	-1							
RABAUL	25.56	97.2	5	31	-1							
HONG KONG	26.37	333.0	5	37	-3	10	10	-2				
CHARTERS TS.	26.78	135.9	5	42	-2	10	15	-4				
CANTON	27.43	332.4	5	38	-11						10	12
MUNDARING	32.20	197.0	6	31	-1							
ZO-SE	32.53	351.1	6	35	0	11	45	-5				
NANKING	33.91	347.8	6	48	1	12	8	-3				
KUNMING	34.99	320.0	6	56	0	12	26	-2				
ADELAIDE	35.42	162.9	7	0	0							

BRISBANE	36.08	138.5	7	4	-1	12	37	-8				
CHENGTU	38.35	327.5	7	24	-1	13	17	-3				
MATUSIRO	39.01	14.7	7	25	-5	13	18	-12			17	34 SCS
RIVERVIEW	39.71	147.4	7	33A	-3						13	44
CANBERRA	39.78	151.1	7	36	0							
MELBOURNE	40.14	157.4	7	40A	1				7	55	8	22
PEKING	42.14	347.9	7	54	-2	14	10	-6				
SHILLONG	42.95	310.7	8	2K	0							
VLADIVOSTOK	44.34	5.4	8	21	7							
CHANGCHUN	44.82	358.5	8	21	3	14	57	1			10	4 PP
CHATRA	47.21	309.1	8	36A	0							
ULAN-BATOR	51.87	343.1	9	10	-2	16	29	-6				
POONA	55.55	293.4	9	39	-1							
DEHRA DUN	55.92	308.3	9	46	4						17	29
IRKUTSK	56.51	343.7	9	44	-2	17	35	-2				
KARAPIRO	57.76	135.3	9	37	-18						9	54
TONGARIRO	58.35	136.6	10	5	6							
CHATEAU	58.35	136.6	10	7	8							
LAHORE	59.34	308.1	10	7	1							
AFIAMALU	62.06	105.0	10	30	5							
WARSAK DAM	62.44	309.7	10	13	-14							
YAKUTSK	63.07	1.6	10	29	-3	18	53	-9				
KARACHI	63.28	298.5	10	32	-1							
FRUNSE	64.05	319.8	10	36	-2							
ANDIJAN	64.59	316.9	10	41	0	19	19	-2				
QUETTA	64.83	304.2	10	42	-1							
WILKES	66.04	187.1				19	33	-5				
TIKSI	72.70	0.7	11	31	-1	20	47	-10				
CAPE HALLETT	76.04	167.5	11	49	-2	21	29	-5				
SHIRAZ	76.91	300.7	11	54	-2	21	38	-6			14	45 PP
SVERDLOVSK	78.15	329.1	12	1	-2	21	47	-10				
TANANARIVE	79.41	251.1	12	11	1						14	6
SCOTT BASE	79.50	172.0	12	11	1							
TIFLIS	84.77	311.9	12	38	1							
KHEYS	87.74	351.2	12	51	-1							
ADDIS ABABA	88.19	279.0				23	30	-8				
SOUTH POLE	88.83	180.0	12	55	-2							
COLLEGE	89.11	25.2	13	1	2							
MOSCOW	90.47	325.6	13	11	6							
KSARA	91.37	303.6	13	9	0	24	8	1			25	16 PS
APATITY	92.36	337.4	13	23	9	23	37	-39			24	15 PS
SIMFEROPOL	92.69	314.8									16	58 PP
BYRD STATION	92.87	170.8	13	15	-1							
PULKOVO	94.26	329.7									17	14 PP
KIRUNA	97.21	338.5	13	21	-15							
PRUHONICE	105.04	321.8	18	40	777							
COLMBERG	105.59	323.4									18	38 PP
EUREKA	111.56	47.7	18	44	8							
TAMANRASSET	119.10	295.4	18	50	-1						20	8 PP
BREBEUF	132.35	19.3									22	40 PPP
PALISADES	136.16	22.7									39	58 SS
LA PAZ	157.10	140.7	19	59	2							
SAN JUAN	158.74	35.7	20	5	5							

OCTOBER 30 21.H 32.M 51.S EPICENTRE -23.00 -68.70 DEPTH= 67.KM

A= 0.33479 B=-0.85847 C=-0.38851 D=-0.9317 E=-0.3633
G=-0.1412 H= 0.3620 K=-0.9214 HT= 3.9

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	
LA PAZ	6.49	4.8	1	40A	5	2	30	-19			1	47	PG
SANTA LUCIA	10.54	188.9	2	28	-3	4	31	3			4	7	
BOGOTA	27.95	348.5	5	50	4	10	25	1			11	13	SS
CHINCHINA	28.61	345.5	5	52K	0	10	34	-1			6	15	
FUQUENE	28.72	349.5	5	54	1	10	31	-5			6	15	
PORT STANLEY	29.85	166.4	6	1	-2						9	3	
CARACAS	33.34	3.2	6	32A	-2	11	45	-4					
BALBOA HTS.	33.50	340.3	6	37	2	11	56	5					
GALERAZAMBA	34.18	348.4				12	5	3					
TRINIDAD	34.20	12.8	6	42	1								
GRENADA	35.49	11.8	6	51	-1								

ST. VINCENT	36.67	12.2	7 2	0						
BARBADOS	36.99	14.8	7 9	4						
FORT FRANCE	38.22	11.9	7 13	-2	13 6	2				
DOMINICA	38.73	11.3	7 17	-2						
ST. KITTS	40.51	8.8	7 32	-2						
SANTIAGO MA.	41.11	330.0	7 43	4						
SAN JUAN	41.20	3.7	7 37	-3	13 38	-10			9 18	PP
SAN SALVADOR	41.62	329.2	7 46	3						
ARGENTINE I.	42.34	177.2	7 49	0						
MERIDA	48.21	333.4	8 33	-3					9 0	
OAXACA	48.33	322.9	9 1	24					9 25	
VERA CRUZ	49.77	325.2	9 11	23					9 35	
TACUBAYA	51.60	322.3	9 OK	-2	16 3	-13			10 55	PP
GUADALAJARA	55.00	319.5	9 25	-2						
BYRD STATION	61.05	188.9	10 9	0					38 37	PKPPKP
LITTLE ROCK	61.70	338.0	10 11	-3			10 36			
WASHINGTON	62.07	352.6	10 13	-3					10 37	
CHIHUAHUA	62.71	323.1	12 15	114					15 9	
MBOUR	62.79	58.8	10 20	-1	18 43	0				
MORGANTOWN	63.18	350.3	10 22K	-2	18 49	1				
FAYETTEVILLE	63.52	337.1	10 24K	-2	19 20	28	10 50		13 24	PP
PALISADES	63.86	355.6	10 28	0	18 56	-1			10 50	PCP
PITTSBURGH	63.98	350.5	10 30A	1			10 55			
PENNSYLVANIA	64.04	352.3	10 28	-1	18 57	-2	10 53		19 41	
ST. LOUIS 1	64.55	341.4	10 29	-4	18 57	-8			10 55	
FLORISSANT	64.74	341.4	10 31	-3	19 2	-5			10 57	
WESTON	65.09	357.9	10 35K	-1					11 1	
CLEVELAND	65.25	349.4	10 35	-2	19 9	-5	11 1			
SOUTH POLE	67.14	180.0	10 48	-1					13 37	PP
HALIFAX	67.45	3.9	10 50K	-1						
TUCSON	68.12	322.2	10 55	0					39 12	PKPPKP
TUCSON TELE.	68.12	322.4	10 56	1					39 13	PKPPKP
BREBEUF	68.32	356.3	10 55K	-1	19 50	-1				
OTTAWA	68.37	354.7	10 26K	-31						
SHAWINIGAN	69.32	357.0	11 3K	0						
SEVEN FALLS	69.82	358.4	11 5K	-1						
GLEN CANYON	72.06	325.0	11 20	1					11 48	
BOULDER CITY	73.10	322.3	11 25	0					11 51	
PASADENA	73.77	319.0	11 30K	1	20 56	2	11 36		12 6	*SP
RAPID CITY	73.86	334.8	11 28	-2						
FLAMING GRGE	73.99	329.1	11 30	0					38 34	PKPPKP
SCOTT BASE	74.40	190.4	11 33A	0					38 53	PKPPKP
SALT LAKE C.	75.06	327.5	11 37	0					12 23	
HERMANUS	75.75	121.5			21 15	-1				
EUREKA	76.24	324.2	11 44	1					38 37	PKPPKP
FRESNO	76.52	320.0	11 44K	-1			12 11			
CAPE HALLETT	77.03	195.6	11 48	0	21 27	-3			14 27	PP
WINDHOEK	77.84	109.4	11 52A	0						
LICK	78.00	319.4	11 54K	1			12 20			
BRANNER	78.38	319.2	11 56K	1			12 22			
RENO	78.41	322.1	11 57K	2			12 23			
BOZEMAN	78.44	331.2	11 57	2					12 21	
CONCORD	78.67	319.7	11 58K	1			12 24			
BERKELEY	78.72	319.5	11 58K	1	21 41	-7	12 24			
SAN FRANCSCO	78.77	319.3	11 58K	1			12 24			
BUTTE	79.39	330.6	12 23	22						
MINERAL	79.97	321.8	12 3K	-1			12 20			
UKIAH	80.11	320.0	12 5	0					12 30	
SHASTA	80.65	321.6	12 6K	-1			12 33			
ARCATA	81.74	320.9	12 14K	1			12 39			
HUNGRY HORSE	81.80	331.4	12 13	0					38 45	PKPPKP
GRAHAMSTOWN	81.86	122.6	11 26K	-48						
MAWSON	82.85	163.2	12 20	1	22 28	-2	12 38		12 46	*SP
BANFF	84.55	332.5	12 25K	-2					12 52	
MALAGA	84.85	46.6	12 32K	3					12 56	
PENTICTON	85.05	329.3	12 30K	0					12 56	
TAMANRASSET	85.31	63.0	12 30	-1			12 56		15 53	PP
GRANADA	85.63	46.6	12 38K	5			12 57		13 24	
ALMERIA	86.22	47.4	12 36A	0	23 4	1	13 0		16 15	PP
VICTORIA	86.35	327.1	12 36K	0						
TOLEDO	86.82	44.1	12 40A	2	22 59	-10	13 5		23 3	S
ALBERNI	87.54	327.0	12 42	0						
RELIZANE	87.73	49.6	12 37	-6	23 6	-12	13 3		16 12	PP
BULAWAYO	88.69	111.2	12 47K	0						
MIRNY	89.66	172.8	12 52	0	23 10	-26				
ALGIERS UNI.	89.99	49.7	12 53	-1	23 41	2	13 19		16 25	PP
BROKEN HILL	90.86	106.0	13 0	2						
WILKES	90.94	179.7	12 59	1	23 47	0			16 35	PP
BAGNERES	91.18	43.1	13 2	3						

SETIF	91.39	51.1	13	1	1	23 45	-6	13 26	16 35	PP
CHATEAU	93.82	224.5	13	14K	3				13 51	
TONGARIRO	93.83	224.5	13	13	2				13 49	
ROXBURGH	93.86	216.7							26 9	0
REYKJAVIK	94.15	18.7	13	40A	27					
CLERMONT-FD.	94.37	41.8	13	40K	26				23 46	
COBB RIVER	94.52	221.8	13	18	4					
KARAPIRO	94.53	225.6	13	15K	1				13 42	
KEW	95.21	35.7				23 43	-3		26 15	PPS
PARIS	95.45	38.9	13	19	0			13 45		
LWIRO	96.02	95.0	13	23A	2					
DURHAM	96.26	32.5				23 49	-3			
AFIAMALU	96.30	252.1	13	31	8					
BESANCON	96.81	41.4	13	49	24					
ABERDEEN	97.26	30.3				23 55	-2		24 39	
BASLE	97.91	41.7	13	54	24				24 3	
STRASBOURG	98.47	40.7	13	52	20	23 59	-4			
CHUR	98.83	42.8	14	3	29					
SCORESBY SD.	98.84	14.3	14	0	26	24 7	2		24 57	S
RESOLUTE	98.90	353.2	13	34	0					
BENSBERG	99.13	38.4	14	1A	26				17 55	
HEIDELBERG	99.38	40.3	13	38	1			14 2		
STUTTGART	99.46	41.0	13	35	-2				17 37	PP
TRIESTE	101.07	45.1				24 16	0		25 19	S
JENA	101.67	39.6	14	12	25	24 21	2		18 15	PP
LJUBLJANA	101.71	44.9	17	9	202				17 55	
HALLE	102.10	39.1				24 22	1		16 41	PP
COLLMBERG	102.64	39.5	13	51	0				18 1	PP
POTSDAM	103.06	38.5	14	18	25	24 26	1		25 32	
PRUHONICE	103.10	41.2	13	56	3	24 29	3	14 19	16 44	
VIENNA-H.	103.65	43.3							18 8	PP
COPENHAGEN	103.88	35.2				24 31	2		18 12	PP
BRATISLAVA	104.09	43.5				24 29	-1		18 12	PP
GOTEBORG	104.34	33.2							18 16	PP
RACIBORZ	105.37	41.8	17	28	777				18 24	
COLLEGE	106.09	334.1	14	6	777				18 29	PP
KRAKOW	106.42	42.2				24 41	0		18 29	PP
SKALSTUGAN	106.43	27.4							18 57	PP
SOFIA	106.65	50.3	18	34	777					
NORD	107.51	7.0	18	57	777					
UPPSALA	107.79	31.9							18 40	PP
LWOW	108.93	43.2	18	50	777				28 8	
BUCHAREST	109.04	49.1				24 51	-1			
HELWAN	109.38	65.1							18 52	PP
ADDIS ABABA	109.50	88.3							18 51	PP
ISTANBUL UN.	110.32	53.1	18	34	10				25 6	
ISTANBUL KA.	110.39	53.1	18	19	-6				19 2	PP
KIRUNA	110.74	23.9							18 48	PP
NURMIJARVI	111.36	32.0							18 54	PP
JERUSALEM	113.10	64.0	18	31	1				19 26	PP
PULKOVO	114.09	33.2				25 9	-3		18 59	PP
KSARA	114.10	62.0							19 26	PP
SIMFEROPOL	114.75	49.7				25 13	-2		19 2	PP
APATITY	115.66	24.6				25 12	-6		19 3	PP
MOSCOW	117.83	37.9	18	49	10	25 25	-1			
KHEYS	118.27	8.6				25 28	1		19 8	PP
MUNDARING	125.14	185.1	18	53	0				19 21	
TEHERAN	126.99	61.8	18	58	1				19 26	PKP2
SHIRAZ	127.37	69.5	18	59A	1	27 4	68		21 0	PP
SVERDLOVSK	130.21	33.8	19	3	0					
TIKSI	130.32	352.8	19	7	4					
PORT MORESBY	132.38	231.5	19	8	1			19 36	21 30	PP
YAKUTSK	139.02	346.9	19	13	-6					
QUETTA	139.89	70.0	19	16	-5				22 16	PP
STALINABAD	140.67	56.7	19	23	1					
ANDIJAN	142.86	52.3	19	25	-1					
WARSAK DAM	143.59	63.5	19	26	-1					
FRUNSE	143.78	48.1	19	27	-1					
LAHORE	146.18	67.3	19	37	5			19 53	20 5	*SPKP
GUAM	146.93	259.2	19	35	2				20 3	
DEHRA DUN	149.48	69.0	19	42	5					
LEMBANG	150.14	172.6	19	41K	3					
IRKUTSK	150.29	8.7	19	40K	2					
DJAKARTA	150.67	170.9	19	41	2					
TUKUBASAN	151.83	304.4	19	48	7					
MATUSIRO	153.13	306.2	19	44A	1				23 36	PP
ULAN-BATOR	154.89	7.0	19	45	0					
ABUYAMA	155.76	304.6	19	48K	2					

CHANGCHUN	156.23	334.2	19	48K	1			20	15	23	53	PP
MEDAN	157.15	145.8	19	52A	4							
CHATRA	157.79	75.2	19	51K	2							
SHILONG	162.10	77.9	19	54K	0							
PEKING	162.53	347.5	19	56K	2			20	23	24	52	PP
ZO-SE	168.07	314.6	20	1K	2			20	28	24	56	PP
NANKING	168.80	325.3	20	0K	1			20	28	24	56	PP
BAGUIO CITY	169.09	234.8	20	2	3							
CHENGTU	169.97	38.9	20	2K	2			20	29	25	30	PP
KUNMING	171.89	73.2	20	3K	2			20	30	25	47	PP
HONG KONG	177.26	255.8	20	5	2			20	31	25	44	PP
CANTON	178.12	273.1	20	5K	2			20	33	25	43	PP

NOVEMBER 1 6.H 15.M 27.S EPICENTRE -11.07 -13.03 DEPTH= 0.KM

A= 0.95637 B=-0.22130 C=-0.19072 D=-0.2254 E=-0.9743
G=-0.1858 H= 0.0430 K=-0.9816 HT= 6.4

SE= 3.01

	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	
MBOUR	25.58	351.1	5	34	2	10	19	20					
LUANDA	25.95	87.5	5	39	3								
WINDHOEK	30.96	115.6	6	20	-1								
HERMANUS	37.48	133.5	8	18	61	13	6	-1			8	51	
TAMANRASSET	38.23	28.3	7	23	-1	13	28	10			8	54	PP
KIMBERLEY	39.44	122.1	7	25	-9								
BROKEN HILL	40.58	99.3	7	52A	9								
BULAWAYO	41.01	107.9	7	31A	-16								
LWIRO	42.41	81.2	7	58A	0	14	27	7			9	33	PP
MALAGA	48.22	9.3	8	50A	5								
RELIZANE	48.30	14.8	8	33	-12						10	25	PP
ALMERIA	48.68	11.3	8	50K	2						10	45	PP
GRANADA	48.80	10.0	8	56K	7	15	59	7			10	1	PP
ALGIERS UNI.	49.93	16.9	8	59	1	15	38	-30			10	51	PP
SETIF	50.12	19.5	8	57	-2						10	54	PP
TOLEDO	51.37	8.8	9	9	0						11	7	PP
LA PAZ	53.66	257.6	9	27K	1	17	1	2			11	34	PP
FORT FRANCE	54.14	297.3	9	37	8								
PORT STANLEY	54.38	212.7	9	31	0								
ADDIS ABABA	55.26	70.8	9	40	3								
MESSINA	55.82	27.1	9	41	-1	17	39	11			11	45	PP
SANTA LUCIA	57.02	237.3	9	45	-5	17	41	-3			21	13	SS
MONACO	57.63	17.5	9	55	1								
ROME	57.69	22.4	9	55	0	18	2	9			24	12	SSS
CARACAS	57.71	289.9	9	55	0	17	54	1					
ISOLA	57.93	16.9	9	56	-1						10	55	PCP
CLERMONT-FD.	58.41	13.2	10	1	1								
TANANARIVE	58.81	105.4	10	4	1						12	3	PP
HELWAN	58.99	45.1	10	4	0						12	23	
PAVIA	59.47	18.1	9	58	-9						14	9	
SAN JUAN	60.00	298.7	10	10	-1								
PADOVA	60.54	19.9	10	33	18						14	53	
HUANCAYO	60.93	262.3	10	18	1								
BASLE	61.16	15.8	10	19A	0						21	18	
PARIS	61.17	11.6	10	13	-6								
TRIESTE	61.39	21.1	10	20	0	18	48	7			11	10	PCP
TOLMEZZO	61.79	20.2	10	23	0						11	31	
LJUBLJANA	62.01	21.4	10	24	-1						12	50	
STRASBOURG	62.17	15.5	10	24	-2						25	45	SSS
FUQUENE	62.60	282.1	10	29	1								
BOGOTA	62.71	281.1	10	31	2	19	3	6					
STUTTGART	62.75	16.4	10	27	-2						11	29	
JERUSALEM	62.82	45.6	10	31	1						12	51	PP
SOFIA	63.01	29.4	10	34	3						11	37	
HEIDELBERG	63.17	15.7	10	30	-2								
BELGRADE	63.34	26.1	10	32K	-1	19	15	10			13	26	PP
BENSBERG	64.22	14.0	10	39K	0						11	12	
CHINCHINA	64.29	281.0	10	37	-3	19	11	-6					
ARGENTINE I.	64.42	201.3	10	38	-2								
KSARA	64.44	44.1	10	41A	0	19	19	0			13	3	PP
ISTANBUL UN.	64.73	34.1	10	41A	-1								
BRATISLAVA	64.74	21.8	10	37	-6						12	55	PP
PLAUEN	65.12	17.4	10	42	-3						13	6	PP
JENA	65.35	16.9	10	46	0						13	13	PP

PRAGUE	65.45	19.1								24	5	
GALERAZAMBA	65.56	287.2	10	56	8	19	45	12				
HALLE	65.96	16.8	10	50	0				10	57	13	22 PP
COLLMBERG	66.09	17.5	10	52	1						13	17 PP
RACIBORZ	66.74	21.3	10	55	0						11	26 PCP
POTSDAM	67.06	17.0	10	56	-1							
ABERDEEN	68.59	6.4									21	16
LWOW	68.77	24.8	11	6	-2	20	17	6				
WARSAW	69.52	21.6	11	13	0	20	22	2			15	23 PPP
HALIFAX	71.84	324.5	11	29	2							
SOTCHI	72.49	37.3	11	30	-1							
MAWSON	74.47	157.3	11	40	-2							
TIFLIS	74.64	41.1	11	43K	0							
UPPSALA	74.83	15.5	11	43	-1							
SHIRAZ	74.94	55.1	11	43A	-2						14	9 PP
PALISADES	76.30	317.1				21	48	11			26	40 SS
TEHERAN	76.47	49.0	11	53	-1	21	50	11				
SKALSTUGAN	76.91	11.3	11	55	-1							
NURMIJARVI	77.37	18.1	11	58	-1							
SEVEN FALLS	77.41	323.7	11	59	0							
WASHINGTON	77.52	314.1	11	58	-1							
SHAWINIGAN	78.27	322.5	12	3	0							
COLUMBIA	78.50	308.2	12	5	0							
PULKOVO	78.66	20.7	11	55	-11							
MOSCOW	78.77	26.5	12	6	0							
UMEA	78.86	14.4	12	6	-1							
SOUTH POLE	79.01	180.0	12	6	-2							
OTTAWA	79.52	320.5	12	10	0							
MORGANTOWN	79.86	313.8	12	13	1							
BYRD STATION	82.00	189.7	12	23	0							
KIRUNA	82.28	12.2	12	25	0							
SODANKYLA	83.30	14.4	12	30	0						15	43 PP
KARACHI	85.75	63.8	12	45	3							
MIRNY	86.20	157.3	12	44	-1							
QUETTA	86.99	58.6	12	49K	0						16	11 PP
ST. LOUIS 1	87.04	310.1	12	48	-1							
LITTLE ROCK	87.63	305.9	12	52	0							
FAYETTEVILLE	89.41	306.8	13	1K	1						13	22
SCOTT BASE	91.23	180.0	13	8	-1							
ANDIJAN	93.68	49.4	13	22	2							
CAPE HALLETT	96.78	181.0	13	34	0							
FLAMING GRGE	101.94	309.7	14	10	13						15	3
TUCSON	102.37	300.7									18	9 PP
GLEN CANYON	103.37	305.5									17	38 PP
EUREKA	106.91	308.0									18	43 PP
RENO	109.88	308.1									19	34
MINERAL	111.22	309.0									19	21
CHARTERS TS.	142.93	146.5	19	33	-3							
MATUSIRO	143.72	40.9	19	35A	-2						59	51
PORT MORESBY	151.68	135.1	19	59	9							

NOVEMBER 1 8.H 46.M 0.S EPICENTRE -38.47 -74.65 DEPTH= 38.KM

A= 0.20782 B=-0.75692 C=-0.61958 D=-0.9643 E=-0.2648
G=-0.1640 H= 0.5975 K=-0.7849 HT= -1.1

DEPTH OF FOCUS= 0.001R

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	
SANTA LUCIA	5.98	34.1	1	28A	0	2	32	-5					
PORT STANLEY	17.70	143.8	4	6	1	7	29	10					
LA PAZ	22.63	16.4	5	1	2	9	3	4			5	32	PP
HUANCAYO	26.32	358.5	5	35	1	10	16	14					
ARGENTINE I.	27.50	170.5	5	44	-1								
BOGOTA	42.88	0.8	7	58A	2								
CHINCHINA	43.23	358.6	8	0A	1	14	29	6					
FUQUENE	43.73	1.3	8	4K	1								
BYRD STATION	45.00	190.0	8	13	0	14	52	3			38	35	PKPPKP
BALBOA HTS.	47.41	353.4	8	32K	0	15	50	27					
GALERAZAMBA	49.00	359.2	8	46	1								
CARACAS	49.25	10.0	8	45K	-2	15	46	-3					
TRINIDAD	50.41	17.0	8	56	0								
SOUTH POLE	51.71	180.0	9	4	-1	16	27	4			38	40	PKPPKP
ST. VINCENT	52.88	16.4	9	13	-1								

BARBADOS	53.22	18.4	9	22	5							
SANTIAGO MA.	53.29	343.1	9	17	0							
SAN SALVADOR	53.64	342.3	9	18	-2	16	33	-16				
FORT FRANCE	54.41	16.1	9	23	-3						10	39
DOMINICA	54.91	15.7	9	28	-1							
ST. KITTS	56.63	13.7	9	39	-3							
COMITAN	56.85	339.8	9	38	-5	17	34	2			24	0
SAN JUAN	57.11	9.7	9	41K	-4						11	53 PP
SCOTT BASE	58.27	192.6	9	52A	-1	18	0	9			20	0 SCS
OAXACA	58.97	335.1	10	0	2	18	36	36			25	0
MERIDA	60.76	343.9	10	8	-2	18	14	-9			20	0 SCS
CAPE HALLETT	60.79	198.5	10	8A	-2	18	30	7			39	8 PKPPKP
VERA CRUZ	60.81	336.6	10	16	5	18	38	14			15	34
TACUBAYA	62.01	333.6	10	17K	-2	18	40	1			12	33 PP
MANZANILLO	63.64	328.5									16	33
GUADALAJARA	64.70	330.2	10	42	6						31	4
MAZATLAN	68.18	328.6									32	0
MAWSON	69.49	164.0	11	5	-1	20	12	2	11	28		
TERRE ADELIE	71.47	194.2	11	18	0	20	37	4				
HERMANUS	72.26	120.0	11	24	1	20	51	9			14	0 PP
COLUMBIA	72.35	354.4	11	22K	-2	20	48	5				
CHIHUAHUA	72.94	331.3	11	31	4	20	57	7			31	9
LITTLE ROCK	74.71	345.0	11	36	-1							
MIRNY	74.87	174.9	11	36	-2							
MBOUR	75.30	57.8	11	43K	2	21	24	8				
WILKES	75.44	182.2	11	41K	-1	21	23	5	12	1	21	41 SKS
FAYETTEVILLE	76.36	343.8	11	45K	-2	21	39	11	12	4	14	28 PP
WASHINGTON	77.03	358.1	11	49K	-2	21	37	2			15	1 PP
WINDHOEK	77.62	108.9	11	56A	2							
MORGANTOWN	77.88	355.8	11	54K	-1	21	38	-6				
TUCSON	78.01	329.2	11	56K	0	21	45	-1			27	17 SS
TUCSON TELE.	78.04	329.4	11	56K	0							
ST. LOUIS 1	78.06	347.6	11	54	-2	21	47	1				
GEBBIES PASS	78.06	223.1	11	56	0							
FLORISSANT	78.24	347.5	11	56	-1	21	49	1				
WELLINGTON	78.51	226.1	12	0	1	22	7	16			31	25 SS
ROXBURGH	78.58	220.2	11	58	-1	22	8	16				
PITTSBURGH	78.68	355.9	11	42K	-18						21	36
PENNSYLVANIA	78.95	357.5	11	59	-2						15	10 PP
PALISADES	79.11	0.6	12	2K	0	22	3	6	12	9	15	11 PP
KIMBERLEY	79.42	118.2	11	59	-5							
TONGARIRO	79.45	228.0	12	2	-2							
KAIMATA	79.53	223.4	12	15	11							
COBB RIVER	79.79	225.2	12	6	0							
CLEVELAND	79.82	354.8	12	4K	-2	22	5	0	12	31		
KARAPIRO	80.28	229.0	12	7	-1						15	12 PP
WESTON	80.53	2.5	12	9K	-1	22	17	5			15	14 PP
AUCKLAND	81.42	229.4	12	16	2	22	25	4				
ONERAHI	82.42	230.0	12	27	7							
GLEN CANYON	82.45	331.0	12	21K	1	22	42	10			14	56 PP
PIETERMZBURG	82.69	122.0	12	22A	1							
PASADENA	82.77	324.9	12	22K	1	22	42	7			27	24
BOULDER CITY	82.88	328.2	12	23K	1	22	46	10				
LUANDA	82.91	95.6	12	25	3	22	51	14				
HALIFAX	83.31	7.9	12	23K	-1	22	42	1				
OTTAWA	83.50	359.2	12	25K	0							
SHAWINIGAN	84.66	1.3	12	31K	0							
FLAMING GRGE	85.16	334.3	12	33K	0	23	27	28			30	37 PKKP
SEVEN FALLS	85.28	2.6	12	34K	0							
FRESNO	85.69	325.2	12	36	0						13	30
RUTH	85.73	329.7	12	37	1	23	1	-3				
SALT LAKE C.	85.88	332.6	12	36K	-1	23	2	-4				
RAPID CITY	86.14	339.8	12	38K	0						15	44 PP
EUREKA	86.34	329.2	12	39K	0						29	48 PKKP
VINEYARD	86.39	324.1	12	41	2							
LCO. MARQUES	86.54	120.5	12	42K	2	23	24	12	13	4	28	6 SS
LICK	86.99	324.3	12	43K	1							
BRANNER	87.30	324.0	12	45K	1							
BULAWAYO	87.54	113.7	12	47K	2							
CONCORD	87.70	324.4	12	47K	1							
BERKELEY	87.71	324.2	12	47K	1	23	16	-7			16	14 PP
SAN FRANCSCO	87.71	324.0	12	44	-2							
RENO	87.99	326.7	12	48K	1							
UKIAH	89.17	324.3	12	54K	1	23	24	-13	13	3	16	16 PP
MINERAL	89.43	326.0	12	54K	0							
BOZEMAN	89.93	335.4	12	57K	1	23	26	-18				
SHASTA	90.07	325.8	12	57K	0							
FORT NELSON	90.46	209.4	12	58	-1	24	11	22				

BUTTE	90.74	334.6	13	OK	0	23	26	-25			
MOORLANDS	90.94	209.6	13	1K	0						
ARCATA	90.97	324.8	13	2	1						
BROKEN HILL	91.09	109.3	13	4K	2						
TARRALEAH	91.34	209.2	13	3	0						
HUNGRY HORSE	93.26	334.9	13	11K	-1	23	48	-25	17	3	PP
MELBOURNE	95.76	210.5	13	22	-1				17	17	PP
PENTICTON	96.04	332.3	13	44	20				17	16	
BANFF	96.19	335.5	13	21	-4						
CANBERRA	96.19	214.6	13	25	0				30	12	PKKP
RIVERVIEW	96.44	216.9	13	25K	-1	24	18	19	17	16	PP
TAMANRASSET	96.59	66.3	13	28K	1	24	9	10	17	33	PP
VICTORIA	96.83	329.8	13	27	-1						
LISBON	97.55	45.9				24	10	6			
MALAGA	98.96	50.0	13	40A	2				17	48	PP
COIMBRA	98.97	45.2							32	4	SS
LWIRO	99.10	100.2	13	41	3				17	53	PP
SERRA PILAR	99.51	44.4	13	38K	-2	24	3	-11	17	40	PP
GRANADA	99.74	50.0	13	54A	13	24	18	3	18	15	PP
ALMERIA	100.21	50.9	13	44A	1	24	25	7	17	54	PP
ADELAIDE	100.65	207.4	13	48	3						
BRISBANE	100.87	221.8	13	41	-5	24	21	0			
TOLEDO	101.25	47.7	13	47	-1	24	39	16	17	55	PP
TANANARIVE	101.32	125.2	13	55A	7				18	4	PP
RELIZANE	101.38	53.3	13	34	-15	24	39	16	17	46	PP
ALICANTE	102.38	50.8	13	44	-9	24	10	-18	20	14	PPP
ALGIERS UNI.	103.59	53.8	13	59	1	24	43	9	18	15	PP
TORTOSA	104.52	49.3				25	44	66	18	28	
SETIF	104.75	55.5	14	4	0	25	9	30	18	27	PP
BARCELONA	105.86	49.6							28	13	
JERSEY	108.24	41.2	14	28	777						
CLERMONT-FD.	109.03	46.4	18	54	777						
CUGLIERI	109.10	53.6	17	30	777				37	20	
MUNDARING	109.19	189.8	18	56	777				28	10	
PERTH	109.26	189.4	14	32	777				19	12	PP
CHARTERS TS.	110.24	221.0	14	17	-251	25	0	-3			
ISOLA	110.41	49.4	18	1	-27				18	22	
PARIS	110.45	43.5	18	31	3	23	48	-76			
KEW	110.54	40.0				25	10	6	18	58	PP
BESANCON	111.50	46.3	18	30	0						
CHIAVARI	111.85	50.3				27	36	147	19	43	PP
DURHAM	111.87	36.7	18	35	4	25	23	14	14	43	P
PAVIA	112.22	49.4	18	37	6				19	36	PP
ROME	112.51	53.8	14	38	-234	24	59	-13	19	38	PP
BASLE	112.56	46.6							29	31	
MESSINA	112.56	58.6							19	16	
REGGIO CALA.	112.58	58.7							19	29	PP
PRATO	112.70	51.4							19	22	PP
ABERDEEN	113.04	34.4							35	21	SS
STRASBOURG	113.23	45.8	18	46	13	25	30	15	19	21	PP
RESOLUTE	113.67	354.2	18	35	1						
EBINGEN	113.70	46.6	18	35	1						
DE BILT	113.71	41.5				25	25	8	19	30	PP
RAVENSBURG	113.86	47.2	18	30	-5						
ADDIS ABABA	113.88	97.6	18	22	-13				29	30	PS
TUBINGEN	113.94	46.3	18	24	-11						
PADOVA	113.96	50.3	18	45	10	25	30	12	19	49	PP
BENSBERG	114.16	43.3	18	40	5				20	21	
STUTTGART	114.18	46.2	18	36	1	27	24	125	19	40	PP
HEIDELBERG	114.20	45.4	18	35	0						
TARANTO	114.86	57.2	15	0	-217				29	30	PS
MUNSTER	114.93	42.5	18	39	2						
SCORESBY SD.	115.06	17.2				25	44	22	19	56	PP
TOLMEZZO	115.16	49.8	18	39	2				19	45	PP
TRIESTE	115.23	50.8				25	33	11	19	46	PP
LJUBLJANA	115.89	50.7							29	32	SP
SONNEBERG	116.08	45.3							19	53	PP
JENA	116.55	44.9	18	39	-1	25	42	15	19	52	PP
CHEB	116.59	46.0	18	9	-31				29	39	PS
PLAUEN	116.67	45.5	18	38	-2				19	53	PP
ZAGREB	116.67	51.5	18	13	-27				19	54	PP
HALLE	117.03	44.5	18	41	0	25	42	13	19	47	PP
COLLMBERG	117.52	45.0	18	42	0	25	43	12	19	53	PP
COLLEGE	117.59	332.5	18	40	-2	29	46	255			
PRAGUE	117.75	46.7	18	47	5						
PRUHONICE	117.78	46.9	18	44A	2				19	54	PP
BERGEN	118.02	33.6							36	16	SS
ATHENS	118.03	62.4	18	39	-4						

VIENNA-H.	118.05	49.2	18	43	0					20	4 PP
POTSDAM	118.06	44.0	18	43	0					22	34 PPP
BRATISLAVA	118.44	49.5	18	44	0					20	22 PP
PORT MORESBY	118.48	228.4	18	44	0					20	3 PP
HURBANOVO	118.97	50.2	18	38	-7					20	6 PP
BELGRADE	119.00	54.1	18	45A	0					20	11 PP
COPENHAGEN	119.22	40.4				26	0	23		20	7 PP
BUDAPEST	119.29	50.9	18	48	3					20	17 PP
HELWAN	119.65	73.9	18	49	3					28	58
GOTEBORG	119.86	38.2	18	44	-2						
TIMISOARA	119.90	53.5	18	51	5					29	50 SP
SOFIA	119.93	57.4	18	47	1	25	30	-9		20	3 PP
RACIBORZ	119.93	47.9	18	48	2					20	12 PP
SKALNATE PL.	120.76	49.5								20	17 PP
KRAKOW	120.93	48.5	18	58	10					20	36 PP
SKALSTUGAN	122.36	31.9	18	50	-1					20	38
WARSAW	122.43	46.5	18	56	5	25	39	-9		20	34 PP
BUCHAREST	122.48	56.6	19	24	33					21	2 PP
ISTANBUL UN.	123.04	61.3	18	53A	1					20	39 PP
ISTANBUL KA.	123.11	61.3	18	52	-1	25	53	3			
LWOW	123.28	50.0	18	53	0					23	26 PPP
UPPSALA	123.41	37.2	18	53	0						
NORD	123.48	8.6	18	52K	-1					30	28 PS
JERUSALEM	123.50	73.8	18	55	2					20	34 PP
KSARA	124.92	72.0	18	58K	2	26	14	19		20	42 PP
UMEA	125.80	33.0	19	0	2						
KIRUNA	126.84	28.2	19	0	0					20	57
NURMIJARVI	126.96	37.7	18	59	-1					21	12 PP
SODANKYLA	129.10	29.3	19	3	-1					21	8 PP
PULKOVO	129.57	39.4	19	4	-1					21	13 PP
APATITY	131.73	29.3	19	9K	0	26	21	7		21	28 PP
KHEYS	134.31	9.7	19	15	1	26	11	-8		21	52 PP
TIFLIS	134.40	65.8	19	13	-1					24	59 PPP
GORIS	134.84	69.3	19	16	1					22	48 PKS
LEMBANG	134.88	183.2	19	14	-1					21	53 PP
DJAKARTA	135.55	182.1	19	41	25						
SHIRAZ	135.87	85.0	19	7A	-10				19 30	22	3 PP
GUAM	137.18	245.3	19	23	4						
TEHERAN	137.39	76.3	19	12	-8					21	57 PP
PETROPAVLOVK	141.00	309.7	19	19	-7					22	50 PKS
KODAIKANAL	142.40	131.0								22	6
ASHKABAD	143.38	75.8	19	30	0					22	44
MAGADAN	144.46	321.4	19	30	-2					22	53 PP
TIKSI	144.67	347.4	19	30	-3					22	58 PP
MEDAN	144.74	168.4	19	33K	0					23	3
KARACHI	144.92	101.4	19	36K	3					19	51 PKP2
SVERDLOVSK	145.50	43.1	19	35	1					29	55 SKKS
BOMBAY	145.69	115.4	19	32	-2					23	13 PKS
POONA	146.17	117.1	19	38	3					23	24 PP
MADRAS	146.19	131.8	19	40	5						
QUETTA	147.41	93.0	19	40K	3	26	36	-4		19	58 PKP2
HYDERABAD	148.51	124.2	19	47	8					23	20
NEMURO	149.42	292.1	19	53	13						
KUSIRO	150.25	291.3	19	44	2						
OKHA	150.27	312.8	19	40	-2						
ABASHIRI	150.41	293.4	19	49	7						
HIROO	150.99	289.7	19	48	5						
PORT BLAIR	151.02	153.8	19	50	7						
OBIHIRO	151.13	291.0	19	50	7						
URAKAWA	151.38	289.4	19	47	4					23	50
DUZHANBE	151.50	78.2	19	46	2						
ONAHAMA	151.94	278.1	19	52	8						
ISINOMAKI	151.94	281.3	19	47	3						
YAKUTSK	152.08	335.4	19	43	-1	26	50	4	20 14	23	34 PP
HATINOHE	152.13	285.7	19	40	-4						
MITO	152.13	276.7	19	52	8						
MERA	152.23	273.4	19	50	5						
SENDAI	152.23	280.8	19	44	-1					20	18
WAKKANAI	152.28	296.2	19	59	14						
MORIOKA	152.28	283.9	19	51	6						
TASHKENT	152.30	72.6	19	46	1					33	43 SKSP
KAKIOKA	152.32	276.3	19	55	10						
TUKUBASAN	152.38	276.2	19	45K	0					23	38 PP
HUKUSIMA	152.46	279.6	19	53A	8						
WARSAK DAM	152.47	88.9	19	46	1						
SAPPORO	152.49	291.2	19	44	-1					22	7
TOKYO C.M.O.	152.51	274.9	19	47	2					26	45
SHIRAKAWA	152.51	278.1	19	50	5						
YOKOHAMA	152.52	274.3	19	51	6						

MANILA	152.52	214.6	19	50	5			20	30
UTUNOMIYA	152.64	276.8	19	54	9			20	45
YAMAGATA	152.65	280.6	19	45	0				
AOMORI	152.73	286.2	20	15	30				
HAKODATE	152.85	288.4	19	54	9			20	16
KUMAGAYA	152.92	275.7	19	58	12				
MORI	153.01	289.0	20	0	14				
AKITA	153.10	283.7	19	48	2				
TITIBU	153.11	275.2	19	56	10				
SAKATA	153.17	281.8	19	57	11				
MAEBASI	153.23	276.1	19	49	3			21	56
SUTTSU	153.30	290.5	19	56	10				
SHIZUOKA	153.36	272.7	19	59	13				
OMAESAKI	153.39	271.8	19	47	1			23	30
KOHU	153.44	274.3	19	59	13				
NIIGATA	153.59	279.4	19	47	0				
MATUSIRO	153.94	276.0	19	46K	-1			23	39 PP
NAGANO	153.98	276.3	20	5	18				
MATUMOTO	154.05	275.3	19	58	11				
AIKAWA	154.23	279.3	20	1	14				
BAGUIO CITY	154.28	215.5	19	45	-2				
NAGOYA	154.54	272.4	19	48	0			20	18
TOYAMA	154.76	275.9	19	49	1			23	58
GIHU	154.76	272.8	19	58	10				
SIOMISAKI	154.94	267.8	20	7	19				
NARA	155.29	270.6	19	58	9				
KYOTO	155.47	271.3	20	12	23				
OSAKA	155.52	270.4	20	9	20				
ABUYAMA	155.55	270.9	19	50	1				
KOBE	155.80	270.2	20	10	21				
SUMOTO	155.91	269.3	19	58	8			30	54
DEHRA DUN	156.11	101.7	19	53	3			21	55
TOYOOKA	156.33	272.0	19	51	1				
FRUNSE	156.35	69.6	19	52	2			27	33
TAKAMATU	156.58	268.7	20	17	26				
KOTI	156.73	266.5	19	55	4			24	3 PP
TOTTORI	156.83	271.6	19	53	2				
MATUYAMA	157.41	266.6	19	57	5				
MIYAZAKI	157.76	260.8						20	39
YAKUSIMA	157.82	256.4	20	11	19				
BOKARO	157.86	125.6	19	57	5			31	11
OOITA	158.11	264.2	19	50	-3			24	12
HAMADA	158.31	268.8	19	51	-2				
SEMIPALATNSK	158.59	48.0	19	53	0			24	11 PP
KUMAMOTO	158.67	262.4				20	34	20	32
HUKUOKA	159.20	264.1	20	1	7				
VLADIVOSTOK	159.41	291.5				20	32		
TOMIE	160.09	260.1						20	58
CHATRA	160.82	121.9	19	58	2			24	21 PP
HONG KONG	162.19	207.7	19	58	1	20	27	24	43 PP
SHILLONG	162.82	134.5	20	0	2			24	36 PP
CANTON	163.21	206.3	19	59K	1			24	33 PP
CHANGCHUN	164.06	295.9	19	57K	-2			24	37 PP
ZO-SE	165.07	245.2	19	59	-1			24	43 PP
LHASA	165.24	122.4	20	13	13				
TOCKLAI	165.31	139.6	20	26	26				
IRKUTSK	166.18	2.7	20	0	-1	26	59 0	24	51 PP
KUNMING	166.50	169.8	20	3K	2			24	51 PP
NANKING	167.30	243.8	20	2	1			24	56 PP
ULAN-BATOR	170.49	353.7	20	3	0				
PEKING	171.46	283.9	20	5K	1			25	12 PP
CHENGTU	172.13	171.5	20	6K	2			25	16 PP
SIAN	174.90	215.4	20	7	2				
PAOTOW	175.82	301.6	20	7K	1			25	38 PP
LANCHOW	177.29	152.9	20	7K	1			25	43 PP

NOVEMBER 2 16.H 31.M 53.S EPICENTRE 23.49 93.84 DEPTH= 79.KM

A=-0.06146 B= 0.91605 C= 0.39632 D= 0.9978 E= 0.0669
G=-0.0265 H= 0.3954 K=-0.9181 HT= 3.8

DEPTH OF FOCUS= 0.007R

SE= 2.29

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

	DEG.	DEG.	M S	S	M S	S	M S	M S	
SHILLONG	2.74	319.5	0 42K	0	1 13	-2			
TOCKLAI	3.35	14.4	0 49	-2	1 23	-7		0 54	P*
CALCUTTA	5.13	260.3	1 14	-2	2 9	-5			
LHASA	6.62	338.4	1 37	1	2 49	-2			
CHATRA	6.90	300.2	1 38	-2	2 52	-6		2 8	PG
BOKARO	7.38	274.2	1 43A	-4	2 57	-13			
KUNMING	8.28	76.9	2 0A	1					
VIZIANAGRAM	11.09	243.1	2 42	5				4 31	
CHENGTU	11.53	49.6	2 42	-1	4 47	-4			
LANCHOW	15.22	32.4	3 29	-2					
DEHRA DUN	15.63	299.2	3 40	4				3 58	PP
SIAN	16.99	47.5	3 59	6					
CANTON	17.92	87.4	4 5	0					
HONG KONG	18.77	89.6	4 15	0	7 49	11			
LAHORE	19.06	299.2	4 16	-2					
POONA	19.30	258.9	4 20	-1	7 41	-8			
BOMBAY	20.12	260.9	4 42	13	8 19	13			
MEDAN	20.34	166.0	4 31	-1				5 33	
WARSAK DAM	22.13	303.2	4 51K	1	8 50	7			
NANKING	23.62	63.3	5 8	4					
KARACHI	24.48	278.6	5 14	2					
QUETTA	24.87	291.4	5 17K	1	9 43	12	5 41	5 59	PP
PEKING	25.04	43.6	5 19	1					
ULAN-BATOR	26.51	19.9	5 32	1	10 3	5			
SHIRAZ	37.32	288.5	7 5A	-1	12 50	3	7 33	9 3	PP
TEHERAN	38.59	298.3	7 18	2					
MATUSIRO	40.23	60.7	7 29	-1				9 32	
ADDIS ABABA	54.47	264.3	9 24	3					
ISTANBUL KA.	56.27	304.7	9 33	-1					
ISTANBUL UN.	56.33	304.6	9 34K	-1				9 57	
APATITY	57.31	336.6	9 41K	-1					
MUNDARING	59.15	157.9	9 52	-2					
HELSINKI	59.42	327.2	9 56	0					
NURMIJARVI	59.61	327.6	9 57	0					
SODANKYLA	59.80	335.6	9 59	0					
TANANARIVE	61.78	230.9	10 14	2				10 52	
UMEA	61.95	331.2	10 12	-1					
KIRUNA	62.21	335.7	10 15	0				10 34	
UPPSALA	63.09	326.6	10 20	-1				11 1	L
RACIBORZ	63.27	315.7	10 17	-5			10 48		
BRATISLAVA	64.19	313.6	10 24	-4					
SKALSTUGAN	65.50	330.9	10 37	0					
PRUHONICE	65.62	315.9	10 39K	2			10 55	11 3	*SP
POTSDAM	66.21	318.6	10 41	0					
LJUBLJANA	66.24	311.6	10 42K	1					
COLLMBERG	66.41	317.4	10 43K	1					
CHARTERS TS.	66.99	126.0	10 35	-11					
MESSINA	66.99	303.1	10 47	1					
HALLE	67.02	317.8	10 46	0					
JENA	67.35	317.2	10 46	-2			11 38		
LWIRO	68.18	257.4	10 54K	1					
RAVENSBURG	69.21	314.1	11 1	1					
STUTTGART	69.22	315.2	11 1	1			11 23		
TUBINGEN	69.41	315.0	11 1	0					
HEIDELBERG	69.45	316.0	11 1	0					
EBINGEN	69.55	314.6	11 2	0					
NORD	69.84	351.6	11 3	-1					
ISOLA	71.81	310.9	11 16	1				11 33	PCP
BROKEN HILL	74.19	246.2	11 29K	0					
SETIF	75.33	303.3	11 37	1					
BRISBANE	76.12	128.3	11 42	2					
ALGIERS UNI.	76.93	304.5	11 44	-1					
BULAWAYO	76.95	241.1	11 46K	1					
CANBERRA	78.42	136.8	11 53A	0					
RELIZANE	79.18	304.2	12 18	21					
TAMANRASSET	79.78	290.4	12 2K	1				12 37	
COLLEGE	80.08	22.4	12 2	0					
RESOLUTE	81.91	2.3	12 12K	0					
KIMBERLEY	84.35	235.5	12 20	-4					
WINDHOEK	87.51	244.2	12 41A	1					
HUNGRY HORSE	104.25	18.8	18 15	259					
BYRD STATION	121.60	173.5	18 45	1					

NOVEMBER 2 17.H 14.M 47.S EPICENTRE -11.14 164.98 DEPTH= 0.KM

A=-0.94786 B= 0.25442 C=-0.19193 D= 0.2592 E= 0.9658
G= 0.1854 H=-0.0498 K=-0.9814 HT= 6.4

SE= 2.51

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PORT MORESBY	17.63	274.0	4 8	0	7 35	11		4 40
BRISBANE	19.82	213.6	4 34	-1	8 20	7		
CHARTERS TS.	20.08	241.4	4 27	-11	8 12	-7		
APIA	22.85	99.1	5 7	1	8 44	-28		
RIVERVIEW	25.89	207.1	5 35K	0	9 57	-7		6 14 PP
AUCKLAND	27.11	162.5	5 49	3	10 37	13		
CANBERRA	28.11	208.5	5 56K	1	10 37	-3	6 7	7 3 PPP
K ARAPIRO	28.31	162.2	5 58K	1				9 11 PCP
TONGARIRO	29.48	163.2	6 8K	0	11 13	11		
COBB RIVER	30.60	168.4	6 19	1				
WELLINGTON	31.24	165.7	6 23	0	11 37	7		7 23 PP
GUAM	31.63	320.1	6 21	-6	11 30	-6		7 35
KAIMATA	31.76	170.9	6 22	-6				
MELBOURNE	32.07	210.7	6 31K	0	11 44	1	6 42	9 21 PCP
GEBBIES PASS	33.12	169.8	6 39	-1				
ADELAIDE	33.66	221.0	6 44A	-1	12 7	0		9 25 PCP
ROXBURGH	34.42	174.6	6 51	0	15 25	6		8 13 PP
TARRALEAH	35.01	204.2	6 57K	1			7 8	
FORT NELSON	35.19	202.7	6 58K	0			7 10	
HONOLULU	48.52	48.4	8 47	0	15 31	-17		
KIPAPA	48.66	48.3	8 47	-1				
MUNDARING	49.39	237.3	8 53	0	15 49	-11		
PERTH	49.70	237.5	8 57	1	15 15	11		10 57 PP
MANILA	50.49	299.6	9 4	2	16 19	4		
MERA	51.63	333.6	9 11	1	16 32	1		
OSIMA	51.71	333.1	9 10	-1	16 29	-3		
BAGUIO CITY	51.75	301.2	9 10	-1	16 31	-2		
AJIRO	52.07	333.0	9 14	3				
OMAESAKI	52.09	331.9	9 12	-2	16 22	-15		
YOKOHAMA	52.14	333.7	9 14	0	16 31	-7		11 9
MISIMA	52.19	332.9	9 14	-1	16 36	-3		
SHIZUOKA	52.31	332.3	9 15	-1	16 40	0		
SIOMISAKI	52.34	329.0	9 13	-3	16 41	0		
HUNATU	52.59	333.0	9 17	-1				
TUKUBASAN	52.62	334.7	9 15K	-3	16 40	-5		11 37 PP
OWASE	52.62	329.8	9 18	0	16 43	-2		
KOHU	52.82	333.0	9 18	-1				
TITIBU	52.85	333.6	9 19	-1				
KUMAGAYA	52.87	334.0	9 23	3	16 51	3		12 0
UTUNOMIYA	53.00	334.7	9 31	10				
MUROTO	53.01	327.5	9 25	4	16 49	-1		
KAMEYAMA	53.12	330.6	9 25	3	16 43	-8		11 26
NAGOYA	53.14	331.3	9 27	5				10 12
NARA	53.29	330.0	9 23	0				9 53
SIMIDU	53.30	326.2	9 20	-3	16 50	-4		
SHIRAKAWA	53.34	335.3	9 23	0				
OSAKA	53.42	329.7	9 28	4	16 56	1		
GIHU	53.42	331.3	9 24	0	16 55	-1		
TOKUSIMA	53.44	328.5	9 28	4				
SUMOTO	53.48	328.9	9 24K	0	16 54	-2		17 27
MIYAZAKI	53.52	324.2	9 30	6	17 0	3		
HIKONE	53.57	330.7	9 25	0	17 2	5		
MATUMOTO	53.57	332.9	9 24	-1				
ABUYAMA	53.57	329.9	9 24K	-1				
KOTI	53.58	327.2	9 25	0	16 46	-12		
KYOTO	53.62	330.1	9 25	0	16 59	1		25 20
KOBE	53.62	329.4	9 24	-1	16 56	-2		
MATUSIRO	53.71	333.3	9 24A	-2	16 54	-5		13 0 PPP
KAGOSIMA	53.77	323.3	9 32	6	17 7	7		
NAGANO	53.82	333.3	9 26	-1				
TAKAMATU	53.91	328.2	9 27	0	17 2	0		
MATUYAMA	54.21	326.9	9 33	4	17 7	1		26 36
YAMAGATA	54.26	336.2	9 30	0				
TOYAMA	54.29	332.5	9 25	-5				
OOITA	54.38	325.5	9 31	0	17 3	1		
TOYOOKA	54.47	329.8	9 29	-2	17 5	-5		
TAWU	54.54	307.8	9 39	7	17 18	7		
TAITUNG	54.56	308.3	9 29	-3	17 8	-3		
KUMAMOTO	54.60	324.4	9 34	2				
HIROSIMA	54.80	327.0	9 37K	3	17 13	-1		
HWALIEN	54.88	309.8	9 40	5				

AIKAWA	54.93	334.3	9	34	-1					
NAGASAKI	55.00	323.7	9	35	0	17	15	-2		
YONAGO	55.13	328.5	9	34	-2	16	55	-24		
SAGA	55.14	324.5	9	39	3					
HUKUOKA	55.33	324.8	9	35	-3	17	16	-5		
HAMADA	55.39	327.1	9	44K	6	17	21	-1		
TOMIE	55.57	322.8	9	36	-4	17	26	2		
LEMBANG	56.75	269.1	9	47K	-1	17	37	-3		
URAKAWA	56.81	340.4	9	44	-4				18	39
NEMURO	57.02	343.2							17	34
KUSIRO	57.05	342.1	9	48	-2					
HAKODATE	57.20	338.6	9	51K	0	17	49	3		
MORI	57.53	338.6							17	51
MURORAN	57.57	339.1							17	40
DJAKARTA	57.62	269.7	9	51	-3	17	47	-5		
TERRE ADELIE	57.84	190.8	9	56	0	17	54	0		
SAPPORO	58.11	339.8	9	55	-3	17	51	-7		
SUTTSU	58.26	338.8	9	58	-1	17	46	-14		
ZO-SE	59.40	316.4	10	5K	-2	18	9	-6	10	33 *SP
HONG KONG	59.87	303.9	10	9	-1	18	11	-10	22	10 SS
WAKKANAI	60.09	341.3	10	10	-1	18	21	-3		
CANTON	60.92	304.3	10	18K	1	18	36	2	10	46 *SP
CAPE HALLETT	61.21	178.2	10	18A	-1	18	31	-7	20	19 SCS
NANKING	61.59	315.9	10	20K	-2	18	37	-6	10	49 *SP
VLADIVOSTOK	61.87	333.1	10	22	-1				12	33 PP
PETROPAVLOVK	64.13	355.8	10	37	-1	19	13	-2	12	53 PP
CHANGCHUN	65.52	329.5	10	46K	-1	19	30	-2	11	17 *SP
WILKES	66.06	201.1	10	52K	1	19	37	-1	11	15 PCP
SCOTT BASE	66.71	179.6	10	56K	1	19	55	9	23	36 SS
KLYUCHI	67.29	357.5	10	56	-3	19	50	-3		
MEDAN	67.55	278.6	11	1	1	19	49	-7		
PEKING	68.08	321.5	11	2K	-2	20	2	-1	12	31 *SP
SIAN	69.73	312.9	11	14K	0	20	22	0		
K UNMING	70.52	301.7	11	19K	0	20	31	-1	11	52 *SP
MAGADAN	71.37	352.4	11	22	-2	20	37	-5		
CHENGTU	71.76	307.5	11	25K	-1	20	43	-3	11	58 *SP
LANCHOW	74.25	312.5	11	42K	1	21	17	3		
PORT BLAIR	75.26	285.3	11	45	-1	21	26	1		
BYRD STATION	76.59	170.0	11	42	-12					
TOCKLAI	77.80	300.6	12	3	2					
YAKUTSK	77.95	343.8	12	1	-1	21	53	-2	14	59 PP
ULAN-BATOR	78.05	324.3	12	1	-1	21	55	-1		
SHILLONG	79.91	298.6	12	12K	0	22	14	-2	15	11 PP
IRKUTSK	81.71	327.2	12	21	-1	22	33	-1	23	27 PS
LHASA	81.84	302.3	12	24	2				12	55 *SP
ARCATA	83.23	46.2	12	31A	1					
UKIAH	83.24	48.1	12	30	0					
BERKELEY	83.52	49.5	12	32K	1	22	54	1	15	38 PP
COLLEGE	83.62	18.4	12	29	-3	23	49	55	38	48 PKPPKP
CONCORD	83.70	49.5	12	33K	1					
LICK	83.81	50.2	12	33K	0					
VINEYARD	83.82	50.8	12	33	0					
CHATRA	84.31	298.6	12	35K	0	22	58	-2	23	52 PS
MAWSON	84.35	202.1	12	35	0					
SHASTA	84.37	46.8	12	36K	1					
BOKARO	84.74	295.4	12	39K	2	23	4	-1	17	56 PPP
MINERAL	84.83	47.3	12	37K	-1				15	53 PP
FRESNO	85.03	51.2	12	39K	0					
PASADENA	85.53	54.1	12	42K	1	23	6	-6	28	21 SS
ALBERNI	85.83	38.2	12	42	-1					
RENO	85.87	48.6	12	44K	1					
TIKSI	86.02	349.2	12	42	-2	23	4	-13		
VICTORIA	86.41	39.2	12	46K	1					
COLOMBO	86.55	277.7	12	47	1	23	0	-22		
MADRAS	87.49	283.7	12	50K	-1	23	20	-11	16	9 PP
BOULDER CITY	88.66	53.1	12	58	2					
EUREKA	88.70	49.5	12	57	0			13 13	30	39 PKKP
PENTICTON	89.04	39.3	12	57A	-1					
RUTH	89.38	49.9				23	35	-14		
KODAIKANAL	89.53	280.5	13	6K	6	23	24	-26	24	24
HYDERABAD	90.02	287.7	13	0	-3	23	33	-22	18	30 PPP
TUCSON	91.02	57.5	13	9	2	24	10	6	30	33 PKKP
TUCSON TELE.	91.13	57.4	13	9	1				38	44 PKPPKP
GLEN CANYON	91.44	52.7	13	11	2				17	49 PP
SALT LAKE C.	92.08	49.0	13	12	0	23	47	-26		
BANFF	92.08	38.3	13	11K	-1					
HUNGRY HORSE	92.32	41.3	13	13	0	23	46	-29	16	41 PP
BUTTE	92.74	43.8	13	15	0					
DEHRA DUN	92.92	300.2	13	18	2	23	50	-30	29	50

FLAMING GRGE	93.94	49.2	13	16	-5	23	57	-32	17 11	PP
CHIHUAHUA	94.34	61.8							21 49	
POONA	94.53	287.9	13	23	0	24	35	1	31 52	
SEMIPALATNSK	95.15	320.2	13	24	-2	23	58	-4	17 4	PP
ARGENTINE I.	95.49	161.3	13	28	0					
BOMBAY	95.55	288.1	13	32	4	24	4	0	17 6	PP
LAHORE	96.28	300.8	13	30	-2					
FRUNSE	97.73	312.1	13	38	0	24	13	-3		
WARSAK DAM	98.95	302.9	13	43	-1					
TACUBAYA	99.06	72.0				24	9	-13	17 45	PP
TASHKENT	101.51	310.1	13	54	-1	24	32	-2		
DUZHANBE	101.67	307.3	13	53	-3	24	37	2		
KARACHI	101.73	293.2	13	54	-2	24	35	0		
VERA CRUZ	101.90	72.6				24	35	-1	26 43	PS
QUETTA	102.39	298.6	13	59	0	24	43	4	18 10	PP
RESOLUTE	103.35	15.6	14	3	0	24	42	-1		
KHEYS	103.66	350.7	14	6	1	24	45	1	20 35	PPP
FAYETTEVILLE	105.19	55.5	14	36	777				18 30	
LITTLE ROCK	106.63	56.9							18 29	PP
SVERDLOVSK	107.10	326.1	14	18	777	25	1	1	18 49	PP
MERIDA	108.17	71.5				26	43	99	29 19	PPS
FLORISSANT	108.29	52.8				25	3	-2		
ST. LOUIS 1	108.40	52.9	18	36	777	25	6	1		
NORD	109.52	0.3	17	13	777				19 30	
ASHKABAD	109.85	306.4	18	32	777	25	3	-9		
SANTA LUCIA	110.99	132.3							19 13	PP
TANANARIVE	111.47	244.5	18	41	5				19 31	PP
SHIRAZ	114.88	297.5	18	43	0	25	33	1	19 53	PP
APATITY	115.29	341.5				25	28	-5	29 27	PS
TEHERAN	115.54	304.3	18	46	2				19 50	PP
HUANCAYO	115.84	109.2	18	49	4				19 40	PP
COLUMBIA	116.00	57.6	18	48	3	29	39	243		
BALBOA HTS.	116.52	85.5	18	44	-2					
OTTAWA	118.34	44.3	18	50K	1					
KIRUNA	118.75	345.5	18	50	0					
GORIS	119.05	309.0	18	52	1	25	39	-8	20 8	PP
MOSCOW	119.67	328.8	18	53	1				20 13	PP
TIFLIS	119.77	311.8	18	55	3				20 21	PP
CHINCHINA	119.77	90.6	18	55	3	26	2	13	20 17	PP
SHAWINIGAN	120.02	42.4	18	53	0					
PIETERMZBURG	120.36	226.0	18	57K	4					
SCORESBY SD.	120.55	2.7	19	5	11				30 58	PPS
PALISADES	120.61	48.8	18	54	0	25	51	-1	20 23	PP
LA PAZ	120.73	116.8	19	2	8				27 32	SKKS
LCO. MARQUES	120.79	230.7	18	57	3				20 23	PP
GALERAZAMBA	120.95	84.1	18	57	2					
PULKOVO	120.97	335.2	18	56	1	25	51	-2	20 21	PP
SEVEN FALLS	121.12	41.3	18	55K	0					
BOGOTA	121.23	91.3	18	58	3				20 28	PP
FUQUENE	121.71	90.4	18	57K	1				20 28	PP
UMEA	121.83	342.5	18	57	1					
WESTON	122.17	46.7							37 53	SS
NURMIJARVI	122.72	337.9	18	58	0					
HELSINKI	122.83	337.5	18	59	1					
SKALSTUGAN	124.18	345.6	19	1	0					
PRETORIA	124.21	228.3	19	4	3					
HERMANUS	124.24	214.3							20 45	
KIMBERLEY	124.76	223.2	19	9	7					
UPPSALA	125.65	340.4	19	3	-1					
SIMFEROPOL	126.23	318.3	19	0	-5	26	2	-8	21 2	PP
HALIFAX	126.73	41.9	19	5K	-1					
BULAWAYO	126.99	234.3	18	58	-8				22 4	
ADDIS ABABA	127.05	272.9	19	10	4					
KSARA	128.43	304.4	19	11	2			21 46	31 34	PS
CARACAS	129.07	85.5	19	11K	1				21 21	PP
JERUSALEM	129.43	302.0	19	13	2				21 28	PP
WARSAW	129.75	331.9							21 24	PP
LWOW	129.78	327.9	19	12	0	26	15	-4	21 27	PP
BROKEN HILL	129.95	240.4	18	53	-19				19 14	
SAN JUAN	130.20	75.4	19	13	1					
ISTANBUL KA.	131.19	315.6	19	13	-1				21 54	PP
ISTANBUL UN.	131.26	315.6	19	14K	0				22 42	
BUCHAREST	131.58	320.9	19	16A	1				21 37	PP
KRAKOW	131.70	330.3							21 46	PP
CAMPULUNG	131.79	322.4							22 43	PKS
CHORZOW	131.99	331.1	19	17	1					
RACIBORZ	132.51	331.4	19	19	2				21 25	
POTSDAM	133.03	336.7	19	19	1				22 46	SKP

HELWAN	133.11	300.6	19 18	0			21 47 PP
TIMISOARA	133.73	325.0					22 51
COLLMBERG	133.89	335.8	19 20K	1		19 44	22 5 PP
WINDHOEK	134.03	223.1	19 10	-10			
HALLE	134.15	336.7	19 21	1			21 53 PP
SOFIA	134.19	320.4	19 22	2			21 55 PP
PRUHONICE	134.24	333.6	19 22	2			21 52 PP
BRATISLAVA	134.34	330.1	19 21	1			21 51 PP
LWIRO	134.43	255.7	19 9	-11			21 54 PP
TRINIDAD	134.49	86.0	19 22	2			
VIENNA-H.	134.64	330.7	19 23	2			21 45 PP
BELGRADE	134.72	324.5	19 22A	1			21 55 PP
DOMINICA	134.73	79.5	19 22	1			
JENA	134.74	336.5	19 21	0			21 58 PP
ST. VINCENT	134.79	82.5	19 22	1			
FORT FRANCE	134.96	80.3	19 14	-7			
MUNSTER	135.33	340.2	19 22	0			22 5
ATHENS	136.27	314.3	19 18	-6			
BENSBERG	136.33	339.8					22 5 PP
ZAGREB	136.51	328.4	19 25	1			
LJUBLJANA	137.08	329.7	19 27	2			22 10 PP
STUTTGART	137.36	336.3	19 20	-6			22 10 PP
TOLMEZZO	137.56	331.2	19 47	21			22 56 PKS
TUBINGEN	137.64	336.2	19 26	0			
TRIESTE	137.75	329.9	19 29	3			23 1 PKS
KEW	138.03	346.3	19 26	-1			
STRASBOURG	138.10	337.3	19 29	2			22 16 PP
PADOVA	138.83	331.0					23 43
BASLE	139.04	336.6	19 33	4			
BESANCON	139.88	337.7	19 33	3			
PAVIA	140.25	333.0	19 25	-6			22 36 PP
FOLINIERE	140.57	344.8	19 32	1			
CHIAVARI	140.85	332.1	19 46	14			35 48 PSP
ROME	141.04	326.8	19 24K	-8			22 40 PP
REGGIO CALA.	141.62	319.6	19 34	1			22 39 PP
MESSINA	141.62	319.8	19 35	2	26 41	-1	22 41 PP
ISOLA	141.97	334.0	19 36	2			22 41 PP
MONACO	142.16	333.2	19 36	2			
CLERMONT-FD.	142.17	339.2	19 40	6			
BAGNERES	145.56	340.2	19 42K	2			
LUANDA	145.59	235.9	19 44	4			
TORTOSA	147.42	337.8	19 45	2			
SETIF	148.96	326.8	19 48A	2			23 20 PP
SERRA PILAR	149.60	350.4	19 44A	-3			19 55 PKP2
ALGIERS UNI.	149.72	330.4	19 47	0	28 3	70	23 19 PP
TOLEDO	149.76	343.1	19 50	3	26 55	2	23 25 PP
ALICANTE	149.94	336.8	19 49	2	26 56	2	23 30 PP
RELIZANE	151.72	332.6	19 56	6			23 44 PP
ALMERIA	152.01	338.2	19 51	1	26 34	-22	23 35 PP
LISBON	152.04	350.2	19 51K	1			25 7
GRANADA	152.11	340.2	19 51A	0	26 19	-37	23 53 PP
MALAGA	152.78	341.1	19 52K	1			20 26 PKP2
TAMANRASSET	157.23	303.2	20 0K	3			24 13 PP
MBOUR	176.26	30.3	20 15	3			25 48 PP

NOVEMBER 5 20.H 20.M 48.S EPICENTRE 39.09 20.60 DEPTH= 0.KM

A= 0.72852 B= 0.27376 C= 0.62794 D= 0.3518 E=-0.9361
G= 0.5878 H= 0.2209 K=-0.7783 HT= -1.3

SE= 2.72

	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	
TARANTO	2.92	299.2	0	45	-3	1	20	-5			1	40	SG
REGGIO CALA.	4.00	257.3	1	6	2	1	55	3			1	28	
MESSINA	4.05	258.9	1	4	0	1	48	-5					
SOFIA	4.16	29.0	1	9	3	1	59	3			1	26	PG
BELGRADE	5.73	359.0	1	28A	0						1	52	PG
TIMISOARA	6.67	3.8	1	48	7	3	3	4			2	18	PG
BUCHAREST	6.73	35.9	1	45A	3	3	8	7			2	22	PG
ROME	6.79	297.0	1	52	9	3	12	10			2	5	P*
ISTANBUL KA.	6.79	70.4	1	45	2						3	57	SG
CAMPULUNG	7.00	26.6	1	50	4	3	9	2			2	32	PG
ZAGREB	7.54	334.6	1	48	-6	3	39	18			2	22	PG
KECSKEMET	7.86	355.5	1	59	1						4	33	SG
FOCSANI	8.22	34.3	2	22	19	3	44	6					

LJUBLJANA	8.27	329.2	2	3	-1	3	39	0	2 48	PG
TRIESTE	8.28	324.5	2	3	-1	3	34	-5	4 7	S*
BUDAPEST	8.47	352.7	2	13	6	4	2	18		
PRATO	8.58	306.9	2	5	-3	3	46	-1		
BOLOGNA	8.78	311.0	2	31	20				4 21	
BACAU	8.79	29.7	2	17	6					
HURBANOVO	8.95	349.6	2	7	-6	3	46	-10	4 10	S*
PADOVA	9.04	317.1	2	30A	15	3	59	1	4 42	S*
TOLMEZZO	9.19	325.1	2	13	-4	3	54	-8	2 50	
CUGLIERI	9.34	280.5				4	2	-4	5 42	
BRATISLAVA	9.42	345.6	2	17	-3	4	4	-4		
VIENNA-H.	9.66	342.9	2	23	0	4	14	1	3 13	PGPGPG
CHIAVARI	9.92	305.4	2	0	-27	4	24	4	3 21	
SKALNATE PL.	10.09	358.7	2	29	0	4	51	27		
PAVIA	10.44	309.3	2	39	5	5	13	40	4 40	
MONACO	10.92	299.3	2	42	2	4	45	1		
K RAKOW	10.97	357.7	2	42	1	4	51	5	3 38	
LWOW	11.01	11.7	2	46	4	4	55	8		
RACIBORZ	11.12	352.0	2	38	-5	4	53	4	3 5	PPP
CHUR	11.21	317.4	2	44	0	4	48	-4		
CHORZOW	11.26	354.7	2	33	-12				3 58	
ISOLA	11.34	301.0	2	48	2	4	55	0		
SIMFEROPOL	11.64	55.4	2	51K	1	5	2	0	5 35	
PRUHONICE	11.71	340.4	2	48A	-3	4	58	-6		
RAVENSBURG	11.78	321.0	2	50	-2	5	17	11		
PRAGUE	11.82	340.3	2	54	1					
EBINGEN	12.38	321.0	2	57	-3	5	32	12		
SETIF	12.39	261.3	3	0	0	5	33	13	3 11	PP
CHEB	12.44	334.7	2	55	-6	5	24	2		
TUBINGEN	12.57	322.4	3	0	-3					
STUTTGART	12.64	323.6	3	2	-2	5	37	11	4 54	
BASLE	12.68	315.9	3	5	1				7 3	
NEUCHATEL	12.72	312.8	3	12	7				7 12	
HELWAN	12.76	132.9	3	1	-4	5	17	-12		
PLAUEN	12.87	335.1	3	1	-6				3 21	
SONNEBERG	13.10	332.5	3	16	6	5	27	-11	4 18	
WARSAW	13.15	1.1	2	56	-14	5	37	-2	3 13	PP
STRASBOURG	13.24	319.9	3	12A	0	5	45	4	5 56	SS
COLLMBERG	13.32	338.9	3	16	3	5	43	0	3 24	PP
HEIDELBERG	13.35	324.4	3	10	-3	5	32	-11		
KSARA	13.38	108.4	3	12	-1	5	36	-8	6 8	SSS
BESANCON	13.41	312.2	3	12	-2					
JENA	13.44	334.7	3	14	0	5	40	-5	4 17	PG
HALLE	13.81	336.8	3	22	3	6	4	10	6 15	SS
JERUSALEM	13.97	117.0	3	20	-1	5	49	-9		
ALGIERS UNI.	14.04	266.0	3	22	0	5	59	-1	3 34	PP
POTSDAM	14.28	341.0	3	27	2	6	19	13	3 38	PP
BARCELONA	14.29	285.3	3	25	-1					
CLERMONT-FD.	14.52	303.0	3	29	1	6	24	13		
BENSBERG	15.17	325.9	3	36	-1	6	14	-13		
MUNSTER	15.73	329.2	3	46	2				6 3	
BAGNERES	15.92	291.0	3	45	-2					
HAMBURG	16.13	336.5	3	49A	0	7	0	11		
PARIS	16.23	312.7	3	56	5	7	1	10		
RELIZANE	16.27	264.4	3	56	5	6	47	-5	4 10	PP
ALICANTE	16.47	274.1	3	53	-1	6	57	0	4 9	PP
DE BILT	16.85	325.6	4	4K	5	7	26	20		
COPENHAGEN	17.47	344.5	4	8	2	7	25	5		
ALMERIA	18.32	270.2	4	16	-1	7	43	4	4 28	PP
TIFLIS	18.61	74.1	4	22	2	7	57	11		
TOLEDO	19.03	280.2	4	26	0	8	3	8	4 49	PP
JERSEY	19.09	309.3	4	14A	-12				5 57	
GRANADA	19.12	271.9	3	40A	-47	7	12	-45	4 14	PP
KEW	19.15	317.1	4	28A	1	8	3	5		
GOTEBORG	19.45	346.0	4	31	0					
MALAGA	19.85	271.0	4	32A	-3	8	12	-2	4 50	PP
GORIS	19.91	80.6	4	36	0	8	25	10		
MOSCOW	20.16	28.7	4	37	-1	8	17	-3	4 54	PP
TAMANRASSET	20.72	222.7	4	45K	1	8	36	4	5 8	PP
UPPSALA	20.87	355.8	4	44	-2				8 45	
HELSINKI	21.28	6.0	4	46	-4	8	48	5		
NURMIJARVI	21.60	5.5	4	51	-2	8	45	-3		
PULKOVO	21.60	13.4	4	52	-1	8	46	-2	5 16	PP
DURHAM	21.66	323.7	4	53K	-1	8	50	0	5 27	PP
SERRA PILAR	22.38	284.6	5	2A	1	9	1	-2	5 30	PP
EDINBURGH	23.08	324.6				9	20	4	10 4	SS
LISBON	23.11	278.5	5	4A	-4	9	23	7		
ABERDEEN	23.41	328.1	5	10A	-1	9	26	5	6 3	

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.

TEHERAN	24.63	88.1	5	24	1	9	41	-1				
UMEA	24.77	359.6	5	24	0							
SKALSTUGAN	25.03	351.2	5	26	-1						6	24
SHIRAZ	27.86	100.0	5	53K	0	10	32	-4	6	23	12	55 PCP
SODANKYLA	28.53	4.9	5	58	-1							
APATITY	29.40	10.0	6	6K	-1	11	0	0				
ASHKABAD	29.43	80.1	6	8	1	11	2	1			12	36 SS
SVERDLOVSK	31.56	42.5	6	25	-1	11	29	-5				
ADDIS ABABA	34.08	146.6	6	51	3							
REYKJAVIK	35.31	329.2	7	5	6							
TASHKENT	36.87	70.6	7	13	1						8	38 PP
DUZHANBE	37.18	75.1	7	14	0						13	3
QUETTA	38.81	88.7	7	27A	-1	13	26	0			9	7 PP
FRUNSE	40.39	66.7	7	41	0	13	51	1				
WARSAK DAM	40.82	80.8	7	44	-1							
MBOUR	41.17	243.8	7	50	3	14	3	1				
KARACHI	41.45	95.9	7	50	0							
LWIRO	41.82	167.7	7	54	1	14	13	2			8	33
SEMIPALATNSK	42.77	54.4	8	0	-1	14	23	-2			9	40 PP
KHEYS	43.88	8.3	8	10	0	14	41	0			9	49 PP
LAHORE	43.95	82.7	8	10	0							
NORD	44.59	352.7	8	14A	-1						9	21
BOMBAY	49.19	98.6	8	52	0						18	46
THULE	52.14	342.6	9	16	2							
BROKEN HILL	53.76	170.5	9	26A	0							
CHATRA	56.06	81.2									9	40
IRKUTSK	56.79	46.9	9	47	-1	17	40	0			10	33 PCP
LHASA	57.61	76.3	9	54	0	17	51	0				
TIKSI	58.79	20.6	9	59	-3	18	7	0			13	33 PPP
RESOLUTE	58.92	343.7	10	2	-1							
BULAWAYO	59.39	171.2	10	6A	0							
ULAN-BATOR	60.11	50.7	10	12	1							
HALIFAX	60.28	305.1	10	14K	2							
SHILLONG	60.32	79.9	10	9A	-4							
WINDHOEK	61.42	183.7	10	19K	-1							
TANANARIVE	62.98	151.2	10	33	2						11	11
SEVEN FALLS	63.55	310.3	10	33	-1							
LANCHOW	63.76	63.8	10	34	-2							
YAKUTSK	64.31	29.6	10	36	-3	19	14	-3				
SHAWINIGAN	64.98	310.5	10	44A	0							
WESTON	66.27	306.0	10	50	-2							
CHENGTU	66.70	68.8	10	53	-2	19	43	-3				
OTTAWA	67.34	310.6	10	59	0							
KIMBERLEY	67.60	176.0	10	41	-19						11	17
SIAN	68.25	63.1	11	4	0							
PALISADES	68.64	305.9	11	7	0	20	10	1			21	32
KUNMING	68.81	74.4	11	6	-2	20	10	-1				
PEKING	69.87	54.5	11	13	-1	20	22	-2				
CHANGCHUN	73.13	47.0	11	33	-1	20	59	-2				
MORGANTOWN	73.21	307.5	11	36A	2							
COLLEGE	75.98	354.9	11	51	1						13	7
SAN JUAN	76.16	282.5	11	52	1							
NANKING	76.25	59.9	11	50	-2	21	33	-3				
VLADIVOSTOK	77.25	44.4	11	56	-1	21	38	-9				
COLUMBIA	77.34	303.5	11	59	1							
CANTON	77.85	70.2	12	3	2	21	56	3				
ZO-SE	78.46	59.4	12	3	-1	21	56	-4				
FLORISSANT	79.96	312.2	12	14	2	22	18	2				
ST. LOUIS 1	79.99	312.0	12	14A	2	22	19	3				
CARACAS	81.56	276.6	12	22	1	22	42	10				
RAPID CITY	82.92	322.9	12	18	-10							
FAYETTEVILLE	84.03	312.3	12	34A	1				12	52	12	39 PCP
HUNGRY HORSE	84.08	331.5	12	34	0							
BOZEMAN	85.12	328.3	12	41	2							
PENTICTON	85.21	335.2	12	40	1							
MATUSIRO	85.31	45.7	12	40	0	23	4	-6			29	43 SS
BUTTE	85.45	329.3	12	41	0							
VICTORIA	87.11	337.0	12	49	0							
LEMBANG	91.95	97.1	13	12	1							
EUREKA	92.28	327.8	13	15	2							
GLEN CANYON	92.44	323.6	13	15	1							
TUCSON TELE.	95.78	320.3	13	30	1							
TUCSON	95.90	320.3	13	32	2							
LA PAZ	99.24	256.3	13	56	11							
SOUTH POLE	128.90	180.0	19	4	-6						21	14 PP
BYRD STATION	136.26	189.3	19	17	-6						22	11 PP
SCOTT BASE	138.64	169.7	19	30	2				22	22		
CAPE HALLETT	143.43	165.0	19	34	-2							
AFIAMALU	152.64	26.9	20	6	15							

NOVEMBER 6 4.H 38.M 22.S EPICENTRE 53.03 160.00 DEPTH= 56.KM

A=-0.56753 B= 0.20662 C= 0.79701 D= 0.3421 E= 0.9397
G=-0.7489 H= 0.2727 K=-0.6040 HT= -6.5

DEPTH OF FOCUS= 0.004R

SE= 2.34

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PETROPAVLOVK	0.81	269.7	0 17	1	0 32	3		
KLYUCHI	3.33	8.4	0 54	3	1 36	6		
SEVERO-KUR.	3.38	227.2	0 50	-1	1 32	1		1 4 *SP
MAGADAN	8.29	325.6	2 2	2				2 15 *SP
OKHA	10.23	279.7	2 30	4	4 34	13		3 33
KURILSK	11.13	230.3	2 38	-1				2 50 *SP
UGLEGORSK	11.95	257.9	2 53	3				
NEMURO	13.64	230.4	3 11	-1				7 18
ABASHIRI	13.75	235.3	3 13	0				
WAKKANAI	14.16	244.8	3 52	33	6 32	37		
KUSIRO	14.46	232.2	3 11	-12				7 37
OBIHIRO	15.09	234.6	3 31	0				4 3
HIROO	15.51	232.8	3 31	-5				
URAKAWA	15.87	233.6	3 36	-5	6 24	-11		
SAPPORO	15.91	238.7	3 42	1	7 4	28		
MORI	17.01	237.8	3 53	-2				
HAKODATE	17.13	236.8	3 51	-6				
MIYAKO	18.20	229.9	4 9	-1				
YAKUTSK	18.41	311.2	4 11	-1	7 40	7		
MORIOKA	18.54	231.5	4 11A	-3	7 34	-1		
MIZUSAWA	19.01	230.5	4 18	-1	7 57	11		
AKITA	19.04	233.6	4 21	1				
ISINOMAKI	19.49	228.9	4 19	-6	7 56	0		
SENDAI	19.81	229.5	4 26A	-2	8 10	7		
YAMAGATA	20.08	230.4	4 27	-4	8 8	-1		
HUKUSIMA	20.43	229.4	4 32	-3	8 22	7		
ONAHAMA	20.89	227.3	4 42	3				5 10
SHIRAKAWA	21.06	228.8	4 41	0				
VLADIVOSTOK	21.10	253.3	4 38	-4				8 6
AIKAWA	21.26	233.8	4 42	-1	8 39	8		11 33
MITO	21.56	227.2	4 45A	-1				
UTUNOMIYA	21.69	228.6	4 47	0	8 38	-1		
KAKIOKA	21.81	227.5	4 49	0				
TUKUBASAN	21.86	227.7	4 47A	-2	8 42	0	4 58	5 13 PP
TAKADA	21.99	232.3	4 49	-1				
MAEBASI	22.17	229.8	4 50A	-2	8 53	5		
KUMAGAYA	22.24	228.8	4 51	-2	9 3	14		6 51
NAGANO	22.36	231.7	4 56	2				
TOKYO C.M.O.	22.46	227.5	4 57A	2	9 2	9		6 5
MATUSIRO	22.46	231.5	4 55A	0	8 59	6		8 48 PCP
OIWAKE	22.47	230.6	5 2	7	9 8	15		
TITIBU	22.52	229.1	4 57	1				
YOKOHAMA	22.72	227.3	4 59	1	9 9	11		
MATUMOTO	22.81	231.4	5 1	3				
TOYAMA	22.82	233.4	5 7	8	9 8	9		
KOHU	23.01	229.6	5 1	1	9 11	8		
HUNATU	23.05	229.0	5 2	1	9 13	9		
TIKSI	23.10	335.3	5 0	-1				8 49 PCP
KANAZAWA	23.22	234.1	5 2	0				
MISIMA	23.29	228.1	5 4A	1	8 56	-12		
OSIMA	23.39	226.9	5 11	7				
IIDA	23.47	230.6	5 10	5				
SHIZUOKA	23.66	228.9	5 5	-2	9 10	-4		
OMAESAKI	24.05	228.7	5 14K	4	9 1	-20		
GIHU	24.07	232.2	5 11	0	9 26	5		
NAGOYA	24.16	231.5	5 14	2				5 40
HIKONE	24.42	232.8	5 15	1				
CHANGCHUN	24.57	262.0	5 13A	-3	9 27	-3		
KAMEYAMA	24.66	231.9	5 16	0	9 44	13		
TOYOOKA	24.92	235.4	5 14	-5				
ABUYAMA	25.07	233.4	5 20A	0				
TOTTORI	25.25	236.4	5 23	1				
OSAKA	25.27	233.1	5 24	2	9 52	11		6 35
KOBE	25.42	233.7	5 22	-2	9 57	13		

SUMOTO	25.82	233.7	5	28	1	9	53	2	6	15
SIOMISAKI	26.14	231.1	5	27	-3				6	34
TOKUSIMA	26.20	233.8	5	33	2					
TAKAMATU	26.26	234.9	5	33	2	10	22	24		
HAMADA	26.80	238.6	5	39	3	10	9	2		
MUROTO	27.06	233.3	5	42	3				6	9
KOTI	27.13	234.7	5	40	1	10	9	-3	8	1
MATUYAMA	27.28	236.2	5	42	1				11	19
SIMIDU	28.03	234.5	5	50	2	10	55	28	7	33
COLLEGE	28.50	45.0	5	52	0	10	37	3	38	8 PKPPKP
HUKUOKA	28.71	239.2	5	54	0	10	43	6		
SAGA	29.00	238.9	5	57	1				6	42
KUMAMOTO	29.14	237.8	6	1	4					
MIYAZAKI	29.49	235.7	6	4	3	10	57	7		
NAGASAKI	29.63	238.8	6	3A	1	10	59	7		
KAGOSIMA	30.21	236.5	6	7	0					
PEKING	32.31	264.1	6	22A	-3	11	32	-2		
IRKUTSK	33.07	291.5	6	30	-2				7	53 PPP
ULAN-BATOR	33.52	283.1	6	34	-2	11	50	-3		
ZO-SE	35.58	247.5	6	53A	-1	12	27	2	8	33 PPP
SITKA	36.04	57.1	6	59	2				8	13 PP
NANKING	36.22	251.2	6	58A	-1	12	37	3	8	25 PP
KHEYS	40.03	345.5							9	37 PCP
LANCHOW	42.31	269.5	7	49A	-1					
RESOLUTE	43.41	21.9	7	59A	1	14	22	0	9	44 PP
KIPAPA	44.95	118.1	8	11	0					
ALBERNI	45.30	63.0	8	14	0					
NORD	45.60	359.3	8	15	-1	14	51	-3	18	26
CHENGTU	45.93	263.8	8	17	-2	14	57	-1	10	8 PP
HONG KONG	46.33	246.7	8	22A	0	14	59	-5		
SEMIPALATNSK	47.06	300.7	8	25	-3				10	17 PP
THULE	47.20	13.9	8	27	-2				8 37	10 19 PP
BAGUIO CITY	47.80	235.3	8	33	0	15	28	3		
PENTICTON	48.03	60.2	8	34A	-1					
BANFF	49.01	56.1	8	43	0					
MANILA	49.05	233.6	8	44	1	15	54	12		
KUNMING	50.76	259.9	8	55A	-1	16	7	1	10	51 PP
ARCATA	50.88	71.5	8	58K	1					
HUNGRY HORSE	51.53	58.2	9	2	0				10	16 PCP
SHASTA	51.96	70.5	9	5A	0					
SVERDLOVSK	52.28	316.7	9	6	-2				11	5 PP
UKIAH	52.53	72.6	9	16	7					
MINERAL	52.64	70.4	9	10A	0				9	32
APATITY	53.30	337.4	9	13K	-2	16	37	-4		
BUTTE	53.81	59.6	9	18	-1					
SAN FRANCSCO	53.90	73.3	9	14	-6					
BERKELEY	53.94	73.1	9	20K	0	16	57	8	11	47 PP
RENO	54.20	70.0	9	22A	0					
BRANNER	54.29	73.4	9	23K	1					
LHASA	54.48	273.4	9	24A	0	16	57	0	11	33 PP
LICK	54.66	73.1	9	25A	0					
BOZEMAN	54.83	59.1	9	25	-1					
FRUNSE	54.85	296.3	9	26	-1	17	3	1	12	42 PPP
SODANKYLA	54.94	339.9	9	25	-2				10	26 PCP
VINEYARD	55.22	73.5	9	29	0					
FRESNO	56.11	72.4	9	36	0					
EUREKA	56.41	67.5	9	38	0				38	49 PKPPKP
SCORESBY SD.	56.79	0.8	9	41	1	17	31	3		
SHILLONG	56.95	269.4	9	38A	-4	17	26	-4		
RUTH	57.13	67.1	9	46	3	17	38	6		
RABAUL	57.40	189.3	9	42	-3					
SALT LAKE C.	57.78	63.8	9	47	0				24	21
TASHKENT	58.76	298.3	9	53	-1				10	20
CHATRA	58.86	274.1	10	7A	12					
PASADENA	58.90	73.5	9	55A	0	18	3	8	10	40 PCP
FLAMING GRGE	58.99	62.1	9	55	-1				16	0
UMEA	59.35	340.5	9	53	-5					
RAPID CITY	59.94	55.8	9	2	-60					
PULKOVO	60.51	333.4	10	5	-1	18	13	-3	10 20	12 14 PP
GLEN CANYON	60.62	66.7	10	7	0					38 50 PKPPKP
DUZHANBE	61.00	296.4								9 8
SKALSTUGAN	61.03	344.1	10	8	-2					
NURMIJARVI	61.31	336.6	10	10	-2	18	31	5		
CALCUTTA	61.34	269.9	10	17	5					25 49
HELSINKI	61.53	336.3	10	10	-3					
MOSCOW	61.68	327.1	10	12	-2	18	31	0	10 25	12 30 PP
DEHRA DUN	61.74	283.6	10	13	-2					18 48 PS
BOKARO	61.91	272.8	10	15A	-1	18	37	3		

PORT MORESBY	63.15	194.2	11	23	59	18	53	4	11	33	19	25 *SS
REYKJAVIK	63.17	0.9	10	24A	0				10	38		
UPPSALA	63.48	339.8	10	25	-1							
SIDA	63.52	359.0	10	27	1							
TUCSON	64.49	69.8	10	32	-1	19	14	8			39	11 PKPPKP
GOTEBORG	66.59	341.9	10	52	6							
ASHKABAD	66.94	302.7	10	47	-1	19	35	-1			13	11 PP
PORT BLAIR	67.12	258.7	10	51	1							
QUETTA	68.23	291.4	10	55A	-1	19	52	1	11	6	13	22 PP
COPENHAGEN	68.40	340.9	10	58A	1	19	57	4				
ABERDEEN	69.19	349.7				20	3	0				
WARSAW	69.63	334.5	11	4A	-1	20	11	3			20	50 PPS
FLORISSANT	70.20	51.5	11	9A	1	20	17	3				
MEDAN	70.20	248.5	11	9	1							
TIFLIS	70.37	314.0	11	10A	0	20	18	2			13	45 PP
ST. LOUIS 1	70.39	51.5	11	10A	0	20	15	-2				
FAYETTEVILLE	70.48	55.8	11	4A	-6	19	1	-77			11	58
AFIAMALU	70.95	150.9	11	34	21	20	38	15				
LWOW	70.98	331.6	11	14	1	20	25	2			13	50 PP
OTTAWA	70.98	38.0	11	12A	-1							
SHAWINIGAN	71.06	35.5	11	13A	-1							
SEVEN FALLS	71.24	34.0	11	14A	-1							
POTSDAM	71.37	339.3	11	14	-2	20	31	3			20	50 PS
DURHAM	71.49	348.9	11	16K	0	20	30	1			21	21 PS
GORIS	71.50	311.6	11	17	1	20	30	1			13	56 PP
KRAKOW	71.90	334.2	11	19	0						13	50 PP
CHORZOW	71.92	334.9	11	19	0						11	31 PCP
SIMFEROPOL	71.95	322.8	11	18A	-1	20	34	-1			13	58 PP
CLEVELAND	71.97	44.0	11	19A	0	20	36	1				
TEHERAN	72.14	305.9	11	21	1						14	2 PP
WITTEVEEN	72.19	343.4	11	22	2							
KARACHI	72.27	287.7	11	20A	-1							
RACIBORZ	72.31	335.3	11	22	1						11	33 PCP
COLLMBERG	72.40	339.0	11	22A	0	20	43	3			13	59 PP
LITTLE ROCK	72.43	55.4	11	20A	-2							
HALLE	72.44	339.7	11	21	-1	20	43	3	11	38	14	5 PP
SKALNATE PL.	72.61	333.6	11	24	1						15	32
SUVA	72.66	161.6				20	58	15				
HUNSTER	72.83	342.5	11	25	1						13	7
BACAU	73.01	328.2	11	28	3							
JENA	73.05	339.7	11	27	1	20	50	3			21	6 PS
POONA	73.13	278.4	11	25	-1							
DE BILT	73.13	344.1	11	28A	2	20	54	6			21	44 PS
PRAGUE	73.23	337.6	11	28	1	20	52	3			14	6 PP
PRUHONICE	73.29	337.5	11	29A	2	20	52	2			21	48 PPS
PLAUEN	73.34	339.2	11	26	-1	20	50	0			21	10 PS
BOMBAY	73.45	279.4	11	27	-1	20	52	0			21	12 PS
SONNEBERG	73.65	339.8	11	28	-1	20	57	3			21	14 PS
CHEB	73.68	338.9	11	29	0	21	0	6				
CHARTERS TS.	73.78	193.4	11	35A	5	20	55	0				
BENSBERG	73.88	342.5	11	30A	0							
PENNSYLVANIA	74.05	42.0	11	33	2	21	0	2				
DJAKARTA	74.05	235.9	11	30K	-1	20	46	-12				
MORGANTOWN	74.17	44.0	11	32A	0							
LEMBANG	74.22	234.8	11	32	0							
HURBANOVO	74.35	334.4	11	31	-2						11	51 PCP
BRATISLAVA	74.36	335.2	11	33K	0	21	20	18			11	43 PCP
VIENNA-H.	74.47	335.7	11	34A	0						11	47 PCP
BUDAPEST	74.49	333.7	11	37	3	21	7	4				
KEW	74.56	347.4	11	34A	0	21	3	-1				
CAMPULUNG	74.76	328.8	11	39	4							
HEIDELBERG	75.08	341.0	11	38A	1							
BUCHAREST	75.18	327.7	11	38A	0	21	12	1				
WESTON	75.20	36.7	11	38K	0							
NOUMEA	75.22	173.8	11	35	-3							
PALISADES	75.42	39.2	11	37	-2	21	10	-4	11	46	26	18 SS
TIMISOARA	75.47	331.5	11	43	4						14	22 PP
STUTTGART	75.57	340.5	11	40	0	21	13	-2			14	27 PP
HALIFAX	75.79	30.5	11	40A	-1							
TUBINGEN	75.85	340.5	11	42A	0							
WASHINGTON	75.98	42.5	11	37	-5							
STRASBOURG	76.05	341.4	11	44A	1	21	20	0			14	34 PP
EBINGEN	76.20	340.5	11	44A	0							
SHIRAZ	76.44	301.3	11	44K	-1	21	21	-4			14	37 PP
RAVENSBURG	76.45	339.9	11	46A	1							
BELGRADE	76.54	331.7	11	46A	0	21	30	4			22	21 PS
PARIS	76.75	344.9	11	49	2						11	55 PCP
ZAGREB	76.82	335.0	11	48A	1							

LJUBLJANA	76.97	336.1	11	48A	0					14	42 PP
TOLMEZZO	77.00	337.2	11	48	0					13	6
BASLE	77.10	341.2	11	50A	1					14	42
ISTANBUL KA.	77.15	324.1	11	48	-1	21	36	4			
CHUR	77.35	339.7	11	51A	1	22	2	27			
KODAIKANAL	77.41	270.3								21	26
TRIESTE	77.54	336.5	11	52A	1	21	39	2		12	9 PCP
SOFIA	77.60	328.8	11	51	-1	21	38	1		12	5 PCP
BESANCON	77.67	342.2	11	52A	0						
NEUCHATEL	77.73	341.5	11	53	1						
PADOVA	78.21	337.7	11	54A	-1	21	46	2	12 5	14	18 PP
COLUMBIA	78.43	47.9	11	56	0						
PAVIA	79.02	339.4	12	9A	10					25	50
CLERMONT-FD.	79.61	343.8	12	4A	2	22	6	7			
CHIAVARI	79.81	339.1				22	28	27		22	58
PRATO	79.83	337.7	12	6	2	22	31	30			
ISOLA	80.41	340.6	12	8	1	22	13	6			
MONACO	80.77	340.2	12	9	0						
KSARA	80.82	315.7	12	9	0	22	17	6	12 54	15	14 PP
TACUBAYA	81.01	69.8	12	12	2	22	16	3		15	19 PP
ROME	81.38	336.1	12	11A	-1	22	20	3		15	20 PP
ATHENS	81.76	326.5	12	13A	-1						
BAGNERES	82.71	345.3	12	19A	0						
JERUSALEM	82.86	315.2	12	20	1					15	33 PP
VERA CRUZ	82.90	67.6								23	6 SCS
CUGLIERI	83.93	338.4								22	38
MESSINA	84.05	332.6	12	24	-1	22	37	-7		15	5 PP
TORTOSA	84.86	344.5	12	32	2	22	58	6			
SERRA PILAR	85.70	351.4	12	34K	0					12	36 PCP
HELWAN	86.15	317.2	12	36A	0	23	7	3			
TOLEDO	86.44	347.8	12	38A	1	23	5	-2			
RIVERVIEW	86.84	187.4	12	41A	2	23	21	10	12 50	23	8 SKS
ALICANTE	87.43	344.7	12	47	5	23	23	6		16	15 PP
ALGIERS UNI.	88.35	341.7	12	46	-1					13	17
SETIF	88.43	339.7	12	47	0	23	30	4		15	35
CANBERRA	88.50	189.0	12	48A	1						
GRANADA	89.04	347.0	12	30K	-20	23	26	-6		15	53 PP
ALMERIA	89.20	346.0	12	49A	-2	23	37	4		16	25 PP
ADELAIDE	89.57	197.3	12	52A	0						
MALAGA	89.59	347.5	12	51A	-1	23	43	6		16	25 PP
RELIZANE	89.80	343.4	12	52	-1						
MELBOURNE	91.43	191.8	13	1	0	24	0	7	13 12		
KARAPIRO	91.59	167.8	13	2	0				13 12		
MUNDARING	92.83	216.1	13	6	-1						
WELLINGTON	94.80	168.9				24	30	8		31	38
SAN JUAN	98.50	43.8	13	34	1						
ADDIS ABABA	100.66	300.7	13	43	0	24	29	13			
TAMANRASSET	101.31	336.1	13	45A	-1	24	24	5		17	56 PP 0 6
BOGOTA	106.83	57.5				24	48	4		28	37 PPS
MBOUR	112.82	356.8								19	20 PP
LWIRO	115.38	303.7	18	38	3					19	38 PP
TANANARIVE	118.37	276.1	18	45	4					19	54 PP
WILKES	124.81	201.9								20	44 PP
CAPE HALLETT	125.25	176.2	18	53	-1					20	53 PP
LA PAZ	127.71	64.6	19	2A	3						
PRETORIA	135.03	288.0	19	15	2						
PIETERMZBURG	136.64	282.2	19	5	-11						
SANTA LUCIA	139.24	82.0	18	42	-39						
KIMBERLEY	139.27	288.6	19	16	-5						
MAWSON	139.89	216.2	19	13	-9						
BYRD STATION	140.12	164.4	19	14	-8					22	55 SKP
SOUTH POLE	142.85	180.0	19	22	-5					22	43 SKP

NOVEMBER 6 6.H 14.M 53.S EPICENTRE -31.17-177.66 DEPTH= 44.KM

A=-0.85644 B=-0.03500 C=-0.51505 D=-0.0408 E= 0.9992
G= 0.5146 H= 0.0210 K=-0.8572 HT= 1.4

DEPTH OF FOCUS= 0.002R

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
ONERAHI	8.08	233.3	2	1	4						2	25
AUCKLAND	8.45	225.7				3	49	11			2	21
TUAI	8.72	207.8	2	3	-3	3	34	-10				

KARAPIRO	8.77	217.9	3	4	57							
TONGARIRO	9.75	212.9	2	19	-1	4	7	-3			2	44
WELLINGTON	11.79	209.1	2	45	-3	4	47	-12			3	24
COBB RIVER	12.56	215.5	3	0	2	5	9	-9			6	17
SUVA	13.44	343.8	3	10	0							
KAIMATA	14.29	214.6	3	21	0	5	44	-15				
GEBBIES PASS	14.67	208.8	3	24	-2	5	52	-16				
NOUMEA	16.70	298.1	3	53	1	6	56	1				
ROXBURGH	17.53	211.8	4	1	-1						7	37
RIVERVIEW	26.39	255.9	5	36	2	10	9	7				
CANBERRA	28.11	252.5	5	51K	1	10	20	-10			11	11
FORT NELSON	30.08	237.2	6	8K	1							
MELBOURNE	31.35	247.5	6	19A	1	11	27	6			10	34
CHARTERS TS.	34.21	280.1	6	43	0	12	10	4				
ADELAIDE	36.54	252.1	7	3K	0	12	55	13			9	27 PCP
RABAUL	39.05	307.3									9	21
PORT MORESBY	39.21	295.9	7	25	0	13	42	20			9	34
TERRE ADELIE	43.17	202.3	8	0	2	14	30	9				
SCOTT BASE	47.29	184.4	8	33K	2	15	31	11				
BYRD STATION	54.12	169.5	9	22	-1	17	11	17			11	22 PP
WILKES	54.61	208.1	9	24	-2	17	1	0			20	56 SS
HONOLULU	55.45	22.3	9	31	-1							
MUNDARING	55.52	250.5	9	30	-3							
KIPAPA	55.58	22.3	9	32	-1							
PERTH	55.83	250.4	9	37	2	17	25	8			18	55
GUAM	57.21	315.1	9	42	-3							
SOUTH POLE	59.00	180.0	9	56	-1	17	17	-42			39	26 PKPPKP
ARGENTINE I.	71.10	155.9	11	14	-1							
MAWSON	71.69	200.6	11	20	1	22	7	93	12	3	12	23
LEMBANG	73.43	272.0	11	29A	0						13	9
MANILA	74.38	298.2	11	34	-1						11	48
TUKUBASAN	77.87	326.2	11	51K	-3						21	51 SCS
MATUSIRO	79.04	325.2	11	59	-2						20	37
PORT STANLEY	82.06	147.0	12	16	-1							
HONG KONG	84.21	300.2									20	4
ZO-SE	84.84	311.0	12	30	-1	23	10	16			22	57 SKS
CANTON	85.30	300.4	12	33	0							
VINEYARD	85.68	42.1	12	39	4							
SAN FRANCSCO	85.79	40.7	12	37	1							
PASADENA	85.81	45.8	12	36	0	23	11	7			28	49 SS
SANTA LUCIA	85.83	126.7	12	35	-1							
LICK	85.94	41.5	12	36A	0							
BERKELEY	85.97	40.8	12	36	0	23	7	2				
CONCORD	86.14	40.8	12	38K	1							
PETROPAVLOVK	86.34	345.9	12	36	-2						24	11 *SS
FRESNO	86.61	42.9	12	39	-1							
NANKING	87.02	310.4	12	42	0							
SHASTA	87.90	38.7	12	46	0							
MINERAL	88.08	39.4	12	46	-1							
RENO	88.50	40.9	12	49	0							
BOULDER CITY	89.07	46.2	13	3	12							
TUCSON	89.30	51.2	12	53	1						30	31 PKKP
TUCSON TELE.	89.43	51.2	12	54	1							
EUREKA	90.66	43.0	12	58	-1						30	7 PKKP
CHANGCHUN	91.02	322.6	12	59	-2	24	7	15				
RUTH	91.08	43.6				23	39	-14				
GLEN CANYON	91.72	47.1	13	5	1						16	28 PP
PEKING	93.67	315.3	13	12	-1	24	34	19			23	46 SKS
SALT LAKE C.	93.91	44.0	13	14	0							
HUANCAYO	94.14	106.6	13	17	2	23	57	-22				
KUNMING	94.43	296.6	13	11	-5	24	31	9			23	55 SKS
PENTICTON	95.31	33.9	13	20	0							
FLAMING GRGE	95.49	45.0	13	21	0						17	8 PP
CHENGTU	96.43	301.9	13	26	1	24	3	5			24	58 S
HUNGRY HORSE	97.45	37.1	13	51	21						30	21 PKKP
COLLEGE	98.52	12.4	13	34	-1							
CHINCHINA	102.85	92.0				24	35	6			27	30 PS
BOGOTA	104.00	93.1				24	43	9			27	39 PS
ST. LOUIS 1	106.87	54.8				24	49	2				
HERMANUS	112.84	195.1				27	1	109			35	7 SS
CARACAS	113.06	91.5	18	19	-13						28	33 PPS
PALISADES	119.40	57.5				25	43	7			36	33 PS
SEMIPALATNSK	120.71	313.3	18	47	0							
WARSAK DAM	122.65	292.7	18	54	3							
FRUNSE	122.74	303.6	18	50	-1							
BULAWAYO	123.09	209.8	18	54K	2							
QUETTA	125.16	286.9	18	57K	1							
DUZHANBE	126.05	297.3	18	55	-2							

TASHKENT	126.28	300.7	18	59	1					
BROKEN HILL	128.16	212.9	19	5	4					
SVERDLOVSK	132.68	320.5	19	8	-2				22	37 PKS
ASHKABAD	133.97	294.4	19	14	2				22	43 PKS
SHIRAZ	137.00	281.4	19	14	-4	26	12	-10	22	0 PP
LWIRO	138.31	222.0	19	23	3					
TEHERAN	139.16	290.0	19	24	2				22	27 PP
APATITY	139.24	342.3	19	24	2					
SODANKYLA	141.01	345.3	19	19	-6					
TIFLIS	144.58	299.3	19	31	0					
SIDA	144.92	15.6	19	32K	0					
MOSCOW	145.14	325.1	19	32	0				23	1 PP
UMEA	145.43	346.1	19	29	-4					
PULKOVO	145.82	335.0	19	32	-2				23	6 PKS
SKALSTUGAN	146.97	351.9	19	37	1					
NURMIJARVI	147.13	339.7	19	37	1					
HELSINKI	147.31	339.1	19	38	2					
UPPSALA	149.54	344.8	19	43	3					
KSARA	151.66	284.3	19	52K	9					
GOTEBORG	152.65	348.7	19	49	5					
HELWAN	155.02	274.5	19	50	3				20	14
LWOW	155.27	325.1							20	14 PKP2
MBOUR	155.65	129.0	20	15	27				24	8 PP
DURHAM	156.25	5.6	19	56	7					
ISTANBUL KA.	156.34	302.1	19	47	-2				30	37
POTSDAM	157.40	342.7	20	23	32					
RACIBORZ	157.69	332.4	19	59	8				20	25 PKP2
COLLMBERG	158.40	341.6	20	1	9				24	17 PP
HALLE	158.48	343.5	20	26	34				20	41
MUNSTER	158.86	350.9	20	40	48					
DE BILT	158.98	355.1	21	1	68				24	19 PP
PRUHONICE	159.10	337.5	19	53	0				24	18 PP
JENA	159.10	343.5	19	50	-3				23	27 PP
KEW	159.62	4.8							20	32 PKP2
SOFIA	159.71	310.4	19	51	-2				20	34
VIENNA-H.	159.87	331.9	19	50	-4				20	35 PKP2
BENSBERG	159.91	351.1	20	34	40					
HEIDELBERG	161.17	347.0							20	39
STUTTGART	161.65	345.3	19	55	0				20	38 21 14 *SPKP
STRASBOURG	162.13	348.2	20	20	24				20	39 24 31 PP
LJUBLJANA	162.39	330.9	20	0A	4				20	19 20 44 PKP2
TOLMEZZO	162.69	334.5	20	1	5				20	49
BESANCON	163.70	351.1	20	48	51					
PAVIA	165.03	341.0							31	48 SKKS
CHIAVARI	165.77	339.2	18	57	-62				22	57
ISOLA	166.49	345.3							21	4 PKP2
ROME	166.56	325.6	20	36A	36				24	55 PP
MESSINA	167.07	306.4	21	4	64				24	56 PP
TOLEDO	169.87	29.2	20	4	2				25	16 PP
TAMANRASSET	171.17	199.5	20	5K	2				21 2 25	24 PP
MALAGA	172.13	43.5	20	16K	13	26	52	-8	25	24 PP
GRANADA	172.25	37.8							21	30 SKP
SETIF	174.37	333.9	20	0	-4				21	36 PKP2
ALGIERS UNI.	174.39	354.2	20	16	12				21	50 PKP2

NOVEMBER 6 22.H 10.M 3.S EPICENTRE 52.69-168.07 DEPTH= 0.KM

A=-0.59553 B=-0.12585 C= 0.79342 D=-0.2068 E= 0.9784
G=-0.7763 H=-0.1640 K=-0.6087 HT= -6.4

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
COLLEGE	15.99	32.4	3	46	-2	7	0	14				
KLYUCHI	18.31	293.8	4	19	2						5	0
SITKA	19.23	63.9	4	29	1	8	9	9				
PETROPAVLOVK	20.00	284.3	4	36	-1							
SEVERO-KUR.	22.17	279.2	5	1	2							
MAGADAN	23.61	303.2	5	15	2							
ALBERNI	27.14	79.7	5	52	6							
VICTORIA	28.29	80.4	6	57	60							
PENTICTON	30.21	76.7	6	14	0							
UGLEGORSK	31.15	283.7	6	21	-1							
BANFF	31.83	71.3	6	27	-1							
ARCATA	31.86	93.9	6	31K	2							

KIPAPA	32.17	162.2	6	29	-2				7	35	
HONOLULU	32.27	162.4	6	31	-1						
TIKSI	32.87	328.6	6	36	-1				17	3	SCS
SHASTA	32.99	92.7	6	39	1						
UKIAH	33.45	95.7	6	39	-3	12	8	4	7	55	PP
YAKUTSK	33.54	311.0	6	41	-2				8	1	PP
MINERAL	33.69	92.6	6	41A	-3						
HUNGRY HORSE	33.95	75.2	6	46	-1	12	0	-12	7	49	PP
SAN FRANCSCO	34.79	96.9	6	54	0						
BERKELEY	34.84	96.6	6	52	-2	12	27	2	9	25	
CONCORD	34.89	96.3	6	56	1						
BRANNER	35.18	97.1	6	58A	1						
RENO	35.27	92.2	7	0A	2						
LICK	35.55	96.7	7	1K	1				9	28	
RESOLUTE	35.74	25.8	7	0A	-2	12	36	-3			
BUTTE	35.97	77.9	7	5	1				9	30	PCP
VINEYARD	36.10	97.3	7	6	1						
FRESNO	37.04	95.8	7	15	2						
BOZEMAN	37.06	77.4	7	13	0						
EUREKA	37.64	89.2	7	19	1						
RUTH	38.40	88.8				13	22	2			
SALT LAKE C.	39.36	84.5	7	34	2						
TUKUBASAN	39.56	266.5	7	33A	-1	13	37	-1	9	2	PP
PASADENA	39.78	97.5	7	37	1	14	5	24			
VLADIVOSTOK	40.27	281.1	7	39	-1	13	39	-9	17	45	SSS
MATUSIRO	40.50	268.5	7	42A	0	13	54	2	9	37	PCP
BOULDER CITY	40.58	92.6	7	44	2						
FLAMING GRGE	40.75	82.5	7	44	0				9	45	PCP
THULE	41.71	20.5	7	52	0				8	14	
GLEN CANYON	41.90	88.8	7	54	1				9	5	
RAPID CITY	42.58	74.7	8	0	1						
ABUYAMA	43.21	268.7	8	5A	1						
CHANGCHUN	43.75	286.1	8	7A	-1				18	7	SCS
KHEYS	44.48	350.3	8	15	1				9	58	PP
NORD	45.07	5.7	8	18	-1				9	54	PP
TUCSON	45.54	93.3	8	23	0						
TUCSON TELE.	45.54	93.1	8	24	1						
IRKUTSK	50.10	306.8	8	57A	-1				11	4	PP
PEKING	51.45	287.9	9	8	-1	16	29	1	18	57	SCS
FAYETTEVILLE	52.97	77.1	9	18A	-2				9	45	
FLORISSANT	53.38	72.0	9	22	-1	16	51	-4			
ST. LOUIS 1	53.57	72.1	9	24K	-1	16	54	-3			
GUAM	54.13	241.7	9	24	-5						
ZO-SE	54.55	276.2	9	31	-1	17	8	-2			
SCORESBY SD.	54.73	13.3	9	33	0						
LITTLE ROCK	54.96	77.0	9	33	-2						
NANKING	55.33	278.8	9	36A	-1	17	21	0			
OTTAWA	56.94	57.1	9	47A	-2						
SHAWINIGAN	57.63	54.5	9	52A	-2						
SEVEN FALLS	58.18	52.9	9	56A	-2						
MORGANTOWN	58.70	64.6	10	0K	-1						
APATITY	59.00	350.5	10	1	-2	18	1	-8			
PENNSYLVANIA	59.01	62.3	10	3	-1						
SIAN	59.61	287.6	10	9	1						
SODANKYLA	59.75	353.5	10	7	-2						
REYKJAVIK	60.58	16.3	10	14K	0						
PALISADES	60.97	59.7	10	15	-2	18	31	-4	10	25	22 33 SS
LANCHOW	61.24	292.5	10	18	-1						
WESTON	61.33	57.0	10	18A	-1						
SIDA	61.53	14.6	10	21K	0						
TACUBAYA	62.02	94.5									12 27
COLUMBIA	62.11	69.8	10	24	-1						
SEMIPALATNSK	62.24	317.8	10	24	-2	18	47	-4			11 3 PCP
HALIFAX	63.46	50.6	10	31	-3						
SVERDLOVSK	63.77	332.6	10	35	-1	19	5	-5			14 31 PPP
CHENGTU	65.06	288.3	10	44A	0	19	30	4			
CANTON	65.15	275.9	10	45	0	19	28	1			
HONG KONG	65.24	274.7	10	46A	1	19	17	-11			
BAGUIO CITY	65.82	265.4	10	49	0	19	37	2			
AFIAMALU	66.40	183.9	11	9	16	19	57	15			
NURMIJARVI	66.69	353.2	10	53	-1						
MANILA	66.87	263.8	11	9	13	19	47	-1			
PULKOVO	66.92	350.0	10	55	-1						13 18 PP
HELSINKI	67.00	353.0	10	56	0						
MOSCOW	69.88	344.9	11	12	-2						15 27 PPP
ABERDEEN	69.90	8.1									29 37
KUNMING	69.96	285.2	11	16A	1	20	28	3			
FRUNSE	70.61	316.1	11	19	0	21	10	38			
COPENHAGEN	71.99	359.7	11	27	0						
DURHAM	72.32	8.2	11	30K	1	20	34	-18			

PORT MORESBY	72.69	226.7	11	30	-1	20	54	-2				
LHASA	73.13	296.7	11	35A	1	21	3	2				
TOCKLAI	73.30	292.1	11	39	4							
TASHKENT	74.07	318.7	11	39	0							
WARSAW	75.17	354.2									19	34
POTSDAM	75.30	359.3	11	46	0							
DE BILT	75.43	4.3	11	45	-2							
MUNSTER	75.65	2.8	11	48	0						12	26
KEW	75.70	7.9	11	48A	-1	21	28	-2				
SHILLONG	75.85	293.5	11	48A	-1							
HALLE	76.18	360.0	11	51	0						14	47 PP
COLLMBERG	76.38	359.3	11	52A	0						14	47 PP
DUZHANBE	76.61	317.6	11	55	1	21	45	5				
BENSBERG	76.65	3.1	11	54A	0						12	15 PCP
JENA	76.75	0.2	11	54	-1	21	47	6			26	32 SS
CHORZOW	77.22	355.4	11	57	0						12	13 PCP
SONNEBERG	77.30	0.5	10	57	-61							
LWOW	77.35	352.0	11	57	-1	21	52	4				
KRAKOW	77.41	354.7	11	59	1	21	52	3			13	9
CHATRA	77.43	297.7	12	0A	2							
RACIBORZ	77.47	355.9	11	59	0						12	10 PCP
PRUHONICE	77.68	358.3	12	1	1	21	52	1			22	41 PS
HEIDELBERG	78.25	2.1	12	2	-1							
CHITTAGONG	78.39	291.5	12	7A	3	22	1	2	12	21	15	7 PP
PARIS	78.56	6.4	12	5	1						12	21 PCP
STUTTGART	78.89	1.8	12	6A	0	22	2	-2			22	42 PS
STRASBOURG	79.04	2.8	12	8	1	21	57	-9			30	57 SSS
TUBINGEN	79.13	1.9	12	8A	0							
WARSAK DAM	79.29	313.2	12	7A	-1							
DEHRA DUN	79.31	306.4	12	9	0	22	10	1				
VIENNA-H.	79.37	357.0	12	9	0							
BRATISLAVA	79.42	356.5	12	9	0							
EBINGEN	79.47	2.0	12	10A	1							
HURBANOVO	79.67	355.7									12	14 PCP
RAVENSBURG	79.89	1.6	12	13	1							
LAHORE	80.08	309.8	12	14A	1							
BASLE	80.09	3.0	12	13	0						14	31
BESANCON	80.31	4.1	12	14	0							
BOKARO	80.57	296.9				22	29	7				
NEUCHATEL	80.60	3.5	12	16	1							
SIMFEROPOL	80.88	344.2	12	18A	1	22	25	0			22	31 SCS
ASHKABAD	81.13	324.6	12	20	2						15	20 PP
TOLMEZZO	81.28	359.2	12	22	3							
LJUBLJANA	81.61	358.2	12	21A	0						13	4
CLERMONT-FD.	81.63	6.2	12	22	1							
TIFLIS	81.76	335.8	12	23A	1						22	41 SCS
TRIESTE	82.02	358.7	12	23	0	22	44	7				
PADOVA	82.28	0.0	12	26	2	22	41	1			15	29 PP
PAVIA	82.48	2.0	12	31	6							
BUCHAREST	82.50	349.8				22	42	0				
SAN JUAN	82.59	69.5	12	24	-2						12	48
BELGRADE	82.59	353.9	12	28A	2	22	50	7			23	38 PS
CHARTERS TS.	82.60	222.7	12	24A	-2						13	38
GALERAZAMBA	83.21	81.2				22	54	5				
ISOLA	83.42	3.5	12	31	1	22	54	3				
PRATO	83.80	0.6	12	33	1	22	57	2				
MONACO	83.88	3.3	12	33	0							
BAGNERES	84.08	8.7	12	35A	1							
SOFIA	84.48	351.6	12	31	-5							
QUETTA	84.57	314.5	12	37A	1	23	0	-3			16	2 PP
SERRA PILAR	84.88	15.4	12	37	-1						15	56 PP
ISTANBUL KA.	85.44	347.1	12	40	0	23	5	-6				
TEHERAN	85.47	328.8	12	42	2	23	2	-9				
ROME	85.78	359.6	12	42A	0	23	23	8	13	1	23	11 SKS
TORTOSA	86.34	8.7	12	49	4							
BRISBANE	86.75	214.2	12	49	2	23	15	-9				
TOLEDO	86.77	12.3	12	47A	0	23	7	-17			16	21 PP
CUGLIERI	87.46	2.6									13	47
CHINCHINA	87.57	85.1	12	53	2						23	29 SKKS
FUQUENE	88.32	83.3	12	56	2						23	39 SKKS
CARACAS	88.39	74.9	12	55K	0	23	35	-4				
BOGOTA	88.79	84.0	12	57	0						23	41 SKKS
ATHENS	89.13	350.7	12	58K	0							
KARACHI	89.14	311.8	12	59	1							
MESSINA	89.43	357.2	13	20	20						16	47
GRANADA	89.48	12.3	13	36A	36						13	49
HYDERABAD	89.73	298.9	12	57	-4							
MALAGA	89.83	13.1	12	57A	-5							

ALMERIA	89.95	11.5	13	1K	-1	23	31	-23	13	21	24	22
ALGIERS UNI.	90.57	7.1	13	6	1						16	9 PP
SHIRAZ	90.68	325.5	13	5K	0	23	52	-8	13	19	23	34 SKS
POONA	91.22	303.1	13	8	0						13	38
SETIF	91.29	5.3	13	6	-2							
KSARA	91.35	340.2	13	9A	0	24	7	1			16	43 PP
RELIZANE	91.37	9.2	13	11	2						13	36
KARAPIRO	91.37	192.9	13	8	-1				13	23		
BOMBAY	91.43	304.2	13	11	2	23	52	-15				
LEMBANG	91.94	261.4	13	9	-2						17	1
RIVERVIEW	93.21	213.0				24	29	7			26	15 PPS
HELWAN	96.06	343.1	13	31	1							
KODAIKANAL	96.21	295.7									54	1
TAMANRASSET	104.64	6.1	14	8	-1	24	49	0			18	31 PP
LA PAZ	108.95	92.5	18	47	777							
ADDIS ABABA	114.38	330.7									29	29 PS
CAPE HALLETT	125.63	188.0									21	10 PP
LWIRO	127.81	338.5	19	10	3						22	36
SCOTT BASE	131.20	186.9	19	13	-1						22	35 SKP
BYRD STATION	135.31	169.3	19	20	-2						22	48 SKP
PORT STANLEY	138.75	117.6	19	26	-2							
BROKEN HILL	139.64	334.8	19	25	-4							
SOUTH POLE	142.51	180.0	19	28	-6						23	24 SKP
BULAWAYO	145.03	331.9	19	40A	1							
WINDHOEK	149.67	350.5	19	52	5							
PRETORIA	150.44	329.2									20	30 PKP2
MAWSON	151.62	218.8	19	55	6							
PIETERMZBURG	153.23	322.2									20	1 PKP2
KIMBERLEY	154.26	333.3	19	50	-3							

NOVEMBER 7 13.H 23.M 12.S EPICENTRE 32.24 132.04 DEPTH= 65.KM

A=-0.56743 B= 0.62942 C= 0.53090 D= 0.7427 E= 0.6696
G=-0.3555 H= 0.3943 K=-0.8474 HT= 1.1

DEPTH OF FOCUS= 0.005R

SE= 3.35

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
MIYAZAKI	0.61	238.7	0	13K	-3	0	24	-3				
SIMIDU	0.96	55.5	0	15K	-4	0	26	-7				
OOITA	1.05	340.6	0	17A	-3	0	31	-4				
ASOSAN	1.05	309.2	0	17	-3	0	32	-3				
UWAZIMA	1.08	23.6	0	16K	-5	0	28	-8				
KUMAMOTO	1.27	297.5	0	21A	-2	0	40	0				
KAGOSIMA	1.43	242.5	0	25A	0	0	50	6				
UNZENDAKE	1.59	288.4	0	32A	5	0	51	4				
MATUYAMA	1.71	21.2	0	26	-3	0	49	-1				
SAGA	1.78	305.0	0	29A	-1	0	54	2				
KOTI	1.81	43.5	0	27K	-3	0	56	3				
NAGASAKI	1.89	285.6	0	30	-1	1	3	9				
HUKUOKA	1.93	314.3	0	30A	-2	0	55	0				
SIMONOSEKI	1.94	331.7	0	29A	-3	0	51	-5				
MUROTO	2.07	60.3	0	34	0	1	2	3				
HIROSIMA	2.15	8.7	0	32	-3	0	55	-6				
YAKUSIMA	2.22	216.7	0	34A	-2	1	1	-2				
HAMADA	2.65	0.6	0	45A	3	1	17	4				
TAKAMATU	2.67	38.6	0	39	-3	1	18	4				
TOMIE	2.79	278.7				1	27	10			1	11
TOKUSIMA	2.81	48.8	0	36K	-8							
OKAYAMA	2.90	32.4	0	41	-5	1	21	1				
HIMEJI	3.00	40.6	0	54	7						2	44
ITUHARA	3.03	311.0	0	44	-3	1	34	11				
SUMOTO	3.19	48.2	0	47K	-3	1	29	2			3	51
WAKAYAMA	3.29	52.1				1	47	18			2	5
YONAGO	3.36	18.6	0	53	1	1	42	11				
SIOMISAKI	3.37	68.0	0	49	-3	1	49	18			1	24
KOBE	3.58	46.4	1	1	6	1	41	4				
TOTTORI	3.72	28.1	0	56	-1	1	50	10				
OSAKA	3.78	49.6	0	58	0						1	34
OWASE	3.94	61.3	0	56	-4	1	37	-9				
ABUYAMA	3.95	47.4	0	58A	-2							
NARA	4.00	51.5	0	58	-3	1	50	3				
TOYOOKA	4.02	34.5	0	58	-3	1	55	7				

SAIGO	4.09	14.8	1	11	9	2	7	18			
MAIZURU	4.26	40.0	1	2	-3	2	14	20			
TU	4.48	55.6	1	3	-5						
KAMEYAMA	4.53	53.7	1	7	-1	2	5	5			
HIKONE	4.63	48.1	1	8	-2	2	18	15			
TSURUGA	4.78	43.5	1	9	-3	2	6	0			
NAGOYA	5.04	53.3	1	13	-2	2	10	-3			
GIHU	5.05	50.1	1	13	-2	2	5	-8	4	13	
HUKUI	5.15	41.3	1	15	-2	2	10	-6			
HAMAMATU	5.36	61.0	1	19	-1				1	50	
									3	6	
OMAESAKI	5.68	63.9	1	22	-2	2	27	-2	2	42	
IIDA	5.82	54.3	1	38	12				2	33	
SHIZUOKA	5.97	61.1	1	27	-1	3	1	25			
TOYAMA	6.16	42.4	1	42	11	2	49	8	3	12	
MATUMOTO	6.34	49.2	1	32	-1						
KOHU	6.41	56.0	1	35	1	2	58	11			
MISIMA	6.44	61.6	1	31	-4	2	49	1			
HUNATU	6.48	58.0	1	36	1	2	43	-6			
WAZIMA	6.50	36.6	1	34	-2						
OSIMA	6.63	65.7	1	35	-3				3	27	
MATUSIRO	6.67	48.3	1	35K	-3	2	55	2	2	8	
NAGANO	6.74	47.4	1	38	-1	3	5	10			
OIWAKE	6.76	51.1	1	41	2	3	10	14			
TITIBU	6.93	55.5	1	45	3						
MERA	7.03	65.6	1	45	2						
YOKOHAMA	7.09	61.3	1	44	0	3	14	10			
MAEBASI	7.15	52.6	1	43	-2	3	4	-1	2	5	
KUMAGAYA	7.23	55.3	1	45	-1	3	21	14			
TOKYO C.M.O.	7.27	59.7	1	52	6	3	53	45	3	15	
AIKAWA	7.69	39.7	1	50	-2	4	7	48			
TUKUBASAN	7.77	57.1	1	50	-3				4	18	
UTUNOMIYA	7.77	54.3	1	51	-2	4	10	49	3	30	
KAKIOKA	7.83	57.2	1	53	-1						
NIIGATA	8.07	43.5	2	6	9	3	38	10	4	14	
MITO	8.11	57.1	1	55	-3	4	13	44			
SHIRAKAWA	8.31	51.9	2	2	1						
ONAHAMA	8.69	54.8	2	5	-1	4	12	29			
HUKUSIMA	8.83	49.2	2	6	-2						
ZO-SE	9.32	265.9	2	14A	0	4	8	9			
SENDAI	9.42	47.9	2	14	-2				4	35	
ISINOMAKI	9.78	48.3	2	20A	-1				4	59	
AKITA	9.92	38.9							4	40	
MIZUSAWA	10.09	44.6	2	25	0	5	15	57			
VLADIVOSTOK	10.86	359.5							5	9	
NANKING	11.24	272.6	2	40A	0	4	58	13			
MORI	11.96	32.2							2	53	
CHANGCHUN	12.72	337.4	3	1	1	5	33	12			
PEKING	14.98	305.7	3	29A	-1	6	23	9			
HONG KONG	18.69	242.4	4	15	-1	7	36	-2			
BAGUIO CITY	18.87	216.1	4	17	-1						
CANTON	18.88	245.8	4	17	-1						
SIAN	19.43	282.2	4	23	-1						
MANILA	20.15	212.3	4	34	2	8	18	9			
GUAM	22.02	145.2	4	50	-1						
CHENGTU	23.94	273.7	5	8	-1	9	25	7			
ULAN-BATOR	24.65	316.8	5	14	-2						
KUNMING	26.61	262.0	5	35	0						
PETROPAVLOVK	28.26	34.9	5	49	-1						
LHASA	35.11	276.8	6	50	1						
CHATRA	39.19	274.0	6	25	-59						
TIKSI	39.48	358.4	7	36	10						
RABAUL	40.98	148.4	6	40	-58						
PORT MORESBY	43.85	158.2	8	6	4						
FRUNSE	45.94	300.4	8	18	-1						
ANDIJAN	47.90	297.9	8	32	-2						
WARSAK DAM	50.03	289.4	8	49	-1						
SVERDLOVSK	53.70	319.7	9	15	-3						
CHARTERS TS.	53.79	163.4	9	19	0						
QUETTA	54.92	286.3	9	25	-2						
KHEYS	55.80	349.0	10	41	68						
COLLEGE	57.18	30.0	9	43	0						
BRISBANE	62.50	159.2	10	22	3						
APATITY	63.80	335.0	10	32	4						
NORD	65.25	355.2	10	36	-1						
SODANKYLA	66.27	335.9	10	42	-2						
MOSCOW	66.36	322.0	10	41	-3						
SHIRAZ	66.70	291.3	10	45K	-2	19	5	-27			
TIFLIS	67.51	306.0	10	53	1						
KIRUNA	68.11	337.6	10	56	1						

RESOLUTE	69.03	12.0	11	1	0				
CANBERRA	69.07	165.2						11	15
UMEA	70.35	334.1	11	20	11				
NURMIJARVI	70.36	329.9	11	8	-1				
SKALSTUGAN	73.34	336.1	11	28	1				
UPPSALA	73.65	331.4	11	19	-10				
VICTORIA	75.22	41.7	11	39K	1				
LWOW	76.42	320.7	11	44	-1				
PENTICTON	76.88	39.6	11	47	0				
KSARA	77.38	302.0	11	52	2				
BANFF	77.94	36.5	11	53	0				
ISTANBUL UN.	78.31	311.2	11	51	-4				
SHASTA	80.10	48.0	12	7K	2				
HUNGRY HORSE	80.43	38.2	12	8	1				
KARAPIRO	80.73	146.5	12	8	0				
MINERAL	80.80	48.0	12	9	0				
COLLMBERG	81.08	326.2	12	9	-1			12	49
PRUHONICE	81.20	324.6	12	10	-1			12	32
BERKELEY	81.78	50.3	12	15K	1				
JENA	82.00	326.6	12	15	0			12	36
RENO	82.39	47.8	12	18A	1				
LICK	82.48	50.5	12	24K	7				
SONNEBERG	82.55	326.3	12	17	-1				
BUTTE	82.67	39.4	12	20	2				
HELWAN	82.74	300.6	12	15	-4				
VINEYARD	82.99	50.9	12	22	2				
BOZEMAN	83.71	39.0	12	27	4				
FRESNO	84.01	50.1	12	27	2				
STUTTGART	84.56	326.0	12	27	-1			12	51
EUREKA	84.80	46.1	12	31	2				
TARANTO	85.86	316.0						19	22
PASADENA	86.64	51.4	12	40	2				
ROME	87.64	319.5						21	34
FLAMING GRGE	87.74	41.8	12	45	2				
RAPID CITY	88.87	36.3	12	51	2				
GLEN CANYON	89.06	45.9	12	52	2				
TUCSON	92.61	49.0	12	9	-57				
SOUTH POLE	122.07	180.0	18	49	1				
BYRD STATION	124.72	168.4	18	30	-23			20	31 PP
HUANCAYO	147.82	57.6	19	43	8				
LA PAZ	155.92	54.2	20	5	18				

NOVEMBER 8 5.H 22.M 14.S EPICENTRE 44.97 149.83 DEPTH= 43.KM

A=-0.61372 B= 0.35672 C= 0.70434 D= 0.5025 E= 0.8646
G=-0.6089 H= 0.3539 K=-0.7099 HT= -3.5

DEPTH OF FOCUS= 0.002R

SE= 2.23

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KURILSK	1.41	281.3	0	24	0	0	41	-1				
UGLEGORSK	6.71	310.5	1	40	1	3	4	9			3	29
MIZUSAWA	8.71	231.0	2	7	1	3	34	-10				
PETROPAVLOVK	9.92	32.5	2	22	-1						4	11
TUKUBASAN	11.44	223.6	2	39	-5	4	37	-14				
MATUSIRO	12.18	230.3	2	51K	-3	5	20	11				
VLADIVOSTOK	13.04	268.2	3	4	-1	5	34	5				
CHANGCHUN	17.55	275.0	4	8	5							
YAKUTSK	20.70	332.7	4	42	3							
PEKING	25.19	270.6	5	23A	0	9	46	3				
ZO-SE	26.32	248.1	5	35	2	10	8	7				
NANKING	27.32	252.6	5	42	-1	10	20	2				
SIAN	32.97	265.4	6	34	1							
LANCHOW	35.68	271.9	6	56A	0							
CHENGTU	38.40	264.2	7	19A	0							
COLLEGE	38.96	37.0	7	24	1							
KUNMING	42.65	258.5	7	54A	0	14	15	1				
KHEYS	46.28	346.9									10	49 PPP
LHASA	48.18	272.4	8	40	2							
FRUNSE	52.38	296.1	9	10	0							
RESOLUTE	53.24	17.5	9	14A	-2							
SVERDLOVSK	53.57	316.9	9	12	-7						10	24 PP
ALBERNI	55.25	52.6	9	30	-1							

VICTORIA	56.43	52.8	9 39	-1			
THULE	56.46	10.1	9 37	-3			
TASHKENT	56.56	297.1	9 40	-1			
PENTICTON	58.12	50.4	9 50	-1			
CORVALLIS	58.64	56.7	10 10K	15			
LAHORE	58.77	284.8	10 2	6			
WARSAK DAM	59.22	288.8	9 58	-1			
BANFF	59.26	46.9	9 59	0			
SODANKYLA	60.06	338.1	10 3	-2			
KIRUNA	61.27	340.5	10 11	-2			
SHASTA	61.42	59.9	10 15	1			
HUNGRY HORSE	61.70	48.9	10 16	0		10 28	
UKIAH	61.83	61.8	10 29	12			
MINERAL	62.11	59.8	10 19A	0			
BERKELEY	63.19	62.4	10 33	7			
RENO	63.69	59.6	10 30	1			
BUTTE	63.91	50.3	10 30	-1			
QUETTA	64.63	288.0	10 35	0			
SCORESBY SD.	64.71	357.0	10 35	-1			
ASHKABAD	65.37	299.6	10 41	1			15 51
NURMIJARVI	65.81	333.7	10 42	-1			
EUREKA	66.06	57.6	10 45	0		10 58	
SKALSTUGAN	66.70	340.8	10 50	1			
PASADENA	68.10	63.3	11 11	14			
UPPSALA	68.45	336.3	10 58	-2			
FLAMING GRGE	68.96	52.9	10 53	-10			
RAPID CITY	70.19	47.1	11 10	0		11 23	
GLEN CANYON	70.31	57.3	11 24	13			
TIFLIS	70.78	310.0					
GORIS	71.46	307.5	11 19	1			11 5
SIMFEROPOL	73.91	318.2	11 32	0			
TUCSON	73.95	60.5	11 33	0			
SHIRAZ	74.45	296.3	11 34K	-1			
LWOW	74.48	327.0	11 36	0			
KRAKOW	75.82	329.3	11 43	0			11 51 PCP
RACIBORZ	76.42	330.3	11 48	1			
SKALNATE PL.	76.43	328.6	11 49	2			
COLLMBERG	77.10	333.9	11 50A	-1			12 4 PCP
HALLE	77.25	334.5	11 50	-1			
PRUHONICE	77.75	332.3	11 54	0			12 18
JENA	77.87	334.5	11 54	-1			12 17
MUNSTER	78.09	337.2	11 56	0			
BRATISLAVA	78.42	329.9	11 57	-1			
SONNEBERG	78.46	334.4	11 57	-1			
BENSBERG	79.13	337.0	12 1A	-1			
ISTANBUL UN.	79.32	318.6	12 1	-2			
CANBERRA	79.92	180.7					17 20
HEIDELBERG	80.08	335.4	12 6	-1			
STUTTGART	80.47	334.8	12 8	-1			
SOFIA	80.52	323.1					17 22
KEW	80.54	341.6	12 9A	0			
FLORISSANT	80.57	43.4	12 10	1			
FAYETTEVILLE	80.72	47.5	12 10A	0			
TUBINGEN	80.75	334.8	12 10	0			
ST. LOUIS 1	80.76	43.4	12 11A	1	22 15	1	
EBINGEN	81.09	334.7	12 12	0			
STRASBOURG	81.09	335.6	12 12	0			
RAVENSBURG	81.25	334.1	12 13	0			
KSARA	81.36	309.7	12 16	2			
PARIS	82.33	338.9	13 20	61			
LITTLE ROCK	82.69	47.2	12 20	0			
BESANCON	82.81	336.1	12 15	-6			
FOLINIERE	83.10	340.7	12 23	1			
JERUSALEM	83.26	308.8	12 24	1			
TARANTO	84.90	325.7					28 21
CLERMONT-FD.	84.97	337.3	12 33	1			
ISOLA	85.27	334.1	12 33	0			
ROME	85.48	329.5					23 6
PALISADES	85.85	31.6			23 0	-5	
HELWAN	86.86	310.1	12 43	2			
SETIF	93.03	331.9	13 10	0			
ALGIERS UNI.	93.27	333.9	12 55	-16			16 11
RELIZANE	94.98	335.4					16 39 PP
HUANCAYO	129.47	64.0	19 8	4			22 24 PP
BYRD STATION	134.02	166.0	19 13	0			22 38 SKP
SOUTH POLE	134.78	180.0	19 15	1			

NOVEMBER 9 1.H 17.M 39.S EPICENTRE -21.83 -68.28 DEPTH= 109.KM

A= 0.34387 B=-0.86315 C=-0.36977 D=-0.9290 E=-0.3701
G=-0.1369 H= 0.3435 K=-0.9291 HT= 4.2

DEPTH OF FOCUS= 0.012R

SE= 1.59

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LA PAZ	5.31	1.5	1 21K	3	1 59	-19		1 31 PP
SANTA LUCIA	11.75	189.7	2 41	-4	5 21	27		
HUANCAYO	11.84	324.2	2 45	-1	5 1	5		
BOGOTA	26.90	347.2	5 34	2	10 0	1		
CHINCHINA	27.59	344.0	5 38	0	10 8	-2		
FUQUENE	27.66	348.2	5 43	4				
PORT STANLEY	30.89	167.3	5 48	-20				
CARACAS	32.16	2.5	6 18	-1	11 22	0		
SAN JUAN	40.02	3.2	7 23	-2			7 54	8 9 *SP
COLUMBIA	56.84	347.3	9 34	-1				
LITTLE ROCK	60.77	337.4	9 59	-3				
MBOUR	61.86	59.1	10 8A	-1				
MORGANTOWN	62.11	349.8	10 11K	0				
BYRD STATION	62.25	188.8	10 13	1			10 44	39 23 PKPPKP
FAYETTEVILLE	62.61	336.5	10 13K	-1				12 7 PP
PALISADES	62.74	355.2			18 28	-6		
ST. LOUIS 1	63.58	340.9	10 19	-2				
FLORISSANT	63.77	340.9	10 21	-1				
HALIFAX	66.27	3.6	10 37	-1				
OTTAWA	67.25	354.3	10 42	-2				
TUCSON	67.44	321.6	10 46	0				
SHAWINIGAN	68.18	356.7	10 49	-1				
SOUTH POLE	68.30	180.0	10 51	0				39 41 PKPPKP
SEVEN FALLS	68.67	358.1	10 53A	0				
GLEN CANYON	71.34	324.6	11 11	2				
BOULDER CITY	72.42	321.9	11 17	1				
PASADENA	73.15	318.5	11 21	1			11 53	12 10 *SP
FLAMING GRGE	73.20	328.6	11 20	0				12 3
SALT LAKE C.	74.29	327.1	11 27	0				
EUREKA	75.53	323.8	11 34	0			12 6	
SCOTT BASE	75.61	190.3	11 35K	1				12 10 PP
FRESNO	75.89	319.6	11 36	0				
VINEYARD	76.83	318.7	11 42	1				
LICK	77.37	319.1	11 45K	1				
RENO	77.73	321.7	11 48	2				
WINDHOEK	77.86	109.5	11 49K	2				
CONCORD	78.04	319.3	11 48	0				
BERKELEY	78.09	319.1	11 48	0				
CAPE HALLETT	78.25	195.4	11 50K	1			12 26	
BUTTE	78.57	330.2	11 51	0				
MINERAL	79.30	321.4	11 55K	0				
SHASTA	79.98	321.3	11 58K	0				
HUNGRY HORSE	80.97	331.1	12 4	1			12 37	
CORVALLIS	82.99	323.8	13 15K	61				
SERRA PILAR	83.57	41.0	12 17A	0				
BANFF	83.70	332.3	12 15	-2				
MALAGA	83.77	46.5	12 14A	-4			12 52	
MAWSON	83.85	163.1	12 19	1				
PENTICTON	84.25	329.1	12 20	0				
TAMANRASSET	84.44	62.9	12 22A	1			12 57	
VICTORIA	85.59	326.8	12 26K	-1				
TOLEDO	85.72	44.0	12 28A	1	22 49	0	13 4	
RELIZANE	86.68	49.4	12 31	-1			13 7	
BULAWAYO	88.75	111.1	12 44A	2				
ALGIERS UNI.	88.94	49.5	12 42	-1				
SETIF	90.36	50.9	12 49	-1			13 23	
BROKEN HILL	90.81	105.8	12 55	3				
FOLINIERE	92.58	37.8	12 59	-1				
BRATISLAVA	102.98	43.2						18 1
HELWAN	108.54	64.6	14 17	777				18 23 PP
SHIRAZ	126.59	68.6	18 51	1				20 46 PP
QUETTA	139.12	68.7	19 16	2				
LAHORE	145.36	65.8	18 27	-58				
MATUSIRO	152.74	308.4	19 43	7				20 1 0

NOVEMBER 9 3.H 17.M 55.S EPICENTRE -60.82 -25.52 DEPTH= 0.KM

A= 0.44223 B=-0.21112 C=-0.87170 D=-0.4308 E=-0.9024
G=-0.7867 H= 0.3756 K=-0.4900 HT= -9.2

SE= 2.43

	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.	17.90	239.0	4	15	3						4	51	PP
PORT STANLEY	19.96	282.6	4	28	-8								
SOUTH POLE	29.34	180.0	6	6	0	10	53	-7			38	18	PKPPKP
BYRD STATION	31.53	199.4	6	27	1	11	40	6			38	5	PKPPKP
MAWSON	35.87	139.2	7	1	-2	12	39	-2	7	11	14	28	
HERMANUS	38.91	67.9	7	35	6						13	26	PCS
SANTA LUCIA	39.89	292.5	7	37	0	13	29	-14			16	21	
SCOTT BASE	41.37	183.9	7	50A	1	14	11	6			9	29	PCP
KIMBERLEY	46.21	69.4	8	28	0								
CAPE HALLETT	46.70	186.5	8	32A	0	15	29	7			10	26	PP
PIETERMZBURG	48.11	75.7	8	42	-1								
WINDHOEK	48.24	57.0	8	49	5								
WILKES	49.07	158.2	8	53A	2	15	59	4			10	51	PP
PRETORIA	50.34	70.8	9	26	26								
LCO. MARQUES	52.22	75.3	9	11	-4	16	41	2			20	29	SS
TERRE ADELIE	52.30	173.5	9	13	-2	16	42	2					
LA PAZ	53.70	306.3	9	26K	0	17	1	2			11	35	PP
BULAWAYO	55.38	67.7	9	34K	-4								
LUANDA	59.28	46.0	10	8	2	18	18	5					
BROKEN HILL	60.31	64.4	10	9K	-4								
TAAANARIVE	65.42	84.8	10	47	1	19	33	3			13	9	PP
LOME	69.95	28.4	11	16	1								
LWIRO	71.36	58.9	11	23K	-1	20	42	1			25	42	SS
ROXBURGH	73.37	190.8	11	38	3	21	7	3			14	21	PP
MBOUR	75.26	8.6	11	44	-2	21	23	-2					
BOGOTA	75.31	309.4	11	49K	2						22	5	PS
FUQUENE	75.96	310.1	11	50A	0						22	17	PS
CHINCHINA	76.22	308.1	11	51K	-1						21	39	
FORT NELSON	76.44	174.6	11	52A	-1	21	32	-6					
WELLINGTON	76.91	195.6	11	56	0	21	48	5			26	55	SS
MOORLANDS	76.92	174.5	11	56	0				12	9			
CARACAS	78.25	318.4	12	4	1	22	35	37					
TONGARIRO	78.85	196.5	12	8	2								
KARAPIRO	80.10	196.8	12	12	-1								
MELBOURNE	81.39	172.4	12	20A	0	22	31	0	12	31	15	34	PP
GALERAZAMBA	81.42	310.7	12	34	14						23	26	PS
PERTH	82.32	147.6	12	27	2	22	50	10			15	43	PP
MUNDARING	82.40	147.9	12	23	-2	22	37	-4					
ADELAIDE	83.68	167.0	12	31A	-1	22	53	-1			15	43	PP
CANBERRA	84.10	175.5	12	33	-1	23	0	2	12	47	28	36	SS
SAN JUAN	85.40	321.7	12	41	1								
RIVERVIEW	85.65	177.2	12	39A	-3	23	9	-4			16	0	PP
ADDIS ABABA	85.75	63.2	12	43	1	23	13	-1					
TAMANRASSET	87.02	28.5	12	48	0	23	18	-9			16	11	PP
BRISBANE	92.10	178.5	13	12	0	23	46	-27					
NOUMEA	96.61	191.1	13	33	0						14	8	
RELIZANE	98.57	21.2									17	44	PP
MALAGA	98.72	17.0	13	54	-12	26	36	0			17	35	PP
CHARTERS TS.	99.10	172.2	13	42	-2	24	22	0					
ALMERIA	99.14	18.5	13	46	2	24	44	21			17	46	PP
GRANADA	99.29	17.6				24	29	6			16	14	PP
SETIF	99.93	25.0									18	4	PP
ALGIERS UNI*.	100.02	23.0	13	46	-2						17	54	PP
ALICANTE	100.93	19.8	13	54	2	25	29	58			18	4	PP
TOLEDO	101.87	16.7	14	7	10	24	36	0			18	3	PP
LEMBANG	103.28	131.9	18	16	253						19	22	
TORTOSA	103.50	20.0									15	35	
MESSINA	104.23	32.3				24	45	-2			18	25	PP
JERUSALEM	104.65	50.2	14	13	4						18	29	
KODAIKANAL	105.20	96.3									24	41	
KSARA	106.72	49.7	14	16	777	24	53	-5			18	51	PP
ROME	106.96	28.7	14	43	777	24	35	-24			18	45	PP
MONACO	107.60	24.4	18	50	777								
ISOLA	107.95	24.0									18	54	PP
PRATO	108.52	27.1									19	5	PP
CLERMONT-FD.	108.75	20.8	18	59	777								
PALISADES	108.88	323.3	17	52	777	25	4	-3			19	2	PP
PAVIA	109.35	25.3	18	6	777						22	11	PKS
WESTON	109.41	325.7									28	27	PPS
LITTLE ROCK	109.65	306.5	18	33	777						19	0	PP

PORT MORESBY	109.76	172.3	18	15	777				19	10 PP
SHIRAZ	109.92	64.9	18	35	777	25	58	46	20	20 PP
PADOVA	110.15	27.1							20	19
BOMBAY	110.36	87.7	19	10	36				28	34
POONA	110.55	88.8	19	11	37				28	11
SOFIA	110.57	36.4							19	11
ISTANBUL UN.	110.79	41.2	19	18	43					
TRIESTE	110.80	28.4							19	13 PP
ISTANBUL KA.	110.84	41.3	18	51	16	26	4	49		
BASLE	111.27	23.4							26	48
LJUBLJANA	111.36	28.8							19	15 PP
FAYETTEVILLE	111.52	305.8	18	35	-1				18	17 PP
PARIS	111.60	19.5	19	14	38				22	13 PP
BELGRADE	111.71	33.4	19	11K	35	26	19	60	20	30 PP
ST. LOUIS 1	112.22	310.1	18	38	1	25	28	7		
STRASBOURG	112.32	23.2	18	5	-33	27	5	104	19	17 PP
FLORISSANT	112.41	310.1				25	30	8	28	49 PS
STUTTGART	112.79	24.2	18	20	-19				19	11 PP
BUCHAREST	112.95	37.6							19	29
PORT BLAIR	113.72	109.5							26	37
KEW	113.75	16.9				27	29	122	19	40 PP
VIENNA-H.	113.86	29.2							19	33 PP
BRATISLAVA	113.97	29.7	18	49	8					
BENSBERG	114.48	22.0							19	41 PP
TEHERAN	114.62	60.7	18	41	-1				19	44 PP
SONNEBERG	114.72	24.9							19	39 PP
PRUHONICE	115.06	27.3	18	43	0				19	42 PP
DE BILT	115.22	20.4							19	57 PP
JENA	115.32	25.0				26	5	32	19	58 PP
TUCSON	115.40	290.8	18	45	1				20	39 PP
SKALNATE PL.	115.69	31.5	18	45	1				20	31 PP
HALLE	115.93	25.0							19	38
COLLMBERG	115.96	25.8							29	32 PS
SIMFEROPOL	115.97	43.0	18	48	3	25	29	-6	20	5 PP
KRAKOW	116.41	30.9							19	50
DURHAM	116.80	15.3				25	46	7	35	53 SS
POTSDAM	117.00	25.4							19	53
QUETTA	117.02	76.2	:8	47	0	25	40	1	20	1 PP
TIFLIS	117.03	52.3	15	10	-217	25	23	-16	20	5 PP
WARSAW	118.68	30.6							20	4
ABERDEEN	119.08	14.3							24	17
ASHKABAD	119.50	64.6	18	49	-3	25	26	-22	20	15 PP
GLEN CANYON	119.67	293.1	18	52	0				28	52 PKKP
COPENHAGEN	119.97	23.7	18	54	2				20	33 PP
BOULDER CITY	120.34	290.0	18	55	2				29	1 PKKP
CALCUTTA	121.04	99.4							19	46
LAHORE	121.70	81.4	18	54	-2					
GOTEBORG	121.78	22.6	18	54	-2					
FLAMING GRGE	121.95	297.4	18	56	0				28	54 PKKP
WARSAK DAM	122.36	77.4	18	57	0					
DEHRA DUN	122.50	85.3	18	59	2				25	56
CHITTAGONG	122.55	102.7	18	59	2					
SALT LAKE C.	122.90	295.5	19	0	2					
BERGEN	123.21	17.7							30	42 PS
FRESNO	123.29	286.7	19	0	1					
EUREKA	123.71	291.5	19	0	0				28	46 PKKP
VINEYARD	124.02	285.4	19	2	2					
LICK	124.62	285.6	19	2A	0					
DUZHANBE	124.75	72.1	19	2	0				30	54 PS
UPPSALA	124.89	24.9	18	59	-3					
CONCORD	125.33	285.8	19	3	0					
BERKELEY	125.34	285.5	19	3	0				20	55
RENO	125.52	288.7	19	5	2					
MOSCOW	126.41	38.8	19	3	-2				21	14 PP
UKIAH	126.79	285.7	19	7	1					
HELSINKI	126.80	28.8	19	4	-2					
MINERAL	127.00	287.9	19	7A	1					
NURMIJARVI	127.03	28.4	19	4	-2					
TASHKENT	127.17	70.4	19	4	-2				22	26 SKP
SKALSTUGAN	127.33	20.2	19	5	-2					
BUTTE	127.42	298.8	19	7	0					
SHASTA	127.65	287.6	19	8K	1					
PULKOVO	127.78	32.0	19	5	-3				21	7 PP
LHASA	128.29	97.2	19	8	-1				21	11 PP
UMEA	129.02	24.1	19	10	0					
BAGUIO CITY	129.44	136.1	19	13	2					
HUNGRY HORSE	129.86	299.7	18	55	-17				22	34 PP
KUNMING	130.02	111.6	19	13	1				21	24 PP

FRUNSE	130.84	73.2	19 15	2			21 32 PP
SCORESBY SD.	131.04	1.6	19 13	-1			22 45 PKS
CORVALLIS	131.08	290.1	19 17A	3			
HONG KONG	132.45	125.7					22 47 PPP
KIRUNA	132.62	21.8	19 15	-2			
BANFF	132.64	301.2	19 14	-3			
PENTICTON	133.01	296.8	19 56	38			
SODANKYLA	133.43	24.9	19 18	0			23 1 SKP
VICTORIA	134.10	293.5	19 7	-13			
APATITY	135.05	27.8	19 21A	0	26 21	-10	21 44 PP
SVERDLOVSK	135.24	51.2	19 19	-3			
CHENGTU	135.32	109.0	19 21	-1			21 57 PP
SEMIPALATNSK	139.03	69.9	19 28	-1			23 7 PKS
THULE	139.64	345.6	19 21	-9			23 14 PP
LANCHOW	139.69	104.4	19 21	-9			
SIAN	140.58	111.3	19 33	2			
NORD	142.28	2.1	19 28	-6			22 35 PKS
RESOLUTE	142.60	335.8	19 30	-5	29 35	172	22 53 PP
NANKING	142.97	124.6	19 33A	-2			22 46 PP
ZO-SE	143.07	128.4	19 33A	-3			22 46 PP
SITKA	145.16	295.8	19 41	2			
KHEYS	148.31	18.1	20 3	18			23 19 PP
PEKING	148.62	113.9	19 45	0			
ULAN-BATOR	150.15	93.8	19 48	1			
ABUYAMA	151.32	146.3	19 49K	0			
IRKUTSK	151.72	84.7	19 47	-3			
MATUSIRO	153.58	149.5	19 51	-1			23 55 PP
TUKUBASAN	153.72	153.0	19 49K	-4	20 1		23 43 PP
COLLEGE	154.16	304.1	19 50	-3			
CHANGCHUN	155.68	121.1	19 54K	-1			23 59 PP
VLADIVOSTOK	157.67	132.3	19 56	-2			20 32 PKP2
TIKSI	165.20	32.5	20 1	-5			24 51 PP
YAKUTSK	168.11	73.4	20 6	-2			
SEVERO-KUR.	169.78	185.8	20 9	0			
PETROPAVLOVK	171.85	198.1	20 10	0			32 7 SKKS

NOVEMBER 9 10.H 43.M 40.S EPICENTRE 32.85 103.54 DEPTH= 0.KM

A=-0.19712 B= 0.81836 C= 0.53984 D= 0.9722 E= 0.2342
G=-0.1264 H= 0.5248 K=-0.8418 HT= 0.9

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	
CHENGTU	2.22	169.5	0	32	-6								
LANCHOW	3.20	4.2	0	54	2	1	39	7			1	9	PG
SIAN	4.70	71.2	1	13A	-1						1	30	PG
KUNMING	7.73	185.4	1	53A	-3	3	22	-4			2	27	PG
PAOTOW	9.31	32.2	2	17	-1								
TOCKLAI	9.74	233.7	2	32	8	4	20	4			3	48	
LHASA	11.17	256.7	2	43	-1						4	58	
PEKING	12.43	51.2	2	59	-2						3	16	PPP
SHILLONG	12.51	237.6	2	58K	-4	5	19	-4			3	10	PP
NANKING	12.90	89.4	3	1	-6						5	58	
CANTON	13.01	135.9	3	3	-5						5	18	
HONG KONG	14.10	135.5	3	18A	-5	5	41	-20					
CHITTAGONG	14.72	227.7	3	29	-2								
ZO-SE	15.07	91.9	3	33K	-3	6	20	-4					
ULAN-BATOR	15.27	8.6	3	38	0	6	34	5					
CHATRA	15.42	251.4	3	42	2	6	29	-3			4	0	PPP
CALCUTTA	16.90	236.4	4	0A	1	7	2	-5			5	7	
HSINCHU	17.23	113.3	5	3	60								
TAICHUNG	17.36	115.6	4	6	1	7	29	12					
TAIPEI	17.54	111.7	4	6K	-1	7	27	5					
TAINAN	17.68	119.5	4	10	1	7	36	11					
ALISHAN	17.81	117.1	4	10	0								
ILAN	17.86	112.1	4	13	2								
YUSHAN	17.94	116.9	4	16	4								
KAOHSIUNG	17.95	120.4	4	16	4								
BOKARO	18.00	244.6	4	14K	1	7	41	9			8	2	SS
HWALIEN	18.18	114.5	4	18K	3	7	45	9					
TAITUNG	18.52	118.5	4	20	1	7	55	11					
TAWU	18.58	119.9	4	44	24	7	56	11					
HENGCHUN	18.68	121.0	4	22	1								
IRKUTSK	19.42	1.4	4	33	3								

CHANGCHUN	20.23	50.9	4 38	-1	8 23	2			
TOMIE	21.21	83.7	4 53	4	8 51	10		11 2	
DEHRA DUN	21.85	270.2	4 55	-1	9 5	12		5 29	PP
NAGASAKI	22.13	83.1	4 58K	0	9 8	10		12 3	
UNZENDAKE	22.44	83.0	5 5A	4	9 14	10			
HUKUOKA	22.45	80.8	5 3	1	9 22	18		11 40	
BAGUIO CITY	22.47	132.6	5 2	0	9 10	6			
KUMAMOTO	22.80	82.6	5 6	1	9 23	13			
KAGOSIMA	22.87	85.9	5 13	7	9 38	26		12 37	
SIMONOSEKI	22.87	79.7	5 6	0					
YAKUSIMA	23.05	88.7	5 11	3	9 21	6		14 16	
VIZIANAGRAM	23.26	235.8	5 16	6	9 38	19			
PORT BLAIR	23.30	207.7	5 9	-1	9 27	8		10 19	SSS
OOITA	23.52	81.4	5 12	0	9 38	15			
MIYAZAKI	23.54	84.7	5 15	3	9 28	5			
HAMADA	23.74	77.1	5 9	-5	9 33	6			
HIROSIMA	24.08	78.4	5 19	2	9 33	0			
MANILA	24.12	134.5	5 19	1	9 49	15			
MATUYAMA	24.41	79.6	5 21	0	9 37	-2		14 49	
VLADIVOSTOK	24.49	57.0	5 22	1	9 42	2			
SEMIPALATNSK	24.55	322.5	5 21	-1				6 6	PP
SIMIDU	24.70	82.1	5 22	-2	9 39	-4			
SAIGO	24.72	73.9	5 27	3				14 23	
LAHORE	24.72	274.9	5 25	1	9 58	14			
FRUNSE	24.81	302.0	5 25	0					
KOTI	25.07	80.1	5 27	0	10 18	28	5 59	15 9	
TAKAMATU	25.41	78.2	5 31	1	10 6	11			
MUROTO	25.64	80.7						10 8	
TOKUSIMA	25.88	78.7	5 37	2					
TOYOOKA	25.96	75.4	5 37	2	10 17	12			
SUMOTO	26.12	78.0	5 38K	1	10 9	2			
KOBE	26.31	77.2	5 39	0	10 12	2			
OSAKA	26.60	77.2	5 45	4	10 31	16			
ABUYAMA	26.62	76.7	5 41A	-1					
WARSAK DAM	26.67	281.3	5 42	0					
KYOTO	26.73	76.4	5 42	-1	10 28	11			
NARA	26.85	77.1	5 43	-1	10 24	5			
SIOMISAKI	26.93	79.8	5 44	0	10 42	21			
HUKUI	27.07	74.1	5 45	-1					
HIKONE	27.14	75.8	5 47	1	10 38	14			
OWASE	27.21	78.4	5 46	-1	10 41	16			
HYDERABAD	27.32	241.9	5 44	-4				6 26	PP
KAMEYAMA	27.35	76.6	5 48	0	10 28	1		14 33	
GIHU	27.55	75.4	5 50	0	10 30	-1		14 17	
WAZIMA	27.57	71.1	5 45	-5	10 44	13			
NAGOYA	27.74	75.9	5 56	4	10 47	13			
TOYAMA	27.83	72.6	5 50	-3	10 48	13			
TASHKENT	28.47	297.2	6 0	2	10 52	7		7 2	PPP
NAGANO	28.63	72.6	5 57	-3	10 45	-3			
AIKAWA	28.64	69.8	5 58	-2					
MATUSIRO	28.65	72.8	5 56A	-4	10 45	-3		9 17	PCP
DUZHANBE	28.69	291.4	6 3	3	10 57	8			
OMAESAKI	28.81	76.9	6 3	2	11 8	17		14 29	
OIWAKE	28.93	73.2	6 2	-1					
MADRAS	29.09	232.7	6 8A	4	11 6	11		7 11	PP
NIIGATA	29.27	70.0	6 4	-2	11 41	43		12 44	SS
MAEBASI	29.35	73.1	6 10	4	11 16	17			
MISIMA	29.36	75.7	6 6	0					
TITIBU	29.38	73.9	6 7	0					
KUMAGAYA	29.61	73.5	6 24	15	11 28	24			
OSIMA	29.74	76.3						11 30	
YOKOHAMA	29.89	74.9						10 35	
TOKYO C.M.O.	29.95	74.4			11 7	-2		6 53	
HONGO	29.97	74.4			11 10	1			
UTUNOMIYA	29.98	72.7	5 59	-13					
MERA	30.09	75.9						11 47	
TUKUBASAN	30.19	73.3	6 10K	-4	11 1	-12		7 14	PP
POONA	30.19	249.1	6 14	0	11 12	-1		12 49	SS
YAMAGATA	30.29	69.3	6 9	-6					
MORI	30.60	61.7	6 22	5				13 1	
ONAHAMA	30.78	71.8						7 54	
BOMBAY	30.81	250.8	6 20	1	11 22	-1		12 48	
QUETTA	31.21	275.1	6 22	-1	11 36	7		7 23	PP
SAPPORO	31.27	59.9						7 5	
MIYAKO	31.55	66.5						7 39	
WAKKANAI	31.84	55.5						11 1	
KARACHI	32.83	265.5	6 40	3					
KODAIKANAL	32.91	232.8			11 24	-32		14 45	
KUSIRO	33.49	60.5	6 42	-1					

NEMURO	34.38	59.9	6	50	0						
ASHKABAD	36.91	290.9	7	15	3	13	4	7		9	6 PPP
SVERDLOVSK	37.83	322.4	7	17	-3					8	47 PP
DJAKARTA	38.94	174.8	7	25	-4	13	28	0			
LEMBANG	39.65	173.6	7	33K	-2	13	43	4			
GUAM	42.18	107.4	7	57	1	14	22	6		17	26 SS
SHIRAZ	43.40	279.9	8	5	-1	14	29	-5		9	50 PP
PETROPAVLOVK	43.87	45.5	8	12	-6					9	50 PP
GORIS	46.00	295.3	8	29	3	15	8	-4		11	5 PPP
TIFLIS	46.77	298.6	8	34	1	15	27	4		10	30 PP
MOSCOW	50.25	317.8	8	58	-2	16	14	2		9	10
KHEYS	51.00	351.3	9	4	-1	16	22	0		11	3 PP
APATITY	52.53	332.9	9	17	0	16	45	2		11	14 PP
SIMFEROPOL	53.83	304.6	9	25	-1					14	30 SCP
PULKOVO	53.94	323.2	9	28	1	16	57	-5		17	6 PS
SODANKYLA	55.14	332.7	9	34	-2					11	34 PP
KSARA	55.57	291.0	9	40K	1	17	40	16		11	52 PP
HELSINKI	56.57	324.0	9	48	2	17	44	7			
NURMIJARVI	56.67	324.5	9	44	-3	17	43	4			
JERUSALEM	56.79	288.9	9	49	1	17	52	12			
KIRUNA	57.47	333.5	9	50	-3						
UMEA	58.17	328.8	9	57	-1						
ISTANBUL KA.	58.42	301.2	9	56	-3	18	1	-1			
ISTANBUL UN.	58.49	301.2	9	56	-4						
RABAUL	58.96	119.1	10	2	-1						
PORT MORESBY	59.08	127.5	10	3	-1	18	14	4			
LWOW	59.30	312.2	10	6	0					18	22 PS
BUCHAREST	59.49	305.7	10	9A	2	18	24	8			
UPPSALA	60.24	324.6	10	11	-1						
WARSAW	60.46	315.5	10	14A	1	18	26	-2		25	1 SSS
HELWAN	60.60	288.3	10	16	2					11	0
SKALSTUGAN	61.67	329.5	10	19	-3					10	47
KRAKOW	61.77	313.4	10	24	2	18	49	4			
SKALNATE PL.	61.84	312.3	10	27	4	18	54	8		12	37 PP
NORD	61.86	351.7	10	20	-3						
SOFIA	61.95	304.6	10	24	0	18	55	8		12	36
TIMISOARA	62.34	308.4	10	40	14						
RACIBORZ	62.81	313.8	10	31	2					11	12 PCP
BELGRADE	63.17	307.7	10	34K	2	19	2	-1		14	51
HURBANOVO	63.57	311.5	10	35	1						
GOTEBORG	63.70	323.2	10	31	-4						
ADDIS ABABA	63.99	263.9	10	37	0					14	36 PPP
BRATISLAVA	64.15	312.1	10	38	0	19	20	5		20	37 SKS
COPENHAGEN	64.16	321.0	10	40	2	19	20	5			
VIENNA-H.	64.58	312.3	10	42	1	19	16	-4		13	6 PP
POTSDAM	65.02	317.5	10	46	2	19	28	3			
PRUHONICE	65.05	314.6	10	42	-2	19	33	7		13	8 PP
PRAGUE	65.09	314.7								20	27
COLLMBERG	65.47	316.4	10	44	-3	19	37	6		23	51 SS
PERTH	65.49	168.5	10	48	1	19	32	1		30	48
MUNDARING	65.57	168.2	10	43	-4						
HALLE	66.00	316.8	10	50	0	19	35	-2		13	18 PP
PLAUEN	66.27	315.8	10	52	0					20	50
CHEB	66.31	315.3								23	38 SS
JENA	66.44	316.4	10	46	-7	19	38	-5		13	15 PP
LJUBLJANA	66.58	310.6	10	52	-2					11	31
SONNEBERG	66.88	315.9	10	55	-1						
TRIESTE	67.24	310.5	10	59	1	19	56	4		27	58 SS
TOLMEZZO	67.40	311.4	10	58	-1	20	10	16			
COLLEGE	68.08	25.9	11	0	-3					39	22 PKPPKP
MUNSTER	68.26	318.5	11	6	2						
PADOVA	68.54	310.8	10	54	-12	20	21	13		35	54
STUTTGART	68.69	314.9	11	5	-2	20	8	-2		21	14 SCS
HEIDELBERG	68.75	315.7	11	7	0						
RAVENSBURG	68.92	313.8	11	8	0						
TUBINGEN	68.92	314.7	11	8	0						
BENSBERG	68.96	317.7	11	10A	1					13	28 PP
EBINGEN	69.13	314.4	11	10	0						
REGGIO CALA.	69.14	302.5	11	11	1	20	18	3			
MESSINA	69.16	302.6				20	18	3		13	48 PP
DE BILT	69.55	319.4				20	20	0		28	8 SSS
ROME	69.66	307.2	11	12K	-1	20	25	4		24	39 SS
STRASBOURG	69.67	315.2	11	15	2	20	20	-1		25	50 SS
PRATO	69.70	309.6	11	10	-3						
SCORESBY SD.	69.87	343.1	11	17	3	20	28	4		25	8 SS
ABERDEEN	70.79	326.3								26	10
NEUCHATEL	70.89	314.0	11	20	0						
BESANCON	71.35	314.5	11	24	1						

DURHAM	71.78	323.9								25	40	SS
RESOLUTE	72.06	5.1	11	25	-2	20	48	-1				
MONACO	72.13	310.8	11	34	6							
PARIS	72.64	317.2	11	29	-2					11	52	
KEW	72.84	320.5	11	35	3	21	0	2		29	26	SSS
CLERMONT-FD.	73.80	314.2	11	42	4							
TANANARIVE	74.24	234.6	11	41	1							
FOLINIERE	74.34	318.2	11	40	-1							
ADELAIDE	75.10	150.7	11	42K	-3							
BRISBANE	76.02	136.0	11	53	3							
SETIF	77.23	304.8	11	58	1					14	50	PP
LWIRO	78.45	259.7	12	3	-1					21	22	
ALGIERS UNI.	78.54	306.3	12	4	0	21	51	-10		14	59	PP
RIVERVIEW	80.02	141.4				22	18	2				
ALICANTE	80.03	309.2	12	11	-2	22	10	-6		15	12	PP
CANBERRA	80.09	143.7	12	11K	-2					12	18	PCP
MELBOURNE	80.21	147.9	12	15K	2	22	10	-8				
TOLEDO	81.43	312.1	12	19	-1	22	38	7		15	30	PP
ALMERIA	82.18	308.9	12	22	-2				12 27	15	31	PP
GRANADA	82.72	309.7	12	10K	-17							
SERRA PILAR	83.45	315.2	12	29A	-1							
MALAGA	83.51	309.7	12	16	-15							
TAMANRASSET	84.30	293.3	12	37	2	22	54	-6		15	42	PP
BROKEN HILL	85.63	249.9	12	39	-2							
ALBERNI	87.62	29.3	12	52	1							
VICTORIA	88.78	29.1	12	57	0							
BULAWAYO	88.81	245.2	12	44	-13							
BANFF	89.54	23.4	13	0	0							
PENTICTON	89.63	26.6	13	0	-1							
CORVALLIS	91.94	31.4	13	13	2							
HUNGRY HORSE	92.46	24.0	13	12	-2					16	54	PP
AFIAMALU	93.05	104.5	13	20	4							
BUTTE	94.97	24.3	13	26	1							
SHASTA	95.42	33.3	13	28	1							
MINERAL	96.06	33.0	13	29	-1							
RENO	97.53	32.4	13	40	3							
LICK	98.44	34.9								17	25	
WILKES	99.02	177.2								26	43	PS
EUREKA	99.25	29.9	13	44	-1							
FLAMING GRGE	100.54	24.8	13	51	0					17	56	PP
BOULDER CITY	102.68	31.1								18	2	PP
GLEN CANYON	103.18	28.3								17	16	PP
PALISADES	106.47	358.0				24	59	2		19	1	PP
TUCSON	107.58	30.1								18	37	PP
ST. LOUIS 1	107.73	11.3								18	56	PP
FAYETTEVILLE	109.44	15.2	18	28	777							
CAPE HALLETT	114.34	162.1								19	27	PP
SCOTT BASE	116.56	167.8	18	48	2					19	50	PP
SOUTH POLE	122.67	180.0	18	55	-3					36	49	PKPPKP
BYRD STATION	129.71	171.1	18	59	-12					22	36	SKP
CARACAS	135.95	346.5								22	58	
FUQUENE	141.81	355.6	19	34	1					23	9	SKP
CHINCHINA	142.38	358.6	19	31	-3					22	45	PP
BOGOTA	142.67	356.1	19	37	2					23	18	SKP
ARGENTINE I.	146.73	189.3	19	42	0							
HUANCAYO	159.27	356.9	20	7	7					24	22	
LA PAZ	162.06	333.2	19	58	-5							

NOVEMBER 9 20.H 6.M 19.S EPICENTRE -23.26 -70.54 DEPTH= 36.KM
A= 0.30632 B=-0.86714 C=-0.39274 D=-0.9429 E=-0.3331
G=-0.1308 H= 0.3703 K=-0.9197 HT= 3.8

DEPTH OF FOCUS= 0.001R

SE= 3.01

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LA PAZ	7.10	19.1	1	44A	0	3	15	11			1	56	PP
SANTA LUCIA	10.14	180.5	2	22	-4	4	19	0			4	29	SSS
HUANCAYO	12.05	337.0	2	58	6	5	27	21					
BOGOTA	27.93	352.5	5	48K	-1								
CHINCHINA	28.50	349.4	5	53	-1	10	40	3					
FUQUENE	28.73	353.4	5	54A	-2								
CARACAS	33.74	6.4	6	39	-1	11	57	-3					

GALERAZAMBA	34.15	351.7	6	55	12						
ST. VINCENT	37.33	15.0	7	9	-1						
FORT FRANCE	38.86	14.6	7	20	-3						
ST. KITTS	41.07	11.4	7	38	-3						
SAN JUAN	41.61	6.3	7	43	-3			8	0		
MERIDA	47.72	335.6				15	21	-6		10	47
VERA CRUZ	49.04	327.3	9	17	32	15	49	3		32	45
TACUBAYA	50.80	324.3	9	4K	5	16	17	7		11	14 PP
BYRD STATION	60.53	188.7	10	7	-2					38	57 PKPPKP
LITTLE ROCK	61.33	339.6	10	12A	-2						
FAYETTEVILLE	63.13	338.6	10	23A	-3	18	54	1	10 38	12	23 PP
MORGANTOWN	63.18	351.9	10	26K	0						
PALISADES	64.02	357.2	10	28	-4	19	6	2		11	0 PCP
PENNSYLVANIA	64.10	353.8				19	10	5			
ST. LOUIS 1	64.29	343.0	10	31	-3	19	6	-1			
MBOUR	64.39	59.8	10	34	0	19	22	13			
FLORISSANT	64.47	342.9	10	32A	-3	19	8	-2			
WESTON	65.32	359.4	10	38	-2	19	23	3			
SOUTH POLE	66.88	180.0	10	48	-2					39	17 PKPPKP
TUCSON	67.30	323.6	10	53	0	20	50	66		15	13
HALIFAX	67.85	5.3	10	56A	0						
OTTAWA	68.49	356.1	10	59A	-1						
SHAWINIGAN	69.51	358.4	11	6	-1						
SEVEN FALLS	70.05	359.8	11	9	-1						
GLEN CANYON	71.32	326.3	11	18	0						
BOULDER CITY	72.29	323.5	11	24	1						
PASADENA	72.87	320.1	11	26	-1	20	56	7		29	17 SSS
SCOTT BASE	73.83	190.7	11	32	0	21	6	6			
EUREKA	75.47	325.3	11	41	-1						
FRESNO	75.65	321.1	11	43	0						
CAPE HALLETT	76.31	195.9	11	46	-1	21	31	4		26	17 SS
VINEYARD	76.55	320.2	11	46	-2						
HERMANUS	77.06	122.0								11	55 PCP
LICK	77.11	320.5	11	51A	0						
RENO	77.58	323.1	11	55	1						
BERKELEY	77.83	320.5	11	54	-1	21	50	6		15	11
BUTTE	78.79	331.6	12	0	0						
MINERAL	79.13	322.8	12	1	-1						
WINDHOEK	79.35	110.0	12	5	2						
SHASTA	79.81	322.6	12	5	-1						
HUNGRY HORSE	81.23	332.3	12	13	0				12 26		
CORVALLIS	82.93	325.0	12	23	1						
MAWSON	83.08	163.7	12	21	-2	22	33	-5		15	32 PP
KIMBERLEY	83.51	118.4	12	28	3						
BANFF	84.01	333.4	12	15	-13						
LISBON	84.27	43.6	12	31A	2	23	0	10			
PENTICTON	84.42	330.2	12	30	0						
SERRA PILAR	86.02	41.9	12	38A	0						
MALAGA	86.27	47.4	12	41A	2					16	0 PP
TAMANRASSET	86.95	63.8	12	43	1	23	16	0		16	5 PP
TERRE ADELIE	87.04	192.1	12	49	6	23	32	15			
GRANADA	87.06	47.4	11	47A	-56	22	34	-43		23	42 PS
TOLEDO	88.20	44.9	12	49	1	23	33	5		16	25 PP
RELIZANE	89.20	50.3	12	53	0					14	51
ALICANTE	89.78	47.7	12	59	3	23	50	7		16	34 PP
BULAWAYO	90.17	111.9	12	59A	1						
WILKES	90.67	180.4				23	56	5		23	30 SKS
ALGIERS UNI.	91.46	50.4	13	3	-1	24	0	2		16	37 PP
BROKEN HILL	92.42	106.7	13	11A	3						
TONGARIRO	92.44	225.3	13	20	12						
ROXBURGH	92.62	217.5				24	21	13		25	26 PS
SETIF	92.88	51.8	13	9	-1						
KARAPIRO	93.12	226.4	13	11	0						
AFIAMALU	94.60	252.8				25	17	52		31	9 SS
DURHAM	97.40	33.1				24	18	14			
LWIRO	97.69	95.8	13	36	4	24	41	36		17	34 PP
RESOLUTE	98.97	353.6	13	41	3	25	4	52		31	53 SS
CHIAVARI	99.05	45.7	13	32	-6					19	12 PP
PAVIA	99.29	44.8								27	23 PP
DE BILT	99.74	37.3				24	29	13		25	29 S
STRASBOURG	99.78	41.3				24	29	13		25	29 S
ROME	100.25	48.9	13	48	4	24	27	9		17	45 PP
STUTTGART	100.78	41.5	13	48	2	24	22	1		17	47 PP
MESSINA	101.10	53.2								24	5
PADOVA	101.14	45.4								18	11
TRIESTE	102.46	45.6	18	4	251					27	17 SP
JENA	102.96	40.0	18	5	249	24	44	13		27	16 PS
TARANTO	103.12	51.5	14	17	21	24	37	5		18	17 PP

COLLMBERG	103.93	40.0	18	10	250				18	27 PP
PRUHONICE	104.43	41.6	14	3	1				18	19 PP
COPENHAGEN	105.08	35.6				24	51	10	18	18 PP
COLLEGE	105.58	334.4	14	17	777	24	28	-15	18	30 PP
WARSAW	108.97	40.6							28	19 PS
LWOW	110.29	43.5							28	41 PS
RIVERVIEW	110.73	216.3							28	33 PS
ISTANBUL UN.	111.85	53.5	18	41	10					
ISTANBUL KA.	111.91	53.5				28	44	214	19	13 PP
BRISBANE	114.53	222.1							19	44 PP
JERUSALEM	114.75	64.5							19	35 PP
PULKOVO	115.24	33.3							19	37 PP
KSARA	115.73	62.4	18	25	-13	25	11	-13	19	42 PP
SIMFEROPOL	116.22	50.0							19	45 PP
APATITY	116.61	24.6							19	46
CHARTERS TS.	123.92	222.7	18	56	2					
GORIS	124.78	57.2							28	31 SKKKS
TEHERAN	128.62	62.1	19	5	2				21	4 PP
SHIRAZ	129.05	70.0	19	15	11	26	14	7	21	9 PP
TIKSI	130.35	352.1							22	27 SKP
PORT MORESBY	130.87	232.9	19	5	-3				22	32
SVERDLOVSK	131.37	33.5	19	8	0				22	31 SKP
ASHKABAD	134.19	59.1	19	6	-8				21	45 PP
YAKUTSK	138.87	345.6							19	31 PSP
QUETTA	141.58	70.3	19	24	-3				22	33 PP
TASHKENT	141.96	52.1	19	26	-2					
DUZHANBE	142.23	56.6	19	27	-1				32	46 SKSP
SEMIPALATNSK	144.64	32.7	19	34	1					
FRUNSE	145.22	47.4	19	36	2					
WARSAK DAM	145.23	63.5	19	34	0					
POONA	146.46	91.3	19	40	4					
LAHORE	147.85	67.4	19	40	2					
LEMBANG	150.04	176.3	19	49A	8				22	59
TUKUBASAN	150.56	303.0	19	53K	11				23	44 PP
IRKUTSK	150.77	6.5	19	44	2				23	26 PP
DEHRA DUN	151.16	69.1	20	2	19				33	37
MATUSIRO	151.90	304.7	19	51	7				23	36 PP
VLADIVOSTOK	152.86	322.2	19	47	2					
ULAN-BATOR	155.31	4.1	19	51	2					
CHANGCHUN	155.68	331.3	19	50A	1				23	54 PP
PORT BLAIR	160.33	123.1							34	54
CALCUTTA	160.56	88.0	20	14	19				24	56
LHASA	162.34	65.0	20	2	5				24	34 PP
PEKING	162.35	342.8	20	0	3				24	28 PP
CHITTAGONG	163.71	89.7	20	0	2					
SHILLONG	163.82	78.3	20	1	2					
LANCHOW	166.36	19.7	20	4	3					
ZO-SE	166.98	309.3	20	3	2				24	55 PP
NANKING	167.96	318.7	20	5	3				25	7 PP
SIAN	169.04	2.3	20	6	3					
CHENGTU	171.18	32.2	20	7A	3				25	15 PP
KUNMING	173.60	71.9	20	8A	3				25	31 PP
HONG KONG	175.54	258.5							25	45 *SPP

NOVEMBER 10 1.H 54.M 56.S EPICENTRE 36.19 70.60 DEPTH= 148.KM

A= 0.26875 B= 0.76296 C= 0.58793 D= 0.9432 E=-0.3322
G= 0.1953 H= 0.5545 K=-0.8089 HT= -0.3

DEPTH OF FOCUS= 0.018R

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
KHOROG	1.49	30.0	0	33	4	0	54	2				
KULYAB	1.83	338.6	0	35	2	1	0	1				
WARSAK DAM	2.32	160.1	0	36A	-3	1	7	-2				
OBI-GARM	2.60	344.4	0	43	0							
DUZHANBE	2.78	329.0	0	47	2	1	21	2				
GARM	2.81	355.3	0	46	1	1	19	-1				
DZERGETAL	3.06	9.3	0	49	1	1	25	-1				
MURGAB	3.43	49.8	0	54	1	1	33	-1				
FERGANA	4.28	12.2	1	5	1	1	50	-4				
SAMARKAND	4.50	321.6	1	10	3							
ANDIJAN	4.76	16.5	1	11	0	2	3	-2			1	39
NAMANGAN	4.85	9.7	1	11	-1	2	4	-4				

	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
TASHKENT	5.22	349.0	1	17	0					2	15	
LAHORE	5.58	145.1	1	21	0	2	8	-17				
TCHIMKENT	6.15	353.1	1	29	0					2	35	
NARYN	6.72	37.3	1	34	-3	2	47	-5				
QUETTA	6.73	208.0	1	39K	2	2	54	1		2	17	*SP
FRUNSE	7.32	23.9	1	44	-1	3	3	-4				
RYBACHE	7.50	32.4	1	44	-4	3	5	-6		2	25	
FABRICHNAYA	8.26	31.2	1	57	0	3	28	-1				
DEHRA DUN	8.56	131.1	2	1	0					2	8	PPP
ALMATA	8.59	32.8	2	1	-1	3	36	-1		3	11	
PRZHEVALSK	8.71	41.5	2	3	0	3	36	-4				
ALMATA-2	8.78	34.4	2	3	-1	3	40	-2		3	12	
KURMENTY	9.02	38.8	2	7	0							
ASHKABAD	9.94	283.8	2	19	-1							
KARACHI	11.73	196.1	2	42K	-1	4	40	-12		3	22	*SP
KIZYL-ARVAT	11.74	289.1	2	32	-11	4	46	-6				
TEHERAN	15.56	274.0	3	37	5	6	29	9				
SEMIPALATNSK	15.82	23.2	3	37	2							
SHIRAZ	16.51	251.9	3	47	3	6	57	16		12	2	SCP
CHATRA	16.92	118.8	3	40	-9	6	38	-12				
BOMBAY	17.34	172.9	3	55	1	7	3	3				
POONA	17.83	169.9	4	1	2					7	26	SS
CALCUTTA	20.58	126.6	4	32	4	8	6	1				
SHILLONG	21.06	114.2	4	33K	0	8	17	3		5	18	
CHITTAGONG	23.02	121.0	4	54	2							
ISTANBUL KA.	32.58	291.4	6	18	-1							
APATITY	37.78	337.7	7	4	1							
NURMIJARVI	37.88	324.6	7	4	0							
ADDIS ABABA	39.60	234.8	7	58	40							
SODANKYLA	39.88	335.2	7	21	1					9	18	PCP
HURBANOVO	39.91	303.8	7	35	15							
BRATISLAVA	40.63	304.3	7	27	1							
UMEA	40.90	328.6	7	30	1					8	6	
UPPSALA	41.11	322.2	7	31	1							
PRUHONICE	42.21	307.2	7	42	3					9	54	PP
KIRUNA	42.22	334.3	7	40	1							
COLLMBERG	43.13	309.2	7	49	2				8 27	8	33	PP
GOTEBORG	43.77	318.5	7	52	0					9	40	
HALLE	43.78	309.5	7	46	-6				8 34	9	47	PP
SKALSTUGAN	44.28	327.0	7	56	0					8	28	
STUTTGART	45.75	305.9	8	9	1					9	53	PP
SETIF	51.67	290.6	8	54	1							
FOLINIERE	52.09	307.5	8	57	1							
NORD	54.04	349.5	9	10	-1					10	1	
TAMANRASSET	57.25	275.6	9	34	0					10	27	PCP
GRANADA	58.01	295.0	10	40K	61							
BROKEN HILL	64.19	226.2	10	21	0							
BULAWAYO	68.67	222.4	10	51	2							
COLLEGE	74.87	16.0	11	25	-1							
CHARTERS TS.	90.72	114.4	12	46	-1					13	26	
PENTICTON	94.38	6.7	13	5	2							
SOUTH POLE	126.01	180.0	18	44	0							
BYRD STATION	135.88	177.5	19	6	3							

NOVEMBER 10 14.H 44.M 54.S EPICENTRE -2.86 139.31 DEPTH= 65.KM

A=-0.75736 B= 0.65112 C=-0.04951 D= 0.6519 E= 0.7583
G= 0.0375 H=-0.0323 K=-0.9988 HT= 7.1

DEPTH OF FOCUS= 0.005R

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
PORT MORESBY	10.14	130.2	2	24	-1	4	1	-17				
RABAUL	12.90	96.3	3	2	0						4	0
GUAM	17.08	18.3	3	56A	0	7	9	7				
CHARTERS TS.	18.42	158.9	4	11A	-1	7	13	-19				
MANILA	25.09	314.4	5	22	2	9	22	-15				
BAGUIO CITY	26.64	316.6	5	33	-1	10	32	29				
BRISBANE	27.59	153.4	5	44A	1	9	57	-21				
HWALIEN	31.74	328.1	6	23	3							
LEMBANG	31.82	261.7	6	19A	-1	11	25	0				
ADELAIDE	31.96	180.9	6	22A	0	11	28	1				
ILAN	32.33	329.1	6	28	3							

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DJAKARTA	32.54	263.0	6	25A	-2	11	57	21				
TAIPEI	32.66	329.1	6	28	0	12	11	33				
NOUMEA	32.67	128.5	6	25	-3	11	42	4				
RIVERVIEW	32.74	161.6	6	29A	1	11	43	4	6	42	7 37	PP
CANBERRA	33.53	165.6	6	36A	1	11	53	1	6	49	8 14	PPP
YAKUSIMA	34.17	346.4	6	29	-12							
HONG KONG	35.05	316.8	6	49A	1	11	58	-17				
MELBOURNE	35.19	172.2	6	50A	0	12	21	4			12 56	PCS
KAGOSIMA	35.24	347.0	6	51	1	12	12	-6				
SIMIDU	35.95	350.9	6	55	-1	13	2	33				
CANTON	36.15	316.9	6	58A	0							
MUNDARING	36.21	214.4	6	58	0	12	31	-2				
MUROTO	36.24	352.7	6	59	1						9 17	
SIOMISAKI	36.27	355.0	6	59	0							
PERTH	36.41	214.8	7	3	3	12	39	3			8 20	PP
KUMAMOTO	36.41	347.7	7	1	1	12	47	11				
NAGASAKI	36.50	346.6	7	0A	-1	12	40	3				
KOTI	36.62	351.9	7	2	0	12	32	-7			8 42	PP
OOITA	36.62	349.2	7	2	0						13 29	
TOMIE	36.67	345.0	7	0	-2						13 37	
SAGA	36.91	347.4	7	6	2						9 36	
TOKUSIMA	37.00	353.5	7	6	1							
MATUYAMA	37.02	350.9	7	6A	1	12	47	2			17 47	
HUKUOKA	37.21	347.6	7	7	0	12	46	-2			13 37	
SUMOTO	37.23	354.0	7	4	-3	12	45	-4			9 8	
OMAESAKI	37.27	358.5	7	6	-1							
TAKAMATU	37.31	352.8	7	7	0	13	25	35				
HAMAMATU	37.41	357.8	7	8	0							
SIMONOSEKI	37.45	348.5	7	6	-3							
OSAKA	37.48	354.9	7	21	12	13	39	47				
NARA	37.48	355.3	7	9	0							
KOBE	37.54	354.4	7	12	3							
MERA	37.58	0.7	7	6	-4							
KAMEYAMA	37.60	356.2	7	11	1						13 46	
SHIZUOKA	37.64	358.8	7	9	-1							
ABUYAMA	37.69	355.0	7	11A	0							
MISIMA	37.78	359.5	7	11	0							
KYOTO	37.83	355.2	7	14	2	13	29	31				
NAGOYA	37.89	356.9	7	13	1						8 22	
ZO-SE	37.93	334.3	7	12A	-1	12	58	-1	7	35	13 41	*SS
HIKONE	38.03	355.9	7	15	2							
YOKOHAMA	38.09	0.4	7	14	0						18 7	
GIHU	38.13	356.6	7	15	1							
HUNATU	38.16	359.3	7	14	0							
HAMADA	38.17	350.3	7	15A	0	13	3	0				
KOHU	38.33	359.0	7	16	0							
TOKYO C.M.O.	38.34	0.6	7	16	0	13	44	39			8 26	
TOYOOKA	38.42	354.1	7	18	1							
YONAGO	38.49	352.2	7	17A	0							
TITIBU	38.63	359.7	7	19	1							
KUMAGAYA	38.80	0.1	7	20	0	13	9	-3			9 48	
TUKUBASAN	38.88	1.0	7	18A	-2	13	8	-6	7	28	8 50	PP
KAKIOKA	38.89	1.1	7	20	-1							
MATUMOTO	38.92	358.3	7	22	1							
OIWAKE	38.99	359.0	7	25	4							
MITO	39.05	1.5	7	21	-1							
MAEBASI	39.05	359.7	7	20	-2						9 2	
UTUNOMIYA	39.21	0.7	7	23	0	14	1	43			13 15	
MATUSIRO	39.21	358.6	7	22A	-1	13	13	-5			9 18	PPP
NAGANO	39.34	358.6	7	25	1							
TOYAMA	39.40	357.3	7	10	-15							
ONAHAMA	39.63	2.0	7	27	0	13	47	22			8 42	
SHIRAKAWA	39.78	1.1	7	28	0							
TARRALEAH	39.79	171.7	7	30A	2						7 48	SP
NANKING	39.82	332.3	7	29A	1	13	29	1	7	55	14 12	*SS
WAZIMA	40.09	357.0	7	30	-1							
HUKUSIMA	40.42	1.4	7	33A	0	13	36	-1				
FORT NELSON	40.54	170.9	7	30A	-4						7 49	SP
AIKAWA	40.68	358.7	7	35	0						14 21	
YAMAGATA	40.91	1.2	7	37	0							
SENDAI	40.95	1.9	7	37A	-1							
MEDAN	41.11	278.7	7	31A	-8	13	53	6				
ISINOMAKI	41.12	2.4	7	38	-1	13	44	-3				
SUVA	41.22	114.4	7	58	18	14	28	39			8 51	
SAKATA	41.55	0.6	7	42	-1							
MIZUSAWA	41.81	2.1	7	55	10						10 23	
MIYAKO	42.37	3.0	7	50	1	14	52	47			9 32	
AKITA	42.37	0.9	7	50A	1	14	7	2				
MORIOKA	42.38	2.1	7	50	1							

HATINOHE	43.22	2.5	7 57	1	14 53	35		
AOMORI	43.49	1.6	8 2	4				
HAKODATE	44.48	1.5	8 6A	0				8 29
MORI	44.76	1.3	8 9	0				
URAKAWA	44.91	3.7	8 5	-5				13 13
MURORAN	44.99	1.7	8 12	2				
KUNMING	45.07	310.3	8 12A	1	14 42	-3	8 36	10 2 PP
HIROO	45.07	4.2	8 11	0				
TOMAKOMAI	45.32	2.4	8 11	-2				
SUTTSU	45.45	0.9	8 6	-8				
OBIHIRO	45.70	4.0	8 16	0				
SAPPORO	45.75	2.1	8 16A	0	15 13	19		11 55
KUSIRO	45.86	5.2	8 17	0				
VLADIVOSTOK	46.25	352.5	8 21	1	15 3	2		10 6 PP
NEMURO	46.32	6.3	8 27	6				
SIAN	46.69	324.8	8 25	1			8 49	
AUCKLAND	47.02	140.5	8 36	10	15 11	-1		
CHENGTU	47.37	317.4	8 30A	1	15 17	0	8 54	16 4 *SS
PEKING	47.67	335.9	8 31A	-1	15 19	-2	8 55	9 21 PP
WAKKANAI	48.11	2.2	8 36	1				16 51
KARAPIRO	48.13	141.1	8 35A	0				
CHANGCHUN	48.15	346.4	8 35A	0	15 27	-1	9 0	10 24 PP
COBB RIVER	48.50	146.2	8 38	0				
PORT BLAIR	48.52	288.2	8 30	-8	15 26	-7		
KAIMATA	48.79	148.5	8 50	10				
TONGARIRO	48.91	142.5	8 41A	0				
AFIAMALU	49.51	105.8	8 47A	1	15 55	8	9 4	16 41 *SS
TUAI	49.66	141.0	8 47	0				
WELLINGTON	49.78	145.1	8 46A	-2	15 46	-5		
ROXBURGH	49.93	152.6	8 48	-1	15 53	0		12 8
GEBBIES PASS	50.26	148.8	8 50	-2				
TOCKLAI	52.09	307.3	9 10	5				
CHITTAGONG	52.70	300.9	9 10A	0				11 8 PP
SHILLONG	53.93	304.6	9 18A	-1	16 45	-3		17 32
CALCUTTA	55.74	299.7	9 30A	-2	17 14	2		11 39 PP
LHASA	56.33	308.7	9 38	2	17 22	2	10 2	
ULAN-BATOR	57.96	334.8	9 47	-1				
PETROPAVLOVK	58.00	13.6	9 47	-1	17 43	1		
CHATRA	58.30	304.0	9 51A	1	17 45	-1		12 14 PP
BOKARO	58.40	300.2	9 52	1	17 46	-1		18 16
MADRAS	60.77	286.5	10 7A	0				19 8 PPS
KLYUCHI	61.55	13.5	10 10	-2	18 28	0		
IRKUTSK	62.37	336.6	10 19A	1	18 38	0		10 56 PCP
MAGADAN	62.88	6.5	10 22	1	18 46	2		
KODAIKANAL	62.92	282.9	10 25A	3				19 13 PS
HYDERABAD	63.29	291.0			18 49	0		13 58 PPP
TERRE ADELIE	63.86	179.1	10 26	-2	18 54	-2		
YAKUTSK	65.11	355.0	10 35	-1	19 10	-2		11 0 PCP
HONOLULU	65.74	65.2	10 41A	1	19 24	4		
KIPAPA	65.84	65.1	10 41A	0				
WILKES	66.51	192.2	10 45A	0	19 31	2		
DEHRA DUN	67.02	304.6	10 50	2	19 40	5		13 15 PP
POONA	67.80	291.2	10 51	-2	20 46	62		20 28 PPS
BOMBAY	68.83	291.4	10 57	-2				20 40 PPS
LAHORE	70.44	304.8	11 9A	0				
CAPE HALLETT	71.99	170.5	11 19K	1	20 36	3		28 48 SSS
SEMIPALATNSK	73.11	325.0	11 24	-1				11 38 PCP
WARSAK DAM	73.35	306.6	11 28A	2	20 52	3		
FRUNSE	73.71	316.1	11 29	0	20 57	4		21 45 PS
TIKSI	74.66	356.6	11 31	-3				14 11 PP
KARACHI	75.19	296.5	11 38A	1				
QUETTA	76.27	301.8	11 44A	1	21 20	-1	12 9	14 37 PP
SCOTT BASE	76.34	174.2	11 44K	0	21 24	2		38 54 PKPPKP
TASHKENT	77.04	313.4	11 48	0	21 30	0		22 22 PS
MAWSON	82.21	202.1	12 15	0				13 31
ASHKABAD	84.62	308.4	12 29	2	22 48	0		15 42 PP
COLLEGE	85.36	24.2	12 29K	-2	23 21	26		39 1 PKPPKP
SVERDLOVSK	86.19	327.3	12 34	-1	23 0	-3		15 56 PP
SOUTH POLE	87.16	180.0	12 39	-1	24 2	50		16 2 PP
SHIRAZ	88.61	299.6	12 47K	0	23 52	26	13 12	23 6 SKS
BYRD STATION	89.14	170.1	12 50	1	23 35	4		15 55 PP
SITKA	89.85	33.0	12 47	-6				
TEHERAN	89.96	305.6	12 53	0	23 41	3		
TANANARIVE	90.75	251.1	12 58	1	23 46	1		16 58 PP
KHEYS	91.37	350.7	13 0	0				18 42 PPP
GORIS	94.10	309.2						17 4 PP
TIFLIS	95.26	311.5	13 17A	-1				13 41
ARCATA	96.86	49.3	13 32K	7				

CORVALLIS	97.26	45.6	13	34	7					
UKIAH	97.59	51.1	13	28	0				17	28 PP
SHASTA	98.15	49.5	13	31	0				13	55
SAN FRANCSCO	98.26	52.4	13	31	0					
BERKELEY	98.40	52.3	13	32	0	24	7	4	17	32 PP
CONCORD	98.55	52.2	13	33	1					
APATITY	98.67	338.1	12	31	-62				16	37
MINERAL	98.77	49.8	13	34A	0				17	34 PP
LICK	98.92	52.8	13	35K	1				17	28 PP
MOSCOW	98.93	325.9	13	32	-2				17	36 PP
VINEYARD	99.16	53.4	13	35	0					
PENTICTON	99.37	40.6	13	35	-1				30	2
RENO	100.20	50.5	13	40A	0				17	46 PP
FRESNO	100.43	53.3	13	40	-1				17	56 PP
NORD	100.55	356.5	13	39	-3				17	46 PP
ADDIS ABABA	100.85	278.6	13	46	3	25	14	59		
SODANKYLA	101.23	338.7	13	43	-2				17	42 PP
RESOLUTE	101.71	12.7	13	45	-2				29	52
PASADENA	101.96	55.8	13	47	-1	24	25	5	17	59 PP
PULKOVO	101.96	330.7							17	58 PP
KSARA	102.74	303.9	13	52	1	25	26	62	18	4 PP
SIMFEROPOL	102.75	315.4	13	50	-1				18	7 PP
EUREKA	103.16	50.2	13	53A	0				18	5 PP
HUNGRY HORSE	103.17	41.0	13	51	-2				18	14 PP
KIRUNA	103.23	340.0	13	50	-3				18	8 PKP
JERUSALEM	103.48	301.9	13	54	-1				17	31 PP
NURMIJARVI	104.43	332.3	13	59	0				18	7 PP
BOULDER CITY	104.50	53.7	14	1	2				18	16 PP
BUTTE	104.59	43.2	14	0	1				18	15 PP
UMEA	105.05	336.3	14	1	777					
GLEN CANYON	106.94	52.3	14	9	777				18	23 PP
HELWAN	107.00	300.2	14	11	777				18	37 PP
ISTANBUL UN.	107.14	312.1	14	9A	777					
UPPSALA	107.91	333.2	18	44	777					
TUCSON	108.29	57.1	18	15	777				18	40 PP
LWOW	108.30	321.9	14	16	777				18	47 PP
BULAWAYO	108.35	247.8	14	17A	777					
BROKEN HILL	109.39	253.7	14	22A	777					
KIMBERLEY	109.91	238.2	17	27	777					
LWIRO	110.35	266.6	17	48	-36				28	22 PS
SOFIA	110.86	314.8							19	24
SCORESBY SD.	111.38	353.3							19	9 PP
GOTEBORG	111.53	332.7	18	41	14					
RACIBORZ	111.74	323.6	18	56	29					
HERMANUS	112.71	230.8				25	12	5	28	50 PS
BRATISLAVA	113.15	322.0	18	29	-1					
VIENNA-H.	113.57	322.3							19	26 PP
COLLMBERG	114.20	326.3	18	33	1				19	29 PP
HALLE	114.68	326.9	18	19	-14				19	30 PP
JENA	115.16	326.4	18	19	-15				19	55 PP
SONNEBERG	115.64	326.0	18	35	0				19	37
MUNSTER	116.74	328.9	18	39	2				19	48
HEIDELBERG	117.52	326.0	18	36	-2				19	48 PP
STUTTGART	117.53	325.2	18	39	1				19	48 PP
BENSBERG	117.53	328.1							19	48 PP
TUBINGEN	117.77	325.0							19	59
RAVENSBURG	117.83	324.1							19	36
WINDHOEK	118.24	242.6	18	42A	2					
STRASBOURG	118.48	325.6							19	57 PP
BESANCON	120.21	325.0							20	6 PP
TACUBAYA	120.58	69.2	18	41	-3				20	0 PP
ISOLA	121.18	321.5	18	46	1				20	45 PP
PARIS	121.24	328.1							19	47 PP
FLORISSANT	122.40	44.9							20	23 PP
ST. LOUIS 1	122.57	45.0	18	47	-1				20	24 PP
FOLINIERE	122.80	329.5	18	50	1					
PORT STANLEY	123.72	167.2	19	16	26					
SETIF	126.12	313.8	18	56	1				20	54 PP
ALGIERS UNI.	127.51	315.6	18	58	0				20	59 PP
SHAWINIGAN	128.31	27.8	19	0K	1					
SEVEN FALLS	128.76	26.1	19	1K	1					
MORGANTOWN	128.95	38.9	19	1K	1				21	0 PP
MERIDA	129.12	65.3	17	24	-97				17	45
PENNSYLVANIA	129.52	36.5							21	10 PP
RELIZANE	129.77	315.8	18	56	-6				20	58 PP
TOLEDO	130.42	322.9	19	4	1				21	17 PP
TAMANRASSET	131.07	297.9	19	6	2				21	21 PP
ALMERIA	131.22	318.7	19	5K	0	26	21	15	21	25 PP

PALISADES	131.66	33.7	19	5	-1				19	29	21 21 PP
GRANADA	131.77	319.8	18	46K	-20						
WESTON	132.07	30.6	19	8A	2						22 34 PP
MALAGA	132.56	319.8	19	8K	1	26	16	6			21 32 PP
SANTA LUCIA	134.14	144.4									22 36
HUANCAYO	142.52	114.0	19	25	0						23 8 PP
CHINCHINA	145.09	85.4	19	31K	1						41 40 SS
BOGOTA	146.64	86.0	19	35K	2						41 54 SS
LA PAZ	146.76	126.2	19	35A	2						29 24 SKKS
FUQUENE	146.95	84.4	19	35A	2						
SAN JUAN	150.70	56.4	19	45	6						20 26
CARACAS	152.87	72.5	19	44A	2						31 7
MBOUR	153.94	297.5	19	46	2						23 37 PP
ST. VINCENT	157.21	62.1									20 19 PKP2
TRINIDAD	158.04	68.4									20 23 PKP2

NOVEMBER 11 5.H 31.M 26.S EPICENTRE 38.77 20.80 DEPTH= 0.KM
A= 0.73079 B= 0.27767 C= 0.62357 D= 0.3552 E=-0.9348
G= 0.5829 H= 0.2215 K=-0.7818 HT= -1.2

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	
ATHENS	2.43	108.2									0	50	P*
TARANTO	3.23	302.9	0	47	-6						1	27	
REGGIO CALA.	4.10	262.3	1	8	2	1	54	-1			1	34	
MESSINA	4.16	263.8	1	4	-3	1	46	-11			1	16	PG
SOFIA	4.37	25.2	1	12	2	2	2	0			1	28	PG
BELGRADE	6.06	357.6	1	35K	2						1	59	PG
ISTANBUL KA.	6.76	67.5	1	43	0	3	4	2					
BUCHAREST	6.90	33.4	1	36K	-9	3	10	4			2	27	PG
TIMISOARA	6.99	2.4	1	55	8	3	8	0			2	25	PG
ROME	7.09	298.8	1	47K	-1	3	10	0			2	6	P*
CAMPULUNG	7.22	24.5	1	58	8						2	22	PG
ZAGREB	7.90	334.7	1	57	-2	3	22	-9			4	11	SG
KECSKEMET	8.19	354.7				3	48	10			4	8	SG
LJUBLJANA	8.63	329.5	2	4A	-6	3	36	-13			4	23	SG
TRIESTE	8.64	325.0	2	5	-5	3	38	-11			4	41	SGSG
BUDAPEST	8.81	352.1	2	45	33						5	6	SG
PRATO	8.91	308.1	2	13	0	3	23	-33					
BOLOGNA	9.11	312.0	2	20	4						4	34	
HURBANOVO	9.30	349.1	2	20	1	4	7	2					
PADOVA	9.39	317.9	2	34	14	4	2	-5			4	36	S*
BRATISLAVA	9.78	345.2	2	24	-1	4	10	-7			5	8	SG
VIENNA-H.	10.01	342.7	2	28	-1						3	16	PGPGPG
CHIAVARI	10.24	306.5				4	20	-8			5	36	
SKALNATE PL.	10.42	358.0	2	19	-15	3	40	-53					
PAVIA	10.77	310.2	3	0	21						4	29	
MONACO	11.22	300.5	2	45	0								
LWOW	11.29	10.7									5	10	
KRAKOW	11.30	357.1	2	52	6	5	12	18			3	13	PPP
RACIBORZ	11.46	351.5	2	51	3						3	14	PPP
CHUR	11.56	318.0	2	48	-2	4	50	-11					
CHORZOW	11.59	354.2	2	51	1						2	55	PP
ISOLA	11.65	302.1	2	49	-2	5	5	2					
SIMFEROPOL	11.69	53.8	2	50	-1	5	4	0					
PRUHONICE	12.07	340.3									5	21	
RAVENSBURG	12.14	321.5	2	58	0	5	3	-12			6	42	
PRAGUE	12.18	340.2									5	48	
HELWAN	12.42	132.5	2	58	-3	5	13	-9					
SETIF	12.50	263.0	3	2	0	5	30	6			3	11	PP
EBINGEN	12.73	321.5	3	2	-4	5	14	-15			5	45	
TUBINGEN	12.93	322.8	2	58	-10								
STUTTGART	13.00	324.0	3	4	-5	5	26	-10			3	46	
BASLE	13.02	316.5	3	5A	-4						7	33	
NEUCHATEL	13.06	313.5	3	8	-2								
KSARA	13.12	107.5	3	11	0	5	42	3			5	59	SS
PLAUEN	13.23	335.2	3	11	-1	5	51	10					
SONNEBERG	13.46	332.7	3	15	0	5	40	-7			7	21	
WARSAW	13.47	0.6	3	20	5								
STRASBOURG	13.59	320.4	3	17	0	5	47	-3					
JERUSALEM	13.68	116.3	3	19	1	5	49	-3					
COLLMBERG	13.69	338.9	3	19	1	5	51	-1			3	29	PP
HEIDELBERG	13.71	324.7	3	14	-4	5	40	-13					

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BESANCON	13.75	312.8	3	20	1					
JENA	13.80	334.8	3	19	-1	5	49	-6	3 40	
HALLE	14.17	336.9	3	31	6	6	7	3	3 45	PP
ALGIERS UNI.	14.19	267.4	3	25	0	6	4	0	4 29	
POTSDAM	14.64	340.9	3	42	11				8 34	
CLERMONT-FD.	14.83	303.8	3	56	23				6 25	
BENSBERG	15.53	326.2	3	42	0	6	23	-13		
MUNSTER	16.09	329.4	3	51	1				6 12	
RELIZANE	16.40	265.7	3	52	-2	7	1	5	4 14	PPP
PARIS	16.56	313.2	4	0	4				5 1	
FOLINIERE	18.28	310.0	4	15	-2					
TIFLIS	18.54	73.2	4	22	2				8 10	SS
TOLEDO	19.25	281.2	4	26	-3					
GORIS	19.80	79.8	4	35	0				8 28	SS
GOTEBORG	19.81	345.9	4	35	0					
MALAGA	20.02	272.0	4	38	0					
MOSCOW	20.36	28.1	4	38	-3	8	21	-4		
TAMANRASSET	20.60	223.7	4	46K	2	8	47	17	5 13	PP
UPPSALA	21.20	355.6	4	46	-4					
HELSINKI	21.59	5.7	4	51	-3	8	50	1		
PULKOVO	21.88	13.0	4	56	-1	8	44	-10	8 58	PCP
NURMIJARVI	21.90	5.1	4	53	-4	8	54	-1		
DURHAM	22.02	323.9	3	58K	-60					
SERRA PILAR	22.62	285.4	5	9A	5					
BERGEN	23.75	340.8							5 26	PP
UMEA	25.09	359.4	5	30	2					
SKALSTUGAN	25.37	351.1	5	27	-4					
KIZYL-ARVAT	27.47	77.8	5	50	0				10 40	
SHIRAZ	27.65	99.5	5	52	0				8 38	
SODANKYLA	28.84	4.7	5	59	-4					
KIRUNA	29.12	359.7	6	2	-3				9 22	
ASHKABAD	29.32	79.7							13 59	
APATITY	29.69	9.8	5	56	-14					
SVERDLOVSK	31.68	42.1	6	25	-3					
ADDIS ABABA	33.72	146.7	6	48	3					
TASHKENT	36.82	70.2	7	12	0				8 52	PPP
DUZHANBE	37.11	74.8	7	16	2	13	4	3		
QUETTA	38.66	88.4	7	28	1	13	25	0	9 8	PP
SCORESBY SD.	38.72	338.6	7	31A	3					
FRUNSE	40.37	66.5	7	41	-1					
WARSAK DAM	40.71	80.5	7	46	2					
LWIRO	41.47	167.9	7	51	0					
SEMIPALATNSK	42.82	54.2	8	0	-2				9 39	PP
NORD	44.93	352.7	8	14	-5					
TIKSI	59.03	20.6	9	57	-7					
BULAWAYO	59.05	171.4	10	4	-1					
RESOLUTE	59.27	343.8	10	3	-3					
ULAN-BATOR	60.18	50.7	10	15	3					
HALIFAX	60.60	305.3	10	16A	1					
CHITTAGONG	61.88	83.0	10	26	2					
SEVEN FALLS	63.88	310.5	10	33A	-4					
YAKUTSK	64.51	29.6	10	41	0					
SHAWINIGAN	65.32	310.7	10	49	3					
OTTAWA	67.67	310.8	11	1	0					
PALISADES	68.96	306.1				20	13	-1	27 41	SSS
MORGANTOWN	73.53	307.7	11	39K	2					
COLLEGE	76.32	355.0	11	52	-1					
SAN JUAN	76.39	282.7	11	56	3					
ST. LOUIS 1	80.33	312.1	12	17	2					
HUNGRY HORSE	84.44	331.6	12	36	0					
MATUSIRO	85.42	45.8	12	39	-2					
PENTICTON	85.57	335.3	12	44	2					
BUTTE	85.81	329.5	12	46	3					
FLAMING GRGE	88.59	324.6	12	52	-4					
EUREKA	92.64	328.0	13	17	2					
GLEN CANYON	92.79	323.7	13	16	0					
CHARTERS TS.	129.73	84.6	19	13	1				20 31	
BYRD STATION	135.97	189.2	19	26	2					
CAPE HALLETT	143.08	165.0	19	37	1					
NOUMEA	146.40	70.8	19	48	6					
AFIAMALU	152.85	27.6	20	8	16					

NOVEMBER 13 6.H 37.M 17.S EPICENTRE 1.03 127.01 DEPTH= 130.KM

A=-0.60183 B= 0.79843 C= 0.01791 D= 0.7986 E= 0.6019
G=-0.0108 H= 0.0143 K=-0.9998 HT= 7.2

DEPTH OF FOCUS= 0.015R

SE= 3.34

	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	
MANILA	14.76	336.9	3	19	-4	6	1	-3					
BAGUIO CITY	16.55	337.8	3	38	-7	6	46	2					
LEMBANG	20.87	247.7	4	37	4	8	17	4					
DJAKARTA	21.38	250.2	4	38K	0	8	32	10					
HENGCHUN	21.71	344.1	4	41	0	8	35	7					
TAWU	22.01	344.8	4	45	1	8	25	-9					
TAITUNG	22.32	345.6	4	44	-3	8	36	-3					
KAOHSIUNG	22.44	343.5	4	53	5	8	42	1					
PORT MORESBY	22.58	117.8	4	45	-5	8	47	3					
TAINAN	22.81	343.7	4	54	2								
YUSHAN	23.07	345.7	4	50	-5	8	54	2					
HWALIEN	23.39	347.5	5	2	4	8	59	1					
TAICHUNG	23.78	345.5	5	3	2								
ILAN	24.14	348.2	5	7	2	9	16	6					
TAIPEI	24.44	347.9	5	11	3	10	0	45					
HONG KONG	24.55	330.3	5	8K	-1	9	11	-6	5	33			
CANTON	25.63	329.8	5	17K	-2	9	31	-4			5	45	*SP
RABAUL	25.68	101.8	5	16	-3								
CHARTERS TS.	28.23	139.1	5	40A	-3	10	9	-8					
YAKUSIMA	29.44	6.1	5	42	-11	10	31	-6			6	44	
ZO-SE	30.41	350.1	5	59	-3	10	47	-5	6	22	6	33	*SP
KAGOSIMA	30.56	6.0	6	22	19	11	1	7			7	1	
MIYAZAKI	31.00	7.3	6	13	6	10	56	-5					
NAGASAKI	31.64	4.6	6	9	-4	11	5	-6			7	13	
KUMAMOTO	31.81	5.9	6	13	-1						7	23	
NANKING	31.82	346.7	6	13	-1	11	12	-2	6	38	7	19	PP
SAGA	32.20	5.2	6	17	-1						7	38	
KOTI	32.92	10.1	6	26	2	11	18	-13			7	29	
MATUYAMA	33.08	8.8	6	22	-3						7	38	
KUNMING	33.50	317.5	6	29K	0	11	42	2			6	44	PP
TOKUSIMA	33.62	11.4	6	28	-2								
TAKAMATU	33.76	10.5	6	28	-3						16	39	
OSUMOTO	33.95	11.8	6	30K	-3	11	39	-8			16	35	SCS
MUNDARING	34.38	196.4	6	37	1	11	58	4					
PERTH	34.47	196.9	6	41	4	12	3	8			8	5	
ABUYAMA	34.60	12.5	6	34K	-4								
KYOTO	34.78	12.6	6	38	-2						7	21	
KAMEYAMA	34.78	13.7	6	37	-3	11	52	-8			7	49	
HIKONE	35.13	13.2	6	40	-3	12	0	-5					
NAGOYA	35.21	14.2	6	40	-3	12	0	-6			7	16	PP
GIHU	35.38	13.8	6	41	-4								
PORT BLAIR	35.63	288.7	6	48	1						16	51	
HUNATU	36.00	16.4	6	42	-8						8	38	
KOHU	36.10	16.1	6	47	-4								
CHENGTU	36.66	325.7	6	54K	-2	12	26	-2			8	19	PP
OIWAKE	36.71	15.7	6	55	-1	12	22	-7					
TOYAMA	36.72	13.8	7	6	10								
KUMAGAYA	36.78	16.8	6	51	-6								
MATUSIRO	36.82	15.1	6	50A	-7	12	20	-11			8	14	PP
MAEBASI	36.92	16.3	6	52	-6						8	30	
NAGANO	36.94	15.1	6	54	-4	12	16	-17					
TUKUBASAN	37.06	17.7	6	52K	-7	12	21	-14					
KAKIOKA	37.09	17.8	6	52	-7	12	24	-11					
SIAN	37.12	334.8	6	58	-1	12	33	-3					
UTUNOMIYA	37.29	17.2	7	13	12	12	38	0			7	53	
ADELAIDE	37.46	164.1	7	3	1	12	40	-1			8	27	PP
BRISBANE	37.59	140.7	7	4	1	12	44	1					
SHIRAKAWA	37.93	17.3	7	2	-4	12	38	-10					
ONAHAMA	37.98	18.2									7	33	
NIIGATA	38.34	15.4	6	56	-14	13	2	8			9	4	
HUKUSIMA	38.58	17.2	7	9	-3								
YAMAGATA	39.01	16.8	7	11	-4	12	58	-6					
SENDAI	39.19	17.4	7	21	4	14	1	54					
ISINOMAKI	39.47	17.8	7	16A	-3	13	5	-6					
SAKATA	39.47	15.8	7	17	-2								
PEKING	40.05	347.0	7	21	-3	13	15	-5			7	59	*SP
MIZUSAWA	40.06	17.2	7	21	-3	13	11	-9					
TOCKLAI	40.16	312.3	7	30	5								
CHITTAGONG	40.25	304.4	7	28K	3	13	23	0	7	48	9	2	PP
AKITA	40.31	15.7									7	50	
MORIOKA	40.59	16.9	7	27	-1	13	19	-9					
MIYAKO	40.79	17.8	7	27	-3	13	23	-7					

LANCHOW	40.94	330.9	7	31K	0	13	32	-1				
RIVERVIEW	41.45	149.0	7	36A	1	13	42	2			9	14 PP
HATINOHE	41.47	16.8	7	32	-3	13	34	-6				
AOMORI	41.52	15.8	7	34	-2							
CANBERRA	41.60	152.5	7	37A	1	13	45	3	7	57	9	15 PP
SHILLONG	41.74	308.7	7	37	-1	13	47	2			9	15 PP
MELBOURNE	42.08	158.6	7	42	2	13	53	3			9	20 PP
VLADIVOSTOK	42.13	5.3	7	38	-3						16	55 SS
HAKODATE	42.44	15.3	7	40	-3						8	16
CHANGCHUN	42.64	358.2	7	40A	-5	13	51	-7			10	1 PPP
MORI	42.67	14.9	7	43	-2	13	46	-12				
SUTTSU	43.24	14.2									8	20
URAKAWA	43.28	17.0	7	49	-3	14	2	-5			8	38
HIROO	43.60	17.6	7	50	-3							
SAPPORO	43.78	15.2	7	51A	-3	14	8	-6			14	44
OBIHIRO	44.15	17.1	7	59	2							
LHASA	44.50	313.2	8	2K	2	14	27	2	8	25	9	54 PP
KUSIRO	44.57	18.2	7	57	-4							
NOUMEA	44.90	123.5	8	0	-3						9	42
NEMURO	45.26	19.1	8	3	-3							
VIZIANAGRAM	46.00	294.4									15	49
CHATRA	46.05	307.3	8	13	1	14	46	-1			10	19 PPP
FORT NELSON	47.44	159.7	8	23K	0	15	7	1				
MADRAS	47.87	286.6	8	28K	2	15	18	6			10	21 PP
ULAN-BATOR	49.85	342.4	8	38	-4							
KODAIKANAL	50.07	282.4	8	43K	0	15	43	0			19	13 SS
HYDERABAD	50.43	291.8	8	45K	-1	15	52	4			10	51 PP
SUVA	54.03	113.3				16	32	-5				
IRKUTSK	54.48	343.1	9	13K	-3	16	42	-1			10	15 PCP
DEHRA DUN	54.78	307.0	9	19	1	16	46	-1			11	9 PP
POONA	54.94	291.9	9	19	-1	16	50	1			17	2 PPS
BOMBAY	55.97	292.1	9	28	1	17	5	2			11	35 PP
PETROPAVLOVK	58.10	21.9	9	39	-3	17	29	-2			21	25 SS
AUCKLAND	58.13	135.6				18	18	47				
LAHORE	58.21	307.0	9	44K	1	17	33	1				
COBB RIVER	58.94	140.8	9	45	-3							
KARAPIRO	59.16	136.4	9	48	-1						12	2 PP
ROXBURGH	59.51	146.7				17	49	0				
WELLINGTON	60.34	140.1									10	38
GEBBIES PASS	60.35	143.4	9	56	-1							
TUAI	60.69	136.5	9	57	-3							
YAKUTSK	60.87	1.5	9	56	-5							
MAGADAN	61.22	13.6	10	1	-2	18	8	-3				
WARSAK DAM	61.25	308.7	10	3K	-1	18	14	3				
KLYUCHI	61.48	20.7	10	0	-5							
AFIAMALU	62.40	106.2	10	10A	-1	18	37	11				
KARACHI	62.47	297.5	10	10K	-2	18	29	2				
FRUNSE	62.55	319.0	10	11	-1	18	30	2				
SEMIPALATNSK	63.12	328.5	10	11	-5	18	33	-2			10	41 PCP
QUETTA	63.83	303.3	10	20K	-1	18	44	0	10	33	12	45 PP
DUZHANBE	64.93	312.6	10	27	-1	18	57	0				
TASHKENT	65.55	315.6	10	30	-2	19	6	1			12	54 PP
WILKES	68.25	187.1	10	50A	1	19	40	3			24	5 SS
TERRE ADELIE	68.47	173.9	10	56	6	19	36	-4				
TIKSI	70.50	0.6	10	57	-5						13	28 PP
ASHKABAD	72.62	309.5	11	15K	0	20	31	3			21	12 PS
SHIRAZ	76.02	300.2	11	33A	-1	21	6	1	11	59	14	30 PP
SVERDLOVSK	76.40	328.8	11	34	-3	21	32	23			26	7 SS
TEHERAN	77.73	306.2	11	43	-1							
CAPE HALLETT	78.13	167.6	11	47K	1	21	33	5			30	1 SS
TANANARIVE	80.36	250.7	12	2K	4	22	12	20			14	53 PP
MAWSON	81.33	200.4	12	4	1	22	5	3				
SCOTT BASE	81.64	172.1	12	5K	0	22	6	1				
GORIS	82.15	309.6	12	7	0	22	12	2			15	8 PP
TIFLIS	83.49	311.7	12	14K	0						15	30 PP
KHEYS	85.61	351.2	12	22	-3	22	39	-5			17	34 PPP
COLLEGE	87.01	25.2	12	28	-4	22	53	-4				
ADDIS ABABA	88.10	278.9	12	39	2	23	0	-8				
MOSCOW	88.80	325.5	12	37	-3	22	56	-18			16	13 PP
KSARA	90.37	303.7	12	48	0	23	29	1				
APATITY	90.43	337.5	12	46	-2	23	24	-5			23	4 SKS
JERUSALEM	90.98	301.6	12	50	0	23	11	-23				
SOUTH POLE	91.03	180.0	12	51	0	23	40	6			16	29 PP
SIMFEROPOL	91.33	314.8	12	48K	-4	23	11	-26			16	28 PP
PULKOVO	92.49	329.8	12	54	-3	23	48	1			16	40 PP
SODANKYLA	93.05	337.6	12	56	-4						16	46 PP
BYRD STATION	95.00	170.8	13	10	1	24	13	4			17	1 PP
NURMIJARVI	95.18	331.0	13	7	-3	24	4	32			17	3 PP

KIRUNA	95.26	338.6	13	8	-2						
ISTANBUL KA.	95.32	311.2	13	8	-2	24	14	42			
ISTANBUL UN.	95.38	311.2	13	5	-6				17	5	PP
NORD	95.78	355.0	13	9	-3						
BUCHAREST	97.07	314.8	13	19K	1	23	45	3	17	19	PP
LWOW	97.57	320.5	13	21	1	23	45	1	17	22	PP
LWIRO	98.24	267.9	17	25	241				26	0	
BULAWAYO	98.24	249.9	13	23K	-1						
BROKEN HILL	98.53	255.6	13	26	1						
UPPSALA	98.74	331.2	13	24	-2				17	19	PP
WARSAW	98.93	323.2							17	30	PP
ATHENS	99.83	308.7	13	29	-2						
SKALSTUGAN	99.85	335.6	13	28	-3				17	26	PP
KRAKOW	100.11	321.2							17	42	PP
RESOLUTE	100.40	10.4	13	30	-3						
BELGRADE	100.96	316.0							17	18	
RACIBORZ	101.18	321.6							17	51	PP
COPENHAGEN	102.74	328.1				24	12	2	25	28	S
VIENNA-H.	102.84	320.1				24	13	3	17	49	PP
PRUHONICE	103.47	322.2							18	7	PP
POTSDAM	103.56	324.8	18	1	254						
COLLMBERG	103.97	323.8	13	49	0				18	8	PP
PENTICTON	104.24	38.3	13	47	-3						
TARANTO	104.26	312.2				24	20	3	33	15	SS
LJUBLJANA	104.68	318.3	18	0	248				18	15	PP
SHASTA	104.82	47.4							17	14	
JENA	104.94	323.7	18	15	262	24	19	-1	18	49	PP
TRIESTE	105.32	318.1				24	22	1	18	21	PP
SONNEBERG	105.36	323.3	18	19	777						
TOLMEZZO	105.57	319.0	17	14	777	24	20	-2	18	14	PP
SCORESBY SD.	105.73	349.6				24	24	1	28	49	PPS
MESSINA	106.09	310.3				24	21	-4	18	20	PP
PADOVA	106.65	318.3				24	26	-1	27	34	PS
RENO	107.04	48.0	18	7	777						
STUTTGART	107.12	322.2	18	0	777				18	36	PP
ROME	107.33	314.6				24	32	2	18	32	PP
BENSBERG	107.50	324.9	18	36	777						
PRATO	107.67	316.9				25	55	83	18	11	PP
HUNGRY HORSE	108.04	37.9	17	54	777				18	34	PP
PAVIA	108.52	318.7							18	46	PP
ABERDEEN	109.18	333.4	19	22	777				28	38	
EUREKA	109.89	47.2	18	16	777				29	22	PKKP
ISOLA	110.29	318.3							18	59	
PARIS	111.17	324.3							17	00	
KEW	111.42	327.7							34	20	SS
LUANDA	113.65	260.8	19	17	54						
GLEN CANYON	113.99	48.4	18	25	2				28	10	
FLAMING GRGE	114.05	43.7	18	25	1						
SETIF	114.41	310.8	18	24	0				19	24	PP
ALGIERS UNI.	115.96	312.2							19	34	PP
TUCSON	116.20	53.1	18	29	1				29	7	PKKP
TUCSON TELE.	116.26	52.9	18	29	1				29	7	PKKP
TAMANRASSET	118.37	296.6	18	34	2	25	20	7	19	47	PP
GRANADA	120.60	315.2							19	20	PP
FAYETTEVILLE	126.79	41.8	18	48A	0				22	3	
FLORISSANT	127.56	36.8	18	47	-3						
ST. LOUIS 1	127.75	36.8	18	49	-1						
PORT STANLEY	129.35	176.1							21	3	
SHAWINIGAN	129.52	17.6	18	54	1						
SEVEN FALLS	129.56	15.7	18	53A	-1						
OTTAWA	129.57	20.7	18	54	0						
TACUBAYA	130.33	63.4							22	3	
MORGANTOWN	132.60	28.4	19	0	1				22	16	PKS
PENNSYLVANIA	132.61	25.7							22	15	SKP
VERA CRUZ	133.13	62.3							21	55	
HALIFAX	133.57	10.5	19	4	3						
WESTON	133.73	18.8	19	1	0						
PALISADES	134.03	22.1	19	1	-1				22	13	PKS
COLUMBIA	136.32	34.4	19	7	1				22	28	PP
MBOUR	141.19	294.6							22	16	PP
SANTA LUCIA	143.76	154.6	19	16	-4				29	11	SKKS
HUANCAYO	155.29	117.2	19	42	5				23	51	PP
SAN JUAN	156.79	33.2	19	41	2				23	46	PP
LA PAZ	158.58	136.7	19	47	5				24	0	PP
CARACAS	162.01	50.1	19	47	2				24	43	PP

NOVEMBER 13 9.H 20.M 31.S EPICENTRE 51.41-168.86 DEPTH= 0.KM

A=-0.61450 B=-0.12100 C= 0.77958 D=-0.1932 E= 0.9812
G=-0.7649 H=-0.1506 K=-0.6263 HT= -5.9

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	
COLLEGE	17.34	31.0	4	2	-3	7	31	14					
KLYUCHI	18.42	297.3	4	20	1	7	48	6					
PETROPAVLOVK	19.88	287.4	4	35	-1	8	11	-4			4	55	PP
SITKA	20.26	60.7	4	41A	1	8	8	-14					
SEVERO-KUR.	21.92	281.9	4	57	0	8	55	0					
MAGADAN	23.93	305.6	5	19	2	9	36	5					
ALBERNI	27.88	76.9	5	56	3								
OKHA	29.00	293.4	6	5	1	10	56	2					
VICTORIA	29.02	77.6	6	4K	0	10	58	3			9	11	
KURILSK	29.09	275.0	6	4	0	10	49	-7			12	53	SSS
CORVALLIS	30.83	84.6	6	20K	0						9	17	
UGLEGORSK	31.00	285.3	6	21	0	11	28	2			7	23	PP
PENTICTON	31.01	74.2	6	22K	0						9	22	
KIPAPA	31.11	160.2	6	22	0								
HONOLULU	31.21	160.4	6	23A	0	11	5	-24					
NEMURO	31.46	273.3	6	23K	-2	11	31	-2			16	30	
ABASHIRI	31.92	275.3	6	34	5								
ARCATA	32.29	91.2	6	35A	2								
KUSIRO	32.38	273.6	6	31K	-2	11	45	-3					
BANFF	32.73	69.0	6	36	-1								
WAKKANAI	32.85	279.3	6	37	-1	11	58	3					
OBIHIRO	33.16	274.3	6	45	5	11	53	-7					
HIROO	33.42	273.3	6	42	-1								
SHASTA	33.45	90.1	6	44K	1						9	17	PCP
TIKSI	33.72	329.6	6	43	-2								
URAKAWA	33.83	273.5	6	49	3	12	14	4			14	52	
UKIAH	33.84	93.1	6	47K	1	12	12	2			8	10	PP
YAKUTSK	34.03	312.3	6	47	-1	12	10	-3					
MINERAL	34.15	90.0	6	48K	-1						9	24	PCP
SAPPORO	34.23	275.8	6	49K	-1	12	12	-4			7	53	
TOMAKOMAI	34.32	275.0	6	50	0								
HUNGRY HORSE	34.77	73.0	6	54K	0	12	38	13			8	12	PP
MURORAN	34.86	275.0	6	53	-2	12	25	-1					
SUTTSU	35.07	276.2	6	55	-2	12	19	-10					
SAN FRANCSCO	35.15	94.4	6	58	1								
BERKELEY	35.20	94.1	6	58K	0	12	33	2			9	27	PCP
MORI	35.24	275.0	6	58K	0	12	35	3					
CONCORD	35.26	93.8	6	59A	1						9	29	PCP
HAKODATE	35.28	274.4	6	57K	-2	12	33	0			7	59	
HATINOHE	35.51	272.0	6	58	-3	12	34	-2					
BRANNER	35.53	94.6	7	1K	0								
RENO	35.74	89.8	7	4K	2								
MIYAKO	35.75	270.4	7	2K	-1	12	39	-1			8	27	PP
AOMORI	35.82	273.0	7	3	0	12	40	-1					
LICK	35.92	94.3	7	5K	1								
MORIOKA	36.22	271.1	7	7	0	12	51	4			15	5	
VINEYARD	36.45	94.8	7	9	1								
MIZUSAWA	36.58	270.4	7	11	1	12	51	-2					
BUTTE	36.74	75.7	7	10K	-1	12	55	0					
AKITA	36.88	272.0	7	12K	0	12	58	1					
ISINOMAKI	36.88	269.3	7	11A	-1	12	58	1					
RESOLUTE	37.11	25.1	7	13K	-1	12	57	-4					
SENDAI	37.24	269.4	7	15K	0	12	59	-4					
FRESNO	37.42	93.5	7	19	2								
SAKATA	37.53	271.1	7	20	2								
YAMAGATA	37.59	269.8	7	16	-2	13	6	-2					
HUKUSIMA	37.82	269.1	7	20	0	13	13	1					
BOZEMAN	37.84	75.3	7	19K	-1	13	19	7			8	46	PP
ONAHAMA	38.05	267.7	7	22K	0								
EUREKA	38.18	87.0	7	23K	0								
SHIRAKAWA	38.37	268.5	7	24	-1	13	27	7					
NIIGATA	38.61	270.4	7	22	-5	13	34	10			9	39	
MITO	38.67	267.4	7	28	1	13	31	6					
TYOSI	38.86	266.2	7	28	-1	13	30	3					
RUTH	38.94	86.6	7	29	0								
KAKIOKA	38.95	267.4	7	29	-1	13	29	0					
TUKUBASAN	39.01	267.5	7	29K	-1	13	28	-2			9	6	PP
KUMAGAYA	39.50	268.0	7	34K	0	13	34	-3			10	2	PPP
HONGO	39.54	267.1	7	29	-5	13	42	4					
MAEBASI	39.54	268.5	7	37	3	13	37	-1			8	17	

TOKYO C.M.O.	39.57	267.1	7	37K	2	13	37	-1		
TAKADA	39.61	270.0	7	33	-2	13	31	-8		
YOKOHAMA	39.79	266.9	7	39	3	13	46	5	8	34
TITIBU	39.80	268.0	7	37	0	13	44	2		
OIWAKE	39.91	268.8	7	37	0	13	31	-12		
NAGANO	39.91	269.5	7	39	2	13	46	3	16	48
MATUSIRO	39.99	269.4	7	37K	-1	13	37	-7	9	9 PP
SALT LAKE C.	39.99	82.4	7	37K	-1	13	31	-14		
MERA	40.01	266.1	7	40K	2	13	46	1		
VLADIVOSTOK	40.05	282.1	7	36	-3	13	36	-9	16	35 SS
PASADENA	40.12	95.3	7	38K	-1	13	18	-28	13	33 SCP
HUNATU	40.30	267.7	7	41	0	13	52	3		
KOHU	40.32	268.0	7	44	3	13	51	2		
MATUMOTO	40.32	269.2	7	42	1	13	51	2		
AJIRO	40.38	266.9	7	44	3	13	51	1		
OSIMA	40.39	266.3	7	43K	2	13	46	-4	9	48
MISIMA	40.43	267.1	7	42K	0	13	51	0		
TAKAYAMA	40.83	269.6	7	43	-2					
SHIZUOKA	40.87	267.3	7	48	3	13	59	1		
IIDA	40.87	268.4	7	48	3	14	8	10		
BOULDER CITY	41.03	90.4	7	48K	1	13	44	-16		
OMAESAKI	41.22	267.1	7	42	-6	14	1	-2	8	38
FLAMING GRGE	41.43	80.5	7	49K	-1	13	40	-26	9	50 PCP
HAMAMATU	41.46	267.6	7	50	0	14	9	3		
HUKUI	41.54	270.3	7	52	1					
GIHU	41.61	269.2	7	53	2	14	9	0		
NAGOYA	41.64	268.7	7	53	1	14	10	1	8	17 PP
TSURUGA	41.89	270.0	7	54	0	14	21	8	18	4
HIKONE	42.02	269.4	7	59	4	14	18	3		
KAMEYAMA	42.15	268.8	7	54	-2	14	15	-2	9	51 PP
TU	42.22	268.6	8	4	8					
GLEN CANYON	42.44	86.8	8	9K	11				9	51 PCP
KYOTO	42.51	269.5	7	59	0	14	23	1		
TORISIMA	42.70	260.8	8	0	0	14	12	-13		
ABUYAMA	42.71	269.5	8	0A	0					
TOYOOKA	42.75	270.8	8	1	0	14	24	-1	18	57
OWASE	42.83	268.1	8	4	3	14	28	1	17	52
OSAKA	42.87	269.3	8	2K	0	14	24	-3		
KOBE	43.07	269.6	8	3	0	14	27	-3	17	50
THULE	43.08	19.9	8	4A	1	14	30	0	8	45 *SP
TOTTORI	43.16	271.3	8	4	0					
WAKAYAMA	43.37	269.1	8	4	-2	14	31	-3		
SUMOTO	43.46	269.4	8	5	-2	14	36	0	18	4 SS
SIOMISAKI	43.51	267.8	8	7	0	14	37	1		
CHANGCHUN	43.65	286.9	8	6K	-2	14	35	-3	9	53 PP
YONAGO	43.74	271.8	8	10	1	14	42	2		
TOKUSIMA	43.85	269.4	8	12	2					
TAKAMATU	44.01	270.1	8	12	1	14	45	1	18	2 SS
MUROTO	44.64	268.8	8	17	1	14	59	6	10	14 PP
KOTI	44.85	269.7	8	19K	1	14	58	2	8 42	10 3 PP
HAMADA	44.88	272.2	8	16K	-2	15	1	5	9	44 PP
HIROSIMA	45.00	271.4	8	18	-1	14	50	-8		
MATUYAMA	45.12	270.5	8	21K	1	15	2	2	18	20
KHEYS	45.67	350.4	8	23	-1				10	14 PP
SIMIDU	45.71	269.3	8	26	1				13	33
TUCSON	45.98	91.4	8	26K	-1	15	4	-8	13	57 PCS
TUCSON TELE.	45.98	91.2	8	26K	-1	15	53	41	10	30 PP
SIMONOSEKI	46.21	272.1	8	30	1					
OOITA	46.25	270.8	8	27	-2	15	12	-4		
NORD	46.40	5.4	8	29	-1				15	2
HUKUOKA	46.80	272.1	8	34	1	15	33	9	18	29
ASOSAN	46.82	270.9	8	30	-3					
SAGA	47.07	271.8	8	37	2	15	34	6		
KUMAMOTO	47.10	271.1	8	35	-1	15	31	3		
MIYAZAKI	47.25	269.6	8	38K	1	15	34	4		
UNZENDAKE	47.44	271.3	8	38K	0	15	32	-1		
NAGASAKI	47.68	271.6	8	39K	-1	15	39	3		
KAGOSIMA	48.04	270.0	8	46	3	15	44	3		
TOMIE	48.44	272.4	8	44K	-2	15	48	1		
YAKUSIMA	48.83	268.9	8	48	-1	15	52	0		
IRKUTSK	50.48	307.3	9	1K	-1	16	15	0	11	1 PP
PEKING	51.38	288.4	9	8	-1	16	24	-4	11	7 PP
CHIHUAHUA	51.43	91.1	9	12	3	16	34	6	19	8 SCS
ULAN-BATOR	51.75	301.5	9	11	0					
GUAM	53.09	241.8	9	17K	-5				18	19
FAYETTEVILLE	53.75	75.6	9	23K	-3	16	55	-5	9 37	11 20 PP
ZO-SE	54.21	276.6	9	29K	-1	17	7	1		12 3 PP
FLORISSANT	54.26	70.6	9	28K	-2	17	1	-6		

ST. LOUIS 1	54.45	70.7	9	29	-2	17	2	-7				
NANKING	55.04	279.1	9	35K	-1	17	18	1			11	48 PP
MAZATLAN	55.14	96.1	9	29	-8	16	57	-22			9	53
SCORESBY SD.	56.09	12.8	9	43	0	17	32	0			11	51 PP
CLEVELAND	57.57	62.8	9	51	-3	17	57	6				
OTTAWA	58.06	56.0	9	55K	-2							
TAIPEI	58.27	271.2				17	58	-2				
SHAWINIGAN	58.78	53.4	10	0K	-2							
GUADALAJARA	58.90	95.5	10	5	2	18	9	0			25	45
HWALIEN	58.98	270.2	10	3	-1							
PITTSBURGH	59.15	62.7	10	5	0	18	10	-2				
SEVEN FALLS	59.35	51.8	10	5K	-1							
TAICHUNG	59.43	271.1	10	8	1							
MANZANILLO	59.49	97.6									13	44 PPP
SIAN	59.54	287.8	10	4	-4							
MORGANTOWN	59.71	63.4	10	7K	-2							
PENNSYLVANIA	60.05	61.2	10	11	0	18	20	-3			12	24 PP
TAITUNG	60.16	269.6	10	10	-2							
APATITY	60.18	350.3	10	11K	-1	18	20	-5			12	26 PP
TAINAN	60.56	270.6				18	38	8				
TAWU	60.61	269.5	10	40	25							
KIRUNA	60.88	356.0	10	15K	-2	18	35	1				
SODANKYLA	60.97	353.2	10	16	-1	18	37	2			20	1 SCS
LANCHOW	61.28	292.6	10	19K	-1	18	38	-1				
WASHINGTON	61.82	62.2	9	17A	-66	17	41	-65				
REYKJAVIK	61.95	15.7	10	27K	3							
PALISADES	62.05	58.6	10	22K	-3	18	46	-3			12	40 PP
TACUBAYA	62.43	93.2	10	24	-3	18	48	-6			14	4 PPP
WESTON	62.44	55.9	10	25	-2	18	53	-1			12	39 PP
SEMIPALATNSK	62.86	317.8	10	27	-3	18	53	-6			14	8 PPP
SIDA	62.90	14.1	10	34	4							
COLUMBIA	63.02	68.7	10	27K	-4	18	55	-6				
RABAUL	64.60	224.0	10	39	-3							
HALIFAX	64.66	49.7	10	40K	-2							
SVERDLOVSK	64.69	332.5	10	44	2	19	22	0			13	11 PP
CANTON	64.79	275.9	10	43K	0	19	25	2				
HONG KONG	64.86	274.7	10	44K	1	19	28	4				
CHENGTU	65.00	288.3	10	43K	-1	19	24	-2				
AFIAMALU	65.09	183.1	10	44K	-1	18	55	-32			19	24 PS
BAGUIO CITY	65.22	265.4	10	43	-3	19	33	5				
SKALSTUGAN	65.35	359.4	10	45	-1							
OAXACA	65.73	93.0	10	50K	1	19	32	-3				
MANILA	66.24	263.7	10	53	1	19	43	2				
MERIDA	67.27	84.6	11	3	4	19	57	4			13	42 PP
NURMIJARVI	67.90	352.8	11	1	-2	20	1	0			39	12 PKPPKP
PULKOVO	68.09	349.7	11	3	-1	20	3	0			13	37 PP
HELSINKI	68.22	352.6	11	5	0	20	5	0				
BERGEN	68.44	3.1	11	6	0	20	6	-1	11	21	21	12 SCS
UPPSALA	68.97	356.5	11	9A	0							
COMITAN	69.21	89.9	11	9	-2	20	17	1			24	9
KUNMING	69.82	285.1	11	14K	0	19	24	-60			13	50 PP
SUVA	70.15	192.9	11	29	13	20	31	4			22	42 SS
MOSCOW	70.99	344.5	11	23	1	20	36	-1			14	3 PP
FRUNSE	71.20	315.9	11	23	0						20	44
ABERDEEN	71.24	7.6	11	27	4	20	47	7			13	59 PP
GOTEBORG	71.25	359.5	11	23K	0						13	53
PORT MORESBY	71.45	226.3	11	23	-1	20	42	-1			39	7 PKPPKP
EDINBURGH	72.38	8.4	11	0	-30						13	43 PP
SAN SALVADOR	72.99	89.3	11	43	10							
LHASA	73.26	296.5	11	36	1	21	8	5			14	21 PP
COPENHAGEN	73.27	359.2	11	36K	1	21	6	3				
TOCKLAI	73.33	291.9	11	42	7							
DURHAM	73.66	7.6	11	37K	0	21	15	7			14	31 PP
TASHKENT	74.71	318.5	11	43	0						14	33 PP
SHILLONG	75.91	293.2	11	49K	-1	21	32	-1			14	40 PP
WITTEVEEN	76.08	2.8	11	54	3							
WARSAW	76.40	353.8	11	54K	1	21	40	2			16	39 PPP
NOUMEA	76.53	203.4	11	53	-1						14	48
POTSDAM	76.57	358.8	11	54	0	21	45	5			22	29 PS
DE BILT	76.74	3.8	11	56K	1	21	45	3			26	29 SS
MUNSTER	76.95	2.2	12	7	11	21	49	5				
KEW	77.04	7.3	11	57K	0	21	39	-6	12	15	14	47 PP
DUZHANBE	77.22	317.2	11	59	1	21	45	-2				
HALLE	77.46	359.5	12	0	1	21	50	0			14	53 PP
CHATRA	77.59	297.4	12	0K	0	21	47	-4			14	58 PP
COLLMBERG	77.65	358.8	12	0K	0	21	55	3			14	59 PP
BENSBERG	77.95	2.6	12	1	-1	22	1	6				
JENA	78.04	359.7	12	3	1	21	54	-2			22	30 PS

CHITTAGONG	78.41	291.2	12	4	0	22	1	1	12	29	15	10 PP
CHORZOW	78.46	354.9	12	5	1	22	0	0	12	9		
LWOW	78.55	351.5	12	5	0	22	2	1			14	59 PP
SONNEBERG	78.59	360.0	12	5	0	22	4	2			15	1
KRAKOW	78.64	354.2	12	6	1	22	2	0				
RACIBORZ	78.71	355.4	12	7	1	22	7	4			15	1 PP
PRAGUE	78.86	357.8	12	10	3	22	9	4			15	11 PP
CHEB	78.88	359.2	12	7	0	22	13	8			27	35 SS
PRUHONICE	78.95	357.8	12	7K	0	22	4	-2			15	16 PP
JERSEY	79.15	8.8	12	11	3	22	14	6				
SKALNATE PL.	79.49	353.9	12	9	-1	22	21	10			22	45 PS
HEIDELBERG	79.55	1.6	12	10	0							
DEHRA DUN	79.68	306.0	12	11	0	22	13	0			15	13 PP
FOLINIERE	79.71	7.8	12	11	0							
WARSAK DAM	79.81	312.8	12	11	-1	22	14	-1				
PARIS	79.89	5.8	11	13	-59						15	1 PP
STUTTGART	80.19	1.2	12	13	-1	22	25	6			27	29 SS
CALCUTTA	80.27	293.8	12	16	2	22	19	0			27	31 SS
STRASBOURG	80.35	2.3	12	16	1	22	21	1			15	16 PP
TUBINGEN	80.42	1.4	12	15	0							
LAHORE	80.52	309.4	12	17	1	22	27	5				
VIENNA-H.	80.62	356.5	12	17K	1	22	27	4			15	27 PP
BRATISLAVA	80.67	356.0	12	18	2	22	33	9			27	42 SS
BOKARO	80.71	296.5	12	18K	1	22	21	-3			14	26 PP
EBINGEN	80.77	1.5	12	17	0							
HURBANOVO	80.91	355.2	12	15	-3	22	29	3			12	37 PCP
RAVENSBURG	81.18	1.0	12	19	0							
CHARTERS TS.	81.32	222.1	12	17	-3	22	24	-6				
BASLE	81.39	2.4	12	21K	1						23	34
BESANCON	81.62	3.6	12	22	1							
ASHKABAD	81.89	324.1	12	23	0						22	44 SCS
NEUCHATEL	81.90	2.9	12	23	0	22	43	7				
SIMFEROPOL	81.98	343.7	12	24K	1						28	23 SS
CHUR	82.11	1.1	12	25K	1	22	44	6				
FOCSANI	82.28	348.7	12	25	0	22	44	4				
TOLMEZZO	82.56	358.7	12	29	3	22	45	2			12	53
TIFLIS	82.73	335.3	12	27K	0	22	46	1			15	35 PP
TIMISOARA	82.83	352.9	12	30	2	22	26	-20			23	56 PS
LJUBLJANA	82.88	357.6	12	28K	0	22	57	11			15	43 PP
CLERMONT-FD.	82.95	5.6	12	30K	2	22	56	9				
CAMPULUNG	82.95	350.2	12	33	5	22	53	6			15	50 PP
ZAGREB	83.06	356.6	12	29	0	22	57	9			15	29
TRIESTE	83.29	358.2	12	31K	1	22	55	5			23	53 SP
SAN JUAN	83.50	68.8	12	30K	-1						15	46 PP
PADOVA	83.56	359.5	12	33K	2	23	1	8	12	41	16	52 PP
BUCHAREST	83.67	349.3	12	32K	0	22	57	3			15	50 PP
PAVIA	83.78	1.4	12	37K	5	22	57	2			15	49 PP
BELGRADE	83.81	353.3	12	33	0	23	2	6			15	50 PP
GALERAZAMBA	83.90	80.5	12	37	4						22	56 SKKS
ANGRA DO HO.	84.24	29.2				23	11	11				
GORIS	84.38	333.4	12	36	0	23	1	0			15	48 PP
BOLOGNA	84.47	359.9	12	39	3	22	56	-6				
CHIAVARI	84.64	1.3				23	7	3			15	56 PP
ISOLA	84.72	3.0	12	38	1	23	9	4				
PRATO	85.09	0.0	12	40	1	23	6	-2				
QUETTA	85.11	314.0	12	39K	0	23	5	-4	12	57	16	1 PP
MONACO	85.19	2.7	12	40	0						15	52 PP
BRISBANE	85.42	213.6	12	39	-2	22	44	-27				
BAGNERES	85.42	8.1	12	42K	1							
PONTA DELGDA	85.55	28.5	12	44A	3				12	50		
SOFIA	85.67	351.0	12	43	1	23	6	-8			16	5 PP
PORT BLAIR	86.17	283.8	12	44	0	23	10	-9			24	13 PS
SERRA PILAR	86.24	14.8	12	47K	2	23	8	-11	12	57	16	10 PP
ST. KITTS	86.29	66.8	12	43	-2							
TEHERAN	86.30	328.2	12	45	0						16	1
VIZIANAGRAM	86.56	294.8	13	47	61						24	12
ISTANBUL KA.	86.58	346.5	12	46	0	23	23	0				
ISTANBUL UN.	86.62	346.6	12	47	0	23	17	-6			16	12 PP
ROME	87.06	359.0	12	49K	0	23	21	-6			16	12 PP
COIMBRA	87.18	14.9	12	48	-1	23	57	29			23	36 SKS
BARCELONA	87.22	6.8	12	49	-1	23	26	-3				
TORTOSA	87.68	8.1	12	55	3	23	30	-3				
TOLEDO	88.12	11.6	12	55K	1	23	31	-6	13	10	16	24 PP
CHINCHINA	88.18	84.4	12	53A	-1						23	38 SKKS
TARANTO	88.34	355.3	13	2	7	23	51	12			16	6 PP
LISBON	88.50	15.7	12	56K	0	23	59	18			16	29 PP
DOMINICA	88.68	67.0	12	56	-1							
MEDAN	88.77	274.1	12	47	-10						16	17
FUQUENE	88.97	82.6	12	58K	0						23	26 SKKS

AUCKLAND	89.07	193.0				23	20	-26			29	19	SS
CARACAS	89.21	74.2	12	59K	0						16	43	PP
BOGOTA	89.41	83.4	13	2A	2						23	48	SKKS
KARACHI	89.63	311.2	12	58	-3	23	47	-4					
HYDERABAD	89.92	298.3	13	1K	-1	23	46	-8			16	37	PP
KARAPIRO	90.01	192.3	13	2	-1						29	59	PKKP
ALICANTE	90.04	9.1	13	5	2	23	37	-18			16	43	PP
ATHENS	90.31	350.1	13	3	-1	23	39	-18			25	8	PS
ST. VINCENT	90.45	68.2	13	3	-2								
MESSINA	90.68	356.5	13	0	-6	24	0	-1			16	44	PP
REGGIO CALA.	90.78	356.4	13	1	-5						25	13	PS
GRANADA	90.84	11.7	12	10K	-57	23	18	-44			15	30	PP
MALAGA	91.19	12.4	13	7K	-1	24	2	-3			16	46	PP
DJAKARTA	91.24	261.7	13	5K	-4	24	15	9					
LEMBANG	91.25	260.7	13	6K	-3	23	12	-54					
ALMERIA	91.30	10.9	13	7	-2				13	27	16	51	PP
SHIRAZ	91.45	324.9	13	8A	-2	23	38	-30			16	49	PP
BARBADOS	91.46	66.9	13	12	2								
POONA	91.50	302.5	13	10	0	24	7	-1			16	52	PP
BOMBAY	91.74	303.5	13	12	1	24	13	3			16	51	PP
RIVERVIEW	91.87	212.4	13	13A	2	23	46	-25	13	22	16	51	PP
ALGIERS UNI.	91.91	6.5	13	13K	1	23	26	-46	13	35	16	52	PP
TRINIDAD	92.38	69.8	13	12	-2								
KSARA	92.39	339.6	13	13K	-1	24	17	1			16	57	PP
MADRAS	92.53	294.3	13	12K	-2	23	47	-30			16	43	PP
SETIF	92.62	4.6	13	14	-1	23	51	-27	13	31	16	48	PP
RELIZANE	92.71	8.6	13	15	0	24	6	-13	13	37	16	57	PP
WELLINGTON	93.41	192.3				25	29	64			27	40	PS
CANBERRA	93.95	213.4	13	21	0	24	49	20			23	55	SKS
JERUSALEM	94.50	339.6	13	2	-22	24	13	-21					
KODAIKANAL	96.31	294.9	13	41K	9	24	56	48			26	26	PS
ADELAIDE	97.53	221.0	13	35	-2	24	11	-4			17	35	PP
MELBOURNE	97.62	215.2	13	39	1	24	16	1			25	2	S
ROXBURGH	98.33	195.3	13	59	18	24	16	-3			17	59	PP
FORT NELSON	101.36	211.2				24	32	-2			26	37	SS
HUANCAYO	101.50	94.9	13	56							31	43	SS
MUNDARING	105.80	238.5	14	14	777								
TAMANRASSET	105.97	5.4	14	17	777	25	2	7			18	24	PP
PERTH	105.99	238.8	14	15	777						18	4	
LA PAZ	109.39	92.3	17	57	777						19	7	PP
MBOUR	110.06	29.1	14	31	-242	25	24	11					
ADDIS ABABA	115.25	329.6	18	33	-11	25	47	14			19	47	PP
SANTA LUCIA	120.16	106.8	18	53	0	25	50	-1			20	20	PP
LOME	122.07	11.7									20	36	
TERRE ADELIE	123.76	201.3									28	47	PP
CAPE HALLETT	124.29	187.6	19	1	0	26	6	2			20	49	PP
LWIRO	128.81	337.1	19	11K	1	26	32	15			21	19	PP
SCOTT BASE	129.87	186.5	19	10	-2	26	23	3			21	29	PP
WILKES	132.23	212.5	19	16K	0						22	53	PKS
BYRD STATION	134.14	169.4	19	9	-11						22	48	PP
TANANARIVE	136.75	304.9	19	25A	0						22	12	PP
LUANDA	137.53	356.9	19	30	4						22	16	PKS
PORT STANLEY	138.58	118.6	19	25	-3						22	18	SKP
BROKEN HILL	140.58	333.0	19	24	-8								
ARGENTINE I.	140.67	140.0	19	27	-5								
SOUTH POLE	141.22	180.0	19	23	-10						24	8	SKP
BULAWAYO	145.91	329.8	19	41K	0								
LCO. MARQUES	149.79	319.1	19	48A	1	26	50	-4			23	28	PP
MAWSON	150.31	217.4	19	47	-1						30	37	SKKS
WINDHOEK	150.84	348.6	19	50	1								
PRETORIA	151.27	326.7	19	51	2								
PIETERMZBURG	153.92	319.2	19	56	3								
KIMBERLEY	155.16	330.5	19	54	-1								
HERMANUS	162.03	337.8	20	50	47						24	36	PP

NOVEMBER 14 19.H 59.M 32.S EPICENTRE 14.67 -92.74 DEPTH= 45.KM

A=-0.04632 B=-0.96671 C= 0.25163 D=-0.9989 E= 0.0479
G=-0.0120 H=-0.2513 K=-0.9678 HT= 5.8

DEPTH OF FOCUS= 0.002R

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

COMITAN	1.68	20.5	0	32	5	0	54	6				
SAN SALVADOR	3.57	105.5	0	52	-2	1	38	2				
SANTIAGO MA.	4.31	105.3	1	3	-1	1	6	-48				
OAXACA	4.53	301.6	1	7	0	1	44	-16				
VERA CRUZ	5.55	324.7	1	25	3	2	27	2				
PUEBLA	6.79	310.5				2	58	2				
MERIDA	6.92	25.0	1	48K	7	3	12	13			2	6
TACUBAYA	7.76	308.2	1	54	1	3	31	11				
GUADALAJARA	11.72	302.2									5	8
CHIHUAHUA	18.59	320.5	4	15	0						9	47
CHINCHINA	19.41	118.1	4	22K	-3	8	8	12				
FUQUENE	20.81	114.1	4	37	-2	8	41	17			4	55 PP
BOGOTA	20.92	116.7	4	40K	-1	8	37	11			5	2 PP
FAYETTEVILLE	21.37	356.8	4	46A	1	8	50	15	5	10	5	35 PP
COLUMBIA	21.97	26.8	4	51	0	9	8	22				
ST. LOUIS 1	23.98	4.8	5	12	1	9	45	24				
TUCSON TELE.	24.04	320.1	5	11	0	8	23	-60			5	39 PP
TUCSON	24.05	319.8	5	12	1						5	45
FLORISSANT	24.13	4.5	5	13	1	9	47	23				
CARACAS	25.52	96.3	5	23	-3	10	8	21				
SAN JUAN	25.78	78.1	5	46	18							
MORGANTOWN	27.28	21.9	5	56	14							
GLEN CANYON	27.84	326.4	5	46	-1							
BOULDER CITY	29.01	321.0	5	27	-30							
FLAMING GRGE	29.91	334.2	6	4	-1							
PASADENA	30.06	314.7				11	6	5			6	5 PP
SALT LAKE C.	30.88	331.0	6	12	-2							
PALISADES	30.94	28.4	6	16	2	11	36	22			7	56 PPP
RUTH	31.32	325.6	6	24	6							
HUANCAYO	31.66	146.1	6	24	3							
EUREKA	32.04	324.9	6	23	-1						7	2
FRESNO	32.64	317.4	6	27	-2							
OTTAWA	33.84	21.7	6	37K	-3							
LICK	34.18	316.7	6	41A	-2							
RENO	34.31	321.4	6	43A	-1							
BOZEMAN	34.54	337.1	6	45	-1							
MINERAL	35.89	321.0	6	53	-4							
SHAWINIGAN	35.92	23.7	6	55	-2							
SEVEN FALLS	37.15	25.0	7	5	-3							
HUNGRY HORSE	37.90	336.8	7	13	-1							
LA PAZ	39.37	141.0	7	31	5							
CORVALLIS	39.50	325.2	7	45K	18							
BANFF	40.78	338.1	7	37	-1							
PENTICTON	40.96	333.2	7	38	-1							
RESOLUTE	60.02	359.3	10	1	-3							
COLLEGE	62.35	336.7	10	17	-3							
NORD	73.55	8.6	11	26	-4							
BAGNERES	82.22	47.6									12	41
PARIS	82.50	41.6									14	0
BENSBERG	84.86	38.7									14	52
BASLE	86.13	41.9									17	44
STUTTGART	86.83	40.4	12	38	-2							
LJUBLJANA	91.11	41.7									14	58
TAMANRASSET	91.81	66.0	13	3	-1							
RIVERVIEW	119.60	239.3	18	53	8							
BROKEN HILL	123.25	97.8	18	40	-12							
SHIRAZ	124.64	37.1	18	52	-2				19	34		
QUETTA	131.31	23.6	19	7	0						21	40 PP
SHILLONG	139.75	353.5	19	20	-3							
POONA	144.46	22.2	19	29	-2							
MUNDARING	148.47	231.9	19	36	-2							

NOVEMBER 15 9.H 5.M 59.S EPICENTRE 23.65 94.32 DEPTH= 56.KM

A=-0.06905 B= 0.91439 C= 0.39891 D= 0.9972 E= 0.0753
G=-0.0300 H= 0.3978 K=-0.9170 HT= 3.7

DEPTH OF FOCUS= 0.004R

SE= 2.42

	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
CHITTAGONG	2.64	241.3	0	41	0	1	3	-9				
SHILLONG	2.93	311.1	0	45K	0	1	16	-3			0	52 PP
TOCKLAI	3.11	7.5	1	0	12							
CALCUTTA	5.59	259.7	1	18	-4	2	23	-3				
LHASA	6.65	334.5	1	39	2							

CHATRA	7.20	297.5	1 43A	-2	2 59	-7		
BOKARO	7.81	273.0	1 48A	-5	3 8	-13		1 59 PPP
KUNMING	7.82	77.5	1 59A	6	3 32	11		
CHENGTU	11.10	48.9	2 40	2	4 44	3		
VIZIANAGRAM	11.55	243.6						4 25
PORT BLAIR	12.01	187.5	2 47	-3	4 55	-9		
LANCHOW	14.85	31.5	3 26	-2				
DEHRA DUN	15.94	298.1	3 43	1	6 25	-11		3 55 PP
MADRAS	17.08	234.1						3 53
CANTON	17.48	88.0	4 2A	1				
HONG KONG	18.33	90.3	4 12	1	7 37	6		
LAHORE	19.36	298.3	4 0	-23				
POONA	19.76	258.9	4 26	-1	7 50	-12		8 31 SS
BOMBAY	20.58	260.8	4 38	2				8 27
WARSAK DAM	22.41	302.5	4 56	2				
NANKING	23.16	63.4	5 2	0	9 7	2		
PEKING	24.62	43.3	5 20	4				
ZO-SE	24.94	66.8	5 19	0	9 36	0		
ANDIJAN	25.10	318.0	5 23	2				
FRUNSE	25.13	324.3	5 23K	2				
QUETTA	25.22	290.9	5 22	0	9 32	-9		5 49 PP
BAGUIO CITY	25.67	101.4	5 30	4				
ULAN-BATOR	26.21	19.4	5 32	1				
STALINABAD	26.33	310.4	5 33	1	9 57	-2		
MANILA	26.77	104.7	6 33	57				
LEMBANG	32.96	155.2	6 36K	5				
VLADIVOSTOK	36.51	48.6			12 33	-7		
SHIRAZ	37.68	288.4	7 9	-2	13 1	4		15 32
MATUSIRO	39.77	60.8	7 27A	-1	13 13	-15		
SVERDLOVSK	41.18	332.4	7 41	1				
TIFLIS	44.75	306.0	8 10	1				
KSARA	51.64	295.2	9 1	-2				
TIKSI	51.84	13.2	9 2	-2				
MOSCOW	52.13	323.2	9 4	-2				
ADDIS ABABA	54.93	264.4	9 39	12				
ISTANBUL KA.	56.54	304.6	9 37	-2				
ISTANBUL UN.	56.60	304.6	9 35	-4				
APATITY	57.34	336.5	9 46	2				
KHEYS	59.02	353.5	9 56	0				
MUNDARING	59.14	158.3	9 54	-3				
NURMIJARVI	59.71	327.5	9 58	-3				
SODANKYLA	59.83	335.5	10 1	-1				
PORT MORESBY	61.19	116.2	10 8	-3				
UMEA	62.02	331.1	10 13	-3				10 39
TANANARIVE	62.22	231.2	10 18	0			37	
KIRUNA	62.25	335.7	10 17	-1				
UPPSALA	63.20	326.6	10 23	-1				
SKALSTUGAN	65.57	330.9	10 38	-2				
PRUHONICE	65.81	315.9	10 41A	0				11 21 *SP
GOTEBORG	66.29	324.5	10 52	8				
LJUBLJANA	66.46	311.6	10 45	0				
COLLMBERG	66.58	317.4	10 59	13				13 14
CHARTERS TS.	66.73	126.3	10 44	-3				11 11
HALLE	67.20	317.8	10 49	-1				11 8
JENA	67.53	317.2	11 10	18				11 32
LWIRO	68.64	257.5	10 58	-1				
STUTTGART	69.41	315.2	11 3	-1			11 24	
NORD	69.74	351.6	11 5	-1				
ADELAIDE	71.91	142.8	11 17A	-2				
ISOLA	72.03	310.9	11 39	20				
BROKEN HILL	74.66	246.4	11 32A	-3				
BULAWAYO	77.41	241.3	11 49	-1				
RIVERVIEW	78.66	134.7	11 31A	-26				18 54
COLLEGE	79.76	22.6	12 3	0				
TAMANRASSET	80.14	290.5	12 4	-1			12 31	15 14 PP
RESOLUTE	81.73	2.5	12 14	0				
FORT NELSON	82.28	143.7	12 15	-1				
HUNGRY HORSE	103.96	19.0	18 17	260				
EUREKA	111.11	24.7	18 27	0				
FLAMING GRGE	112.08	19.2	18 29	0				
SOUTH POLE	113.51	180.0	18 30	-1	25 6	-6		
GLEN CANYON	114.94	22.7	18 45	11				
TUCSON TELE.	119.40	24.3	18 45	2				
TUCSON	119.44	24.4	18 45	2				
BYRD STATION	121.71	173.4	18 56	9				21 59 SKP

NOVEMBER 16 1.H 23.M 15.S EPICENTRE -23.96 179.17 DEPTH= 543.KM

A=-0.91476 B= 0.01320 C=-0.40377 D= 0.0144 E= 0.9999
G= 0.4037 H=-0.0058 K=-0.9149 HT= 3.6

DEPTH OF FOCUS= 0.081R

SE= 1.07

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	5.82	353.0	1 38	1	2 57	3		
NOUMEA	11.82	275.5	2 39	2	4 51	8		
AFIAMALU	13.15	42.2	2 48	-2	5 4	-4		
KARAPIRO	14.27	191.7	3 1	-1	5 38	10		
CHATEAU	15.51	190.6	3 13	-1	5 50	-1		
TONGARIRO	15.51	190.6	3 13	-1	5 55	4		
WELLINGTON	17.66	191.0	3 35	0	6 23	-5		
COBB RIVER	17.91	196.0	3 37	0	6 32	0		
KAIMATA	19.60	197.3	3 54	1	6 56	-5		
BRISBANE	24.02	256.2	4 32	-1	8 11	-2		
RIVERVIEW	26.36	241.7	4 55	1	8 50	0		14 45 SCS
CANBERRA	28.46	239.6	5 13	1	9 23	1		11 17
CHARTERS TS.	30.71	270.7	5 31K	-1	9 55	-2		
MOORLANDS	32.23	227.3						8 17 PCP
FORT NELSON	32.33	226.4	5 45	-1				8 17 PCP
PORT MORESBY	33.81	289.9	5 57	-1				
CAPE HALLETT	48.64	183.6	7 57	1				
SCOTT BASE	54.28	183.2	8 37A	0				
BYRD STATION	61.69	170.0	9 26	-1			11 25	
MATUSIRO	71.52	326.2	10 26K	-1				
ABUYAMA	71.64	323.3	10 27K	-1				
MAWSON	77.43	200.6	10 59	-1				
NANKING	80.18	311.5	11 14	0				
BERKELEY	82.49	42.9	11 27K	1				
LICK	82.55	43.7	11 28K	1				
CHANGCHUN	83.58	324.0	11 32K	0	21 12	4		
PEKING	86.55	316.7	11 46	0	21 40	4		
TUCSON	87.09	52.9	11 50	1				
TUCSON TELE.	87.22	52.8	11 51	2			13 45	
EUREKA	87.41	44.5	11 50	0				
KUNMING	88.62	298.2	11 57	1				
CHENGTU	90.17	303.6	12 3K	0				
COLLEGE	92.15	13.5	12 10	-2				
FLAMING GRGE	92.45	46.0	11 59	-14			14 0	
QUETTA	120.10	292.1	17 50	1				
APATITY	131.55	343.2	18 41	30				
SHIRAZ	132.39	289.0	18 2	-10				20 49
SODANKYLA	133.35	345.8	18 14	0				20 51 SKP
KIRUNA	134.20	348.9	18 14	-2				
UMEA	137.78	346.3	18 21	-1				21 3 SKP
ADDIS ABABA	139.40	255.3	18 27	2				
NURMIJARVI	139.42	340.9	18 17	-8				21 10 SKP
SKALSTUGAN	139.44	351.0	18 20	-5				
HELSINKI	139.60	340.4	18 23	-2				21 11 SKP
LWIRO	141.16	232.0	18 25	-5				
UPPSALA	141.87	345.0	18 24	-7				
GOTEBORG	145.05	348.0	18 35	0				
KSARA	146.54	295.5	18 43	5				
LWOW	147.70	329.4	18 44	5				
KRAKOW	149.34	333.4	18 47	5				18 54 PKP2
ISTANBUL UN.	149.83	311.6	18 46	4				
RACIBORZ	150.00	335.4	18 49	6				18 55 PKP2
COLLMBERG	150.69	342.2	18 51K	7			21 3	19 12 PKP2
HALLE	150.79	343.5	18 50	6				19 49
PRUHONICE	151.38	339.1	18 52K	7			21 3	
JENA	151.41	343.5	18 52	7				
STUTTGART	153.98	344.7	18 49	1				19 13
LJUBLJANA	154.71	334.4	18 50	1				19 17 PKP2
TAMANRASSET	174.05	259.9	19 7	1				20 44 PKP2

NOVEMBER 16 22.H 59.M 53.S EPICENTRE 38.62 89.44 DEPTH= 27.KM

A= 0.00769 B= 0.78330 C= 0.62160 D= 1.0000 E=-0.0098
G= 0.0061 H= 0.6216 K=-0.7833 HT= -1.2

SE= 2.98

	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	
LHASA	9.06	171.1	2	11	-1	3	55	1					
LANCHOW	11.74	98.2	2	43	-5								
CHATRA	11.91	189.9	2	52A	1	4	59	-5			6	22	
FRUNSE	12.00	295.2	2	51	-1	5	14	8			7	1	
DEHRA DUN	12.52	232.0	3	6	7	5	27	-9			6	48	
SHILLONG	13.17	170.3	3	13	5	7	4	90					
SEMIPALATNSK	13.46	334.0	3	9	-2	5	37	-4					
LAHORE	14.23	244.8	3	17	-4								
CHENGTU	14.37	119.2	3	24	1	6	13	10					
BOKARO	15.07	192.9	3	28	-4	6	14	-5			8	34	
WARSAK DAM	15.14	257.7	3	30	-3	6	13	-8					
TASHKENT	15.69	286.3	3	40	0						6	49	SS
ULAN-BATOR	15.72	48.2	3	43	2								
CALCUTTA	16.07	183.6	3	55	10	6	51	8					
DUZHANBE	16.16	276.3	3	43	-3	6	38	-7					
SIAN	16.27	99.6	3	50	2								
CHITTAGONG	16.34	172.1	3	46	-3	6	47	-2			3	59	PP
IRKUTSK	17.14	32.4	4	2A	3								
KUNMING	17.55	136.2	3	59	-5	7	15	-2					
QUETTA	20.34	252.3	4	34	-3	8	15	-3			4	52	PP
PEKING	20.71	77.7	4	40A	0	8	33	8					
HYDERABAD	23.20	207.5	5	12	7	9	16	5					
ASHKABAD	24.36	278.2	5	18A	2						10	31	SS
BOMBAY	24.39	221.0	5	19	2	9	33	1					
NANKING	24.75	96.3	5	19	-1	9	42	4					
CANTON	25.60	120.3	5	27	-1	9	56	4					
SVERDLOVSK	26.29	323.3	5	37	2	10	12	8					
HONG KONG	26.69	120.4	5	43	5	10	11	1					
CHANGCHUN	27.33	67.5	5	44A	0								
TEHERAN	30.31	276.5	6	14	3	11	25	17					
SHIRAZ	31.67	264.9	6	22K	-1						12	56	SS
VLADIVOSTOK	32.17	68.2	6	26	-1						13	31	SS
GORIS	33.25	285.3	6	38	1								
TIFLIS	33.96	289.7	6	45	2						7	58	PP
MOSCOW	38.13	313.9	7	20	2	13	11	2			8	49	PP
MATUSIRO	38.35	77.5	7	17	-3						8	50	
TIKSI	38.61	18.8	7	20	-2	13	20	3			8	52	PP
SIMFEROPOL	41.05	297.2	7	44A	2						17	1	SS
APATITY	42.09	331.6	7	53	2	14	15	6			17	20	SS
KSARA	42.97	280.7	7	59	1	14	39	18			9	48	PP
KHEYS	43.71	352.9	8	7	3	14	40	8			9	59	PP
JERUSALEM	44.29	278.3	8	10	1								
SODANKYLA	44.63	330.7	8	13	1						9	57	PP
HELSINKI	45.00	320.4	8	17	2								
NURMIJARVI	45.14	320.8	8	18	2								
ISTANBUL KA.	45.60	293.1	8	19	0								
ISTANBUL UN.	45.67	293.1	8	18K	-2								
LWOW	46.79	306.1	8	30	1	15	22	6			10	24	PP
KIRUNA	47.03	331.0	8	32	1						10	25	PP
UMEA	47.12	325.5	8	38	7						10	28	PP
PETROPAVLOVK	48.45	49.0	8	41	-1						18	49	SS
UPPSALA	48.70	320.3	8	44	0						9	12	
SOFIA	49.16	297.0	8	45	-2						10	52	
KRAKOW	49.31	307.2	8	48	0						9	24	
RACIBORZ	50.38	307.6	8	57	0						9	18	
ATHENS	50.55	291.1	8	48	-10								
SKALSTUGAN	50.67	325.7	8	58	-1								
BRATISLAVA	51.62	305.5	9	6	0								
GOTEBORG	51.99	318.3	9	9	0								
VIENNA-H	52.06	305.8	9	11	2								
COPENHAGEN	52.25	315.7	9	12	1								
PRUHONICE	52.66	308.4	9	15A	1						11	10	PP
POTSDAM	52.82	311.6	9	15	0								
COLLMBERG	53.19	310.3	9	19A	1						11	14	PP
HALLE	53.75	310.8	9	11	-11				9	22	10	17	PCP
LJUBLJANA	53.98	303.8	9	24A	0				9	31	10	35	
ADDIS ABABA	54.03	250.7	9	25	1								
JENA	54.16	310.3	9	25	0						11	25	PP
NORD	54.35	350.0	9	27A	1								
TRIESTE	54.63	303.5	9	28	0				9	35	11	41	*PPP
TOLMEZZO	54.83	304.6	9	29	-1								
MUNSTER	56.13	312.5	9	40	1						9	56	
STUTTGART	56.31	308.4	9	41	1								
HEIDELBERG	56.42	309.3	9	41	0								
RAVENSBURG	56.47	307.2	9	42	0								

TUBINGEN	56.53	308.2	9 42	0		
EBINGEN	56.72	307.9	9 43	0		
BENSBERG	56.76	311.5	10 44	0	9 50	
STRASBOURG	57.31	308.7	9 48	0		10 17
BESANCON	58.95	307.8	9 59	0		
MONACO	59.53	303.6	10 3	0		10 10
ISOLA	59.58	304.2	10 4	1		12 13 PP
DURHAM	60.10	318.1	10 6A	-1		
PARIS	60.40	310.6	10 10	1		11 25 PCP
SCORESBY SD.	60.70	339.0	10 12K	1		
CLERMONT-FD.	61.37	307.3	10 23	7		10 48
THULE	64.36	354.3	10 33	-2		
SETIF	64.45	296.9	10 35	-1		13 3 PP
BAGNERES	64.53	305.7	10 36	0		
ALGIERS UNI.	65.79	298.5	10 43	-2		
RESOLUTE	66.95	1.3	10 51	-1		
COLLEGE	67.59	22.9	10 57	1		
RELIZANE	68.04	298.7	10 58	-1		13 32 PP
TOLEDO	68.88	304.6	11 4	0		
TAMANRASSET	71.58	284.7	11 19A	-1		13 59 PP
BROKEN HILL	77.63	240.1	11 52A	-3		
CHARTERS TS.	79.01	126.7	12 0	-3		
BULAWAYO	81.60	236.0	12 14A	-3		
VICTORIA	88.46	21.2	12 52	1		
PENTICTON	88.74	18.5	12 53A	1		
HUNGRY HORSE	90.93	15.4	13 3	1		16 39 PP
SHAWINIGAN	93.72	347.8	13 16	1		
PALISADES	99.30	347.3				32 27 SS
TUCSON TELE.	106.95	17.8	18 25	777		
CAPE HALLETT	123.61	158.8	18 37	-18		
SCOTT BASE	124.82	165.4	18 56	-1		
HUANCAYO	150.26	328.8	19 47	4		
LA PAZ	150.47	312.0	19 47A	4		

NOVEMBER 17 19.H 46.M 45.S EPICENTRE 52.33-170.26 DEPTH= 0.KM

A=-0.60483 B=-0.10386 C= 0.78955 D=-0.1692 E= 0.9856
G=-0.7782 H=-0.1336 K=-0.6137 HT= -6.3

SE= 2.06

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	17.03	33.8	4 1	0				
PETROPAVLOVK	18.80	284.5	4 23	0	7 50	0		
SITKA	20.58	62.9	4 47	4				
PENTICTON	31.60	74.9	6 27	0				
TIKSI	32.49	329.0	6 35	1				
YAKUTSK	32.77	311.0	6 36	-1				
SHASTA	34.32	90.4	6 52	2				
MINERAL	35.01	90.3	6 53	-3				
HUNGRY HORSE	35.34	73.5	6 59	0				9 30 PCP
RENO	36.60	90.0	7 26K	16				
RESOLUTE	36.64	25.5	7 9	-1				
BUTTE	37.36	76.1	7 18	2				
VINEYARD	37.39	94.9	7 28	12				
EUREKA	38.99	87.1	7 30	0				13 24 SCP
VLADIVOSTOK	39.02	280.1	7 30	0	13 32	2		
MATUSIRO	39.15	267.1	7 32K	1	13 30	-2		9 40 PCP
SALT LAKE C.	40.73	82.5	7 45	1				
PASADENA	41.07	95.2	8 2	15				
ABUYAMA	41.87	267.4	7 56K	2				
THULE	42.51	20.0	7 59	0				
CHANGCHUN	42.56	285.2	7 59A	0				
GLEN CANYON	43.25	86.8	8 0	-5				13 37 SCP
KHEYS	44.61	350.0	8 15	-1				
NORD	45.56	5.3	8 23	0				10 0 PP
TUCSON TELE.	46.87	91.0	8 35	1				14 39 SCP
PEKING	50.28	286.8	9 0	0				
ULAN-BATOR	50.53	300.2	9 2	0				
ZO-SE	53.26	274.9	9 23A	0				
NANKING	54.05	277.5	9 27A	-2				
FLORISSANT	54.77	70.4	9 32	-2	17 9	-5		
ST. LOUIS 1	54.95	70.4	9 33	-2	17 11	-5		
SCORESBY SD.	55.38	12.4	9 39K	1				
OTTAWA	58.26	55.7	9 57	-2				

SHAWINIGAN	58.92	53.0	10	2	-1					
APATITY	59.13	349.6	10	4	-1					
KIRUNA	59.89	355.3	10	9	-1					
SODANKYLA	59.95	352.5	10	10	0					
LANCHOW	60.13	291.2	10	13A	1					
PALISADES	62.30	58.2				18	55	3		
TACUBAYA	63.34	92.5							16	36
SVERDLOVSK	63.47	331.5	10	34	0					
COLUMBIA	63.49	68.2	10	34	0					
CANTON	63.85	274.4	10	38	1	19	14	3		
CHENGTU	63.90	286.9	10	38	1	19	13	1		
HONG KONG	63.93	273.1	10	38	1	19	3	-9		
SKALSTUGAN	64.41	358.7	10	39	-1					
RABAUL	64.68	222.3	10	1	-41					
HALIFAX	64.72	49.2	10	41K	-1					
NURMIJARVI	66.88	352.0	10	56	0					
PULKOVO	67.03	348.9	10	40	-17					
UPPSALA	67.99	355.7	11	2	-1					
KUNMING	68.75	283.8	11	9	1	20	12	1		
MOSCOW	69.86	343.6	11	12	-3					
FRUNSE	69.93	314.8	11	15A	0					
GOTEBORG	70.32	358.7	11	17	0					
PORT MORESBY	71.48	224.8	11	23	-1				20	42
ANDIJAN	72.60	315.0	11	31	0					
NAMANGAN	72.71	315.6	11	27	-5					
SHILLONG	74.75	292.0	11	42A	-2					
CHATRA	76.40	296.2	11	54A	1					
HALLE	76.53	358.6	11	54	0					
COLLMBERG	76.71	357.9	11	54A	-1				12	5 PCP
BENSBERG	77.06	1.7	11	57	0					
JENA	77.10	358.8	11	57	0				12	27
CHITTAGONG	77.27	290.0	11	58	0					
LWOW	77.51	350.6	11	59	0					
RACIBORZ	77.71	354.4	12	1	1				12	10 PCP
PRUHONICE	77.99	356.8	12	2A	0				12	43
WARSAK DAM	78.55	311.7	12	4	-1					
PARIS	79.05	4.9	12	11	3					
STUTTGART	79.28	0.3	12	9	0					
STRASBOURG	79.45	1.3	12	10	0					
BRATISLAVA	79.68	355.0	12	11K	0					
SIMFEROPOL	80.85	342.7	12	19	2					
TIFLIS	81.52	334.2	12	22	1					
LJUBLJANA	81.91	356.6	12	23	0					
ISOLA	83.84	1.9	12	35	2					
QUETTA	83.85	312.9	12	33A	0					
SAN JUAN	83.97	67.8	12	34	1					
BAGNERES	84.62	7.0	12	43	6					
TEHERAN	85.06	327.1	12	40	1					
ISTANBUL KA.	85.48	345.5	12	41	0					
ISTANBUL UN.	85.52	345.5	12	43K	2					
KARACHI	88.37	310.1	12	55A	0					
CARACAS	89.78	73.1	13	4K	2					
SHIRAZ	90.20	323.8	13	3K	-1	23	56	0	16	34 PP
HELWAN	95.99	341.3	13	32	2					
LWIRO	127.62	335.7	19	10	2					
BYRD STATION	135.21	168.9	19	20	-2					
BROKEN HILL	139.36	331.5	19	24	-5					
SOUTH POLE	142.14	180.0	19	29	-5					
BULAWAYO	144.67	328.3	19	39A	0					
WINDHOEK	149.75	346.4	19	46	-					
PRETORIA	150.02	325.2	19	57	9					
MAWSON	150.50	218.5	19	53	5					
KIMBERLEY	153.92	328.8	20	3	10					

NOVEMBER 17 21.H 23.M 12.S EPICENTRE -56.68-121.68 DEPTH= 270.KM

A=-0.28987 B=-0.46964 C=-0.83391 D=-0.8510 E= 0.5252
G= 0.4380 H= 0.7096 K=-0.5519 HT= -7.8

DEPTH OF FOCUS= 0.037R

SE= 2.10

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-S S	*PP M	*PP S	SUPP. M	SUPP. S	
BYRD STATION	23.46	179.1	4	47	0	9	14	36			37	33	PKPPKP

CAPE HALLETT	31.03	213.4	5 56	1	11 10 31	6 58 PP
SCOTT BASE	31.58	202.6	5 58	-2	11 18 30	
SOUTH POLE	33.50	180.0	6 16	0		
TERRE ADELIE	42.31	215.7	7 31	2	14 4 35	
WILKES	51.21	204.2			16 7 33	
MIRNY	54.37	196.3	9 1	0		
MAWSON	55.99	182.1	9 12	-1		
LA PAZ	56.64	67.5	9 16K	-1	17 22 35	
HUANCAYO	56.93	57.6	9 19	0		
CHINCHINA	71.96	49.0	10 52	-4		
BOGOTA	72.29	50.6	11 2	4	20 32 34	
FUQUENE	73.20	50.6	11 6	3		
CARACAS	80.66	54.5	11 43	-1	21 48 20	
PORT MORESBY	82.86	263.9	11 55	-1	22 29 39	
RABAUL	84.40	270.9	12 2	-1		
TUCSON TELE.	89.16	9.3	12 23	-3		
PASADENA	90.52	2.9	12 36	3		
PALISADES	105.33	35.5				33 6 SS
LWIRO	116.58	146.6				19 49 PP
TAMANRASSET	128.98	109.0	18 35	-1		20 36 PP
PARIS	146.16	79.2	19 16	9		
HELWAN	147.18	133.3	19 15	6		
ROME	147.34	97.1	19 19	10		20 44
NORD	147.77	15.4	19 9	-1		
TIKSI	148.12	325.5	19 10	0		
ULAN-BATOR	149.61	274.2	19 17	4		
STUTTGART	149.85	84.0	19 19	6		20 5 PKP2
HEIDELBERG	149.89	82.6	19 19	6		
ATHENS	150.45	114.5	19 22	8		
TRIESTE	150.48	92.7	19 28	14		
TOLMEZZO	150.53	90.9	19 23	9		
MUNSTER	150.63	77.4	19 23	9		
LJUBLJANA	151.15	92.8	19 26	11		
JENA	152.26	81.9	19 26	9		
KSARA	152.46	136.6	19 40	23		23 14 PP
SHIRAZ	152.67	169.0	19 22	5		24 18
HALLE	152.74	81.1	19 28	11		
QUETTA	152.82	196.5	19 22	5		
COLLMBERG	153.22	82.2	19 31	13		19 45 PKP2
PRUHONICE	153.40	85.8	19 36	18		20 20 PKP2
SOFIA	153.74	107.2	19 20	1		
ISTANBUL KA.	155.49	117.1	19 49	28		
KHEYS	155.94	0.1	19 22	1		
TIFLIS	162.67	144.0	19 32	3		

NOVEMBER 18 6.H 3.M 59.S EPICENTRE 35.20 28.13 DEPTH= 246.KM

A= 0.72217 B= 0.38615 C= 0.57390 D= 0.4715 E=-0.8818
G= 0.5061 H= 0.2706 K=-0.8189 HT= 0.1

DEPTH OF FOCUS= 0.034R

SE= 4.21

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ATHENS	4.50	309.1	0 52K	-18				
ISTANBUL UN.	5.86	6.3	1 33	6				
ISTANBUL KA.	5.90	6.9	1 23	-4				2 39 SG
HELWAN	5.96	152.2	1 1	-27	2 0	-37		
JERUSALEM	6.83	118.0	1 11	-28	2 23	-34		
SOFIA	8.37	334.9	2 19	20	4 43	71		
BUCHAREST	9.34	351.0						4 33
MESSINA	10.54	290.2	2 26	0	4 33	12		
SIMFEROPOL	10.76	23.4	2 31	2				
KISHINEV	11.82	2.3	2 28	-14				
ROME	13.95	303.3						4 7
TIFLIS	14.58	58.5	3 11	-5				
LWOW	14.91	349.6	3 12	-8				6 16
LJUBLJANA	14.95	320.5						4 16
TRIESTE	15.10	318.0	3 11	-12				4 28 PGPGPG
VIENNA-H.	15.69	329.7	3 22	-8				
TOLMEZZO	15.97	319.0	3 34	1				4 1
KRAKOW	16.00	340.5	3 32	-1				
PADOVA	16.03	314.4	3 23	-11				4 41
RACIBORZ	16.54	337.0	3 34	-5				4 12

MAKHACH-KALA	16.89	56.9	3	12	-31					
PRUHONICE	17.79	330.2	3	47	-6	7	22	22		
MONACO	18.08	304.3	3	52	-4					
SETIF	18.49	279.7	3	57	-3				4	11 PP
ISOLA	18.50	305.3	3	58	-2					
PLAUEN	19.18	327.7	4	4	-3					
STUTTGART	19.43	320.	4	6	-3				4	43
COLLMBERG	19.44	330.5	4	6	-4				4	38
SONNEBERG	19.54	326.1	4	12	1					
BASLE	19.67	315.0	4	14	2	7	49	14		
JENA	19.76	327.8	4	9	-4	7	31	-6	4	27 PP
HALLE	20.02	329.4	4	15	0				4	51
HEIDELBERG	20.10	320.8	4	11	-5					
STRASBOURG	20.13	317.8	4	14	-2				5	4
POTSDAM	20.25	332.6	4	15	-3					
BESANCON	20.47	312.7	4	21	1					
SHIRAZ	21.29	98.2	4	20K	-8					
PARIS	23.27	313.6	4	47	0					
TAMANRASSET	23.27	243.9	4	47	0	8	54	16	5	18 PP
GOTEBORG	24.97	339.3	5	1	-2					
FOLINIERE	25.05	311.5	5	2	-1					
HELSINKI	25.06	356.3	5	3	-1					
NURMIJARVI	25.42	356.0	5	7	0					
DURHAM	28.37	322.8	5	37K	3					
SKALSTUGAN	30.04	345.9	5	46	-2					
KIRUNA	32.97	354.6	6	12	-2					
LWIRO	37.26	178.9	6	49	-1					
KHEYS	46.95	6.4	8	8	0					
NORD	49.22	352.1	8	25	0					
SHILLONG	55.00	81.4	9	5K	-3					
RESOLUTE	64.24	345.7	10	12	1					
SHAWINIGAN	72.04	314.6	11	3	4					
COLLEGE	80.21	358.2	11	48	4					
ST. LOUIS 1	87.01	316.4	12	23	4					
HUNGRY HORSE	90.22	335.8	12	38	4					
BOZEMAN	91.46	332.7	12	43	4					
EUREKA	98.63	332.7	13	18	6					
SOUTH POLE	125.02	180.0	18	36	5					

NOVEMBER 19 12.H 16.M 47.S EPICENTRE 8.56 137.90 DEPTH= 34.KM

A=-0.73383 B= 0.66304 C= 0.14789 D= 0.6704 E= 0.7420
G=-0.1097 H= 0.0991 K=-0.9890 HT= 6.7

DEPTH OF FOCUS= 0.000R

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
MANILA	17.55	291.8	4	6	2	7	28	12				
BAGUIO CITY	18.62	296.5	4	17	0	7	57	17				
RABAUL	19.06	131.2	4	21	-1						5	20
PORT MORESBY	20.08	152.5	4	32	-1	8	20	8				
HONG KONG	26.59	303.6	5	36	-1	9	53	-14				
ZO-SE	27.31	327.5	5	43	-1							
CANTON	27.63	304.4	5	50	3							
MATUSIRO	27.85	0.5	5	47K	-2	10	25	-3			6	37
NANKING	29.36	325.4	6	2	0							
CHARTERS TS.	29.64	164.0	6	4	-1						9	40
VLADIVOSTOK	34.82	352.3									8	7 PP
CHANGCHUN	36.81	344.7	7	7A	0						8	35 PP
PEKING	36.85	331.7	7	8A	1	12	55	6				
SIAN	36.92	318.1	7	9	1							
KUNMING	37.31	300.5	7	11	0							
CHENGTU	38.51	309.5	7	21	0							
BRISBANE	38.54	158.5	7	26	5						13	9
LANCHOW	41.36	316.6	7	47A	2							
ADELAIDE	43.30	179.0	8	0K	0							
RIVERVIEW	43.99	164.1									18	0 SS
CANBERRA	44.88	167.1	8	13	0							
CHITTAGONG	46.29	292.7	8	24	0	15	11	3	8	34	10	15 PP
SHILLONG	46.87	297.0	8	27A	-2							
ULAN-BATOR	47.18	331.8	8	32	1							
IRKUTSK	51.46	334.2	9	5A	1							
YAKUTSK	53.69	355.2	9	21	0							
TIKSI	63.26	356.8	10	31	3							

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WARSAK DAM	65.68	303.4	10 40	-3				
ANDIJAN	65.96	310.8	10 45	0	19 42	13		
NAMANGAN	66.52	310.9	10 49	0				
QUETTA	69.30	299.0	11 5	-1				
COLLEGE	75.63	25.1	11 44	0				
SVERDLOVSK	75.92	326.4	11 45	0				
KHEYS	79.95	350.6	12 8	1				
SHIRAZ	81.83	298.8	12 17A	0				
TIFLIS	86.68	311.5	12 43	1				
SCOTT BASE	87.77	174.1	12 48	1				
MOSCOW	88.73	326.2	12 44	-8				
SODANKYLA	90.14	338.9	12 58	0				
RESOLUTE	90.94	12.2	13 2	0				
MAWSON	92.21	201.7	13 7	-1				
HUNGRY HORSE	95.42	39.6	13 26	4				
EUREKA	96.83	48.5	13 31	2				
BUTTE	97.14	41.4	13 32	2				
SOUTH POLE	98.50	180.0	13 37	1				
BYRD STATION	100.56	170.0	13 43	-3				17 53 PP
FLAMING GRGE	101.11	45.4	13 46	-2				
LJUBLJANA	105.83	322.8	14 11	777				14 51
TRIESTE	106.50	322.7	14 41	777				
TARANTO	106.80	316.7	13 50	777				16 50
ROME	109.24	319.9	14 9	777				14 33
TAMANRASSET	123.94	304.7	18 58	3				
SAN JUAN	144.24	41.4	19 34	1				
MBOUR	146.22	312.3	19 40	4				
HUANCAYO	147.13	98.9	19 46	8				
LA PAZ	153.42	109.8	20 0	13				

NOVEMBER 20 22.H 1.M 53.S EPICENTRE -6.86 -80.77 DEPTH= 0.KM

A= 0.15922 B=-0.98009 C=-0.11865 D=-0.9871 E=-0.1604
G=-0.0190 H= 0.1171 K=-0.9929 HT= 6.9

SE= 3.79

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
CHINCHINA	12.83	23.8	2 59	-7	6 15 44			3 49
BOGOTA	13.22	30.6	3 8K	-3	6 23 43			
FUQUENE	14.12	30.0	3 23	0				
LA PAZ	15.64	128.9	3 43A	0	6 59 21			4 1 PP
GALERAZAMBA	18.36	17.4	4 18	1				
SANTIAGO MA.	21.61	339.3	4 55	2	9 6 17			
SAN SALVADOR	22.05	337.7	5 1	3	9 9 12			
CARACAS	22.08	38.8	4 57A	-1	9 17 20			
COMITAN	25.56	334.0	5 35	3	9 59 1		5 59	6 27 PP
TRINIDAD	25.97	48.1	5 36	0				
ST. VINCENT	27.77	44.3	5 58	6				
SANTA LUCIA	28.07	161.8	5 55	0	10 47 8			6 36
OAXACA	28.52	326.5	6 9	10				7 49 SPP
BARBADOS	28.92	46.7	6 18	15				
SAN JUAN	28.95	29.8	6 2	-1	10 44 -9			8 15
FORT FRANCE	28.96	42.1	6 25	22	12 0 67			
MERIDA	28.97	342.7	6 7	4				6 43 *SP
VERA CRUZ	29.99	330.0	6 19	7	11 13 3			7 23 PP
PUEBLA	30.93	326.6						7 43 PP
TACUBAYA	31.79	325.5	6 31K	3	11 33 -5			8 12 *SPP
GUADALAJARA	35.21	321.5	7 7	9	12 43 12			9 31 PCP
MAZATLAN	38.98	320.7	7 31	2				14 5 *SS
COLUMBIA	40.64	359.7	7 40	-3	13 47 -7			
LITTLE ROCK	42.83	345.9	8 2	1				
CHIHUAHUA	42.90	326.5	8 9	7	14 29 2			10 15 *PPP
FAYETTEVILLE	44.54	344.5	8 15A	0	14 42 -9		8 41	9 57 PP
ST. LOUIS 1	46.11	349.7	8 22	-5	15 6 -8			
MORGANTOWN	46.26	0.9	8 27A	-2	15 57 41			
FLORISSANT	46.29	349.6	8 24A	-5	14 57 -19			
PENNSYLVANIA	47.50	3.0	8 37	-1	15 29 -4			9 24
PALISADES	48.05	7.0	8 39A	-4	15 35 -6		9 5	10 35 PP
CLEVELAND	48.11	359.2	8 41A	-2	15 36 -6		9 3	
TUCSON	48.30	325.4	8 41K	-4	15 38 -7		8 47	10 38
TUCSON TELE.	48.31	325.5	8 40	-5				10 59 PP
PORT STANLEY	48.54	161.1	8 48	2				
WESTON	49.76	9.2	8 55A	-1	16 3 -2			
OTTAWA	52.22	4.5	9 10	-5				

BOULDER CITY	53.29	325.5	9	22	-1					
HALIFAX	53.53	15.2	9	22	-2	16	57	0	9	45
SHAWINIGAN	53.65	6.9	9	26	1					
PASADENA	53.99	321.5	9	22	-6	17	2	-1	11	5 PP
FLAMING GRGE	54.34	333.5	9	24	-6				9	51
SEVEN FALLS	54.46	8.3	9	30	-1					
SALT LAKE C.	55.34	331.5	9	35K	-3	17	22	1		
RUTH	55.73	328.1	9	39K	-1					
EUREKA	56.44	327.6	9	43	-2					
FRESNO	56.72	322.8	9	44	-4					
VINEYARD	57.67	321.8	9	53	-1					
LICK	58.21	322.2	9	57K	-1				10	28
RENO	58.59	325.2	10	1	0					
BOZEMAN	58.89	335.6	10	1	-2	17	59	-9		
BERKELEY	58.93	322.3	10	0K	-3	18	7	-1	12	13 PP
SAN FRANCSCO	58.98	322.1	10	12	9					
ARGENTINE I.	59.44	172.0	10	7	0					
BUTTE	59.80	334.9	10	7K	-2	18	21	1		
MINERAL	60.15	324.8	10	10A	-1				11	17
UKIAH	60.31	322.8	10	14	1	18	27	1	12	28 PP
SHASTA	60.84	324.7	10	17	1					
ARCATA	61.93	323.9	10	27K	3					
HUNGRY HORSE	62.26	335.6	10	25	-1				11	4 PCP
CORVALLIS	63.90	327.5	10	48	11					
BANFF	65.08	336.7	10	45	1					
PENTICTON	65.40	333.2	10	41	-5					
VICTORIA	66.61	330.6	10	53	-1					
MBOUR	66.70	71.2	10	56	1	19	58	12		
ANGRA DO HO.	67.16	43.1				21	15	83		
BYRD STATION	75.41	186.5	11	44	-3	21	29	2		
SITKA	77.56	332.9	12	13	14	22	2	12		
LISBON	80.16	48.9	12	18K	5	22	31	13	12 45	13 45
HONOLULU	80.78	292.8	12	15	-2	22	23	-1		
COIMBRA	81.12	47.6	12	29	11	22	33	5		28 37 SS
SERRA PILAR	81.26	46.7	12	14A	-5	22	33	4	12 39	15 23 PP
RESOLUTE	81.86	356.2	12	21	-1	22	30	-5		
LOME	82.82	83.0	12	30	3	23	2	17		
SOUTH POLE	83.19	180.0	12	26	-3	24	25	96		38 57 PKPPKP
REYKJAVIK	83.19	22.2	12	37	8					
MALAGA	83.26	51.8	12	29A	0	22	57	7		15 47 PP
THULE	83.47	2.9	12	28	-3					
GRANADA	83.99	51.5	12	34A	1	22	59	2	12 53	15 11 PP
TOLEDO	84.28	48.8	12	33	-2	23	3	3	13 0	28 53 SS
SIDA	84.50	23.4	12	38	2					
ALMERIA	84.80	52.1	12	38	1	23	7	2	12 58	15 55 PP
SCORESBY SD.	86.50	16.7	12	47	1	23	28	6		24 21 PS
ALICANTE	86.66	50.9	12	37	-9	23	11	-12		16 3 PP
COLLEGE	86.67	336.8	12	45K	-2	23	20	-3		37 13 PKKP
RELIZANE	86.97	53.6	12	45	3	23	23	-3		16 25 PP
JERSEY	87.80	40.1	13	7	15	24	8	34		
TORTOSA	87.87	48.6	12	38	-14	22	30	-65		
SCOTT BASE	87.96	191.3	12	52	-1	23	31	-4		29 55 SS
FOLINIERE	88.75	40.7	12	58	1					
ALGIERS UNI.	89.14	53.0	12	58	0	23	54	8		16 43 PP
CAPE HALLETT	89.19	196.8	12	56	-3	23	47	0		29 19 SS
BARCELONA	89.19	48.3				22	59	-48		17 9 PP
TAMANRASSET	89.22	67.1	12	57	-2	23	23	-24	13 22	16 30 PP
DURHAM	89.36	34.7	13	0	1				13 28	13 49 *SP
KEW	89.40	38.1	13	1	1	23	49	0		24 56 SP
ABERDEEN	89.61	32.3	13	8A	7	24	16	25		18 39 PPP
CLERMONT-FD.	90.62	44.1	13	8	3	23	42	-18		
PARIS	90.69	41.0	13	7	1	23	40	-20		
SETIF	90.93	53.8	13	2	-5	24	0	-2		16 50 PP
BESANCON	92.78	42.9	13	16	1					
DE BILT	92.87	38.0	13	18	2	23	57	-23		26 17 PS
LUANDA	92.89	99.2								17 15 PP
NORD	93.07	7.6	13	17	0	23	57	-24		16 4
ISOLA	93.17	46.1	13	15	-2	24	0	-22		
MONACO	93.40	46.6	13	22	4					
NEUCHATEL	93.41	43.2	13	19	1					23 57
WITTEVEEN	93.87	37.4	13	37	17					
BASLE	93.89	42.8	13	18	-2					23 53
BERGEN	93.97	29.8								17 12
BENSBERG	93.98	39.3	13	22	1				13 41	
STRASBOURG	94.13	41.7	13	22	1	24	25	-6	13 40	17 7 PP
HERMANUS	94.35	125.3								17 7 PP
MUNSTER	94.36	38.3	13	25	3					14 28
WINDHOEK	94.61	113.3	13	16	-8					

PAVIA	94.77	45.2	13	25	1	24	20	-16		17	18 PP
CHIAVARI	94.80	46.1	13	47	22	25	2	26		19	18 PPP
HEIDELBERG	94.82	41.0	13	25	0						
EBINGEN	94.89	42.2	13	26	1						
TUBINGEN	94.98	41.9	13	25	0					13	45
STUTTGART	95.14	41.6	13	25	-1	24	4	2		17	12 PP
RAVENSBURG	95.29	42.6	13	27	0						
PRATO	96.05	46.6	13	45	15	24	0	-7			
WELLINGTON	96.25	227.2	13	37	6	26	36	148		17	47 PP
SONNEBERG	96.49	40.1	13	29	-3	24	19	10	13 42	17	28
PADOVA	96.69	45.1	13	50	17	24	21	11		17	50 PP
JENA	96.76	39.5	13	34	1	24	17	7	13 53	17	22 PP
ROME	96.95	48.7	13	36	2	24	6	-5		17	30 PP
HALLE	97.01	39.0	13	36	1	25	7	55		17	40 PP
PLAUEN	97.11	40.0							13 52		
GOTEBORG	97.22	32.7	13	55	19					17	44 PP
CHEB	97.23	40.4	13	23	-13	24	27	14		25	6 S
COPENHAGEN	97.43	34.8	13	36	0	24	20	6		25	7 S
SKALSTUGAN	97.46	26.8	13	58	21						
TOLMEZZO	97.53	44.2	13	36	-1	24	15	1		17	34 PP
COLLMBERG	97.66	39.2	13	40	2	24	21	6		17	57 PP
POTSDAM	97.73	38.1	13	40	2	24	17	2	13 58	17	27 PP
TRIESTE	98.02	44.9	13	35	-4				14 0	17	45 PP
SUVA	98.06	250.6								26	30 PS
PRAGUE	98.55	40.5	14	0	18	24	27	7			
LJUBLJANA	98.57	44.5	13	43	1				14 15	17	46 PP
PRUHONICE	98.63	40.6	13	47	5	24	26	6	14 17	17	36 PP
ROXBURGH	98.83	222.0				24	16	-5		32	17
MESSINA	99.16	52.5	13	51	7	24	29	6		26	50 PS
VIENNA-H.	99.83	42.3	13	45	-2	25	25	59			
KIMBERLEY	100.20	120.7	13	46	-3						
BRATISLAVA	100.32	42.4	13	47	-3					17	56 PP
TARANTO	100.51	50.2								17	45 PP
KIRUNA	100.54	22.3	13	56	5					18	12 PP
RACIBORZ	100.98	40.4	13	56	3	24	41	9		14	14 *SP
MAWSON	101.36	166.6	13	58	4	25	13	40			
BUDAPEST	101.64	43.0	18	27	271	24	37	2			
KRAKOW	102.10	40.4				24	40	3	14 20	18	4 PP
WARSAW	102.61	38.1				24	41	2		20	36 PPP
BELGRADE	102.76	45.7	14	14	14	24	49	9		18	24 PP
SODANKYLA	102.96	22.3								17	56 PP
TIMISOARA	103.25	44.7								17	23
NURMIJARVI	103.52	29.4								18	42 PP
KHEYS	103.87	6.4				25	44	59		18	30 PP
LWOW	104.76	40.4	14	13	4	24	50	1		18	47 PP
SOFIA	104.98	47.7	14	31	21	25	29	39		19	31 PP
APATITY	105.42	21.3	14	13	777	25	38	46		18	13 PP
BULAWAYO	105.61	113.0	17	57	777						
PULKOVO	106.45	29.5	14	15	777				14 45	13	45 PP
WILKES	106.52	184.7	14	25	777	24	57	0		18	56 PP
BROKEN HILL	106.71	107.3	17	57	777						
LCO. MARQUES	107.63	119.9				25	43	41		18	55 PP
LVIRO	109.13	94.8	14	31A	777	24	17	-51		18	57 PP
ISTANBUL KA.	109.42	48.9	14	34	777	25	10	0			
MOSCOW	111.41	32.3	14	43	-233	25	15	-3		26	7 SKKS
SIMFEROPOL	112.35	44.1								19	23 PP
JERUSALEM	115.65	58.1	19	5	21					20	47 PP
KSARA	115.88	55.8	18	52	7					20	7 PP
RIVERVIEW	116.36	227.0				27	39	122		19	58 PP
CANBERRA	117.14	224.6	19	51	64					29	34 PS
BRISBANE	118.05	234.1	14	57	-232					36	36
MELBOURNE	118.44	220.2								20	13 PP
TIFLIS	120.74	45.1								27	4 SKKS
SVERDLOVSK	121.72	23.8								20	27 PP
GORIS	122.59	47.1								20	41 PP
TANANARIVE	123.00	117.7	19	10	12					20	40 PP
RABAUL	126.03	259.8	19	40	36						
CHARTERS TS.	126.55	238.9	19	6	1					38	23
TEHERAN	127.68	49.6	19	12	5					21	30 PP
PORT MORESBY	129.59	251.9	19	17	6					39	24 SSS
SHIRAZ	130.62	56.6	19	15	2	26	7	-14	19 30	21	31 PP
ASHKABAD	131.77	43.9								22	45 PKS
TUKUBASAN	132.61	314.0	19	33K	16					22	27 PP
HONGO	133.08	313.6								22	33
MATUSIRO	133.78	315.4	19	21	2					21	59 PP
SEMIPALATNSK	133.80	16.8	19	20	1					22	55 PKS
VLADIVOSTOK	133.85	326.8	19	20	1						
IRKUTSK	134.54	355.6	19	19	-2					23	0 PKS
ABUYAMA	136.48	315.0	19	50A	26						

TASHKENT	136.56	33.2	19 24	0			25 15 PPP
CHANGCHUN	136.66	332.4	19 30	6			
FRUNSE	138.12	27.3	19 24	-3			
MUNDARING	138.12	201.8	19 30	3			
DUZHANBE	138.13	36.5	19 32	5			
PERTH	138.28	201.4	19 51	24			22 29
ULAN-BATOR	138.57	352.2	19 33	5			
QUETTA	141.84	48.5	19 30	-3	26 28 -14		22 56 PP
WARSAK DAM	142.80	39.7	19 31	-4			
PEKING	143.64	337.8	19 34	-3			22 43 PP
KARACHI	144.40	56.3	19 38	0			23 4 PP
LAHORE	146.17	40.2	19 41	0			
ZO-SE	148.32	322.4	19 49	5			
NANKING	149.00	326.5	19 48	2			
DEHRA DUN	149.34	37.8	19 55	9			24 15
LANCHOW	150.64	352.4	19 51	3			
SIAN	151.31	343.1	19 53	4			
BOMBAY	151.66	62.5	20 5	15			25 18 PP
POONA	152.71	62.5	19 53	2			24 21
CHENGTU	155.90	349.9	19 56	1			
BAGUIO CITY	157.05	296.3	20 13	16			
CHATRA	157.07	28.6	19 55	-2			24 32 PP
HYDERABAD	157.16	60.7	20 34	37			24 25
MANILA	157.19	291.7					20 15 PP
KODAIKANAL	158.23	79.6	20 36	37			24 30
BOKARO	158.76	35.9	20 2	3			24 24 PP
CANTON	158.91	321.4	20 4	5			
HONG KONG	158.94	318.3	19 37	-22			
SHILLONG	160.11	19.9	20 3	2	26 47 -18		24 9 PP
CALCUTTA	161.23	32.8	20 5	3			23 15
KUNMING	161.53	349.9	20 5	3			
LEMBANG	164.03	211.8	20 8A	3			23 19 PKS
DJAKARTA	164.99	210.5	20 19	13			

NOVEMBER 21 4.H 29.M 8.S EPICENTRE -3.45 152.13 DEPTH= 360.KM

A=-0.88246 B= 0.46658 C=-0.05976 D= 0.4674 E= 0.8840
G= 0.0528 H=-0.0279 K=-0.9982 HT= 7.1

DEPTH OF FOCUS= 0.052R

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
RABAUL	0.75	177.2	0 46	0				
PORT MORESBY	7.71	219.7	1 52	1	3 20	1		
CHARTERS TS.	17.50	198.6	3 43	1	6 48	6		
NOUMEA	23.32	144.7	4 38	0				5 44
BRISBANE	23.81	178.6	4 43	0				20 42
RIVERVIEW	30.24	181.6	5 32	-8				
CANBERRA	31.84	184.9	5 54K	0				
ADELAIDE	33.74	200.1	6 10	0				
KARAPIRO	40.45	151.0	7 7	1				9 0 PCP
TONGARIRO	41.45	152.2	7 16	2				
CHATEAU	41.46	152.2	7 15	1				
COBB RIVER	41.80	156.5	7 17	0				
MATUSIRO	41.85	343.1	7 15K	-2	13 20	12		9 5 *SP
GEBBIES PASS	44.01	158.5	7 35	1				
MUNDARING	44.07	225.8	7 32	-3				
LEMBANG	44.45	263.8	8 37	59	13 37	-8		
SIAN	55.31	316.4	8 58	-1	16 14	0		
LANCHOW	59.80	315.6	9 29	-1				
TERRE ADELIE	63.70	184.7	9 54	-1				
CHITTAGONG	64.21	296.7	9 59	0				
SHILLONG	65.07	300.1						18 18
LHASA	67.00	304.1	10 18K	2				
CAPE HALLETT	69.70	174.2	10 29A	4				
SCOTT BASE	74.75	176.8	11 3	1				
COLLEGE	80.86	22.0	11 33	-2				
FRUNSE	83.21	313.7	11 48	1				
ANDIJAN	84.50	311.3	11 55K	1				
NAMANGAN	85.06	311.5	11 59A	2				
BYRD STATION	86.34	169.9	11 52	-11			13 16	
SOUTH POLE	86.57	180.0	12 3	-1				19 57
STALINABAD	86.94	308.8	12 5	-1				

QUETTA	87.55	300.3	12	9K	0	22	3	-14	13	32				
CORVALLIS	88.53	45.4	12	14	1									
BERKELEY	88.63	52.1	12	14A	0									
SHASTA	88.79	49.3	12	15K	1									
LICK	89.07	52.7	12	16A	0									
MINERAL	89.36	49.7	12	16A	-1									
FRESNO	90.49	53.4	12	23K	1									
RENO	90.67	50.6	12	24A	1									
PASADENA	91.66	56.1	12	28K	0									
EUREKA	93.64	50.8	12	36	-1								13	6
BANFF	94.13	39.1	12	38	-1									
BOULDER CITY	94.46	54.3	12	42	1									
HUNGRY HORSE	95.11	41.9	12	43	-1									
TUCSON	97.78	58.1	12	59	3									
FLAMING GRGE	98.66	49.3	12	58	-2									
RESOLUTE	99.27	14.4	13	1	-1								17	28
SHIRAZ	100.05	299.3	13	4	-2									
KIRUNA	107.90	342.7	17	12	777									
UMEA	110.44	339.4	17	52	3									
NURMIJARVI	110.64	335.2	17	51	1									
LITTLE ROCK	112.82	53.7	17	55	1									
FLORISSANT	113.42	49.1											18	49 PP
ST. LOUIS 1	113.56	49.2											18	49 PP
HELWAN	118.27	302.1	18	4	0									
PRETORIA	118.49	238.3	18	8	3									
BULAWAYO	119.84	244.6	18	9	2									
COLLMBERG	121.36	331.2	18	11	1									
LWIRO	123.08	265.1	18	17	3									
LJUBLJANA	123.81	325.6	18	16K	1									
BENSBERG	124.28	333.9	18	17	1									
HEIDELBERG	124.67	331.7	18	18	1									
STUTTGART	124.84	330.9	18	18A	1									
RAVENSBURG	125.33	329.8	18	18	0									
EBINGEN	125.39	330.5	18	19	1									
ISOLA	129.08	328.0	18	22	-3								21	11 PP
FOLINIERE	129.14	336.9	18	27	2									
HUANCAYO	130.37	108.9	18	32	4									
SETIF	135.25	320.9	18	35	-2								21	35 PP
LA PAZ	135.55	117.7	18	40	3								21	31
SAN JUAN	139.74	65.5	19	38	53									
TAMANRASSET	142.40	303.7	18	47	-4				20	16			21	55 PP

NOVEMBER 22 3.H 31.M 54.S EPICENTRE -19.19-173.34 DEPTH= 0.KM

A=-0.93874 B=-0.10969 C=-0.32670 D=-0.1161 E= 0.9932
G= 0.3245 H= 0.0379 K=-0.9451 HT= 4.9

SE= 2.67

	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	
APIA	5.56	15.8	1	23	-3	2	23	-8					
SUVA	7.87	276.2	2	2	4								
NOUMEA	19.16	257.2	4	25	-2	7	4	-54					
KARAPIRO	21.04	205.1	4	44	-3						5	12	
TONGARIRO	22.15	203.5	4	59	0								
COBB RIVER	24.86	205.7	5	30	5								
KAIMATA	26.60	205.7	5	54	13								
GEBBIES PASS	27.13	202.7	5	49	3	10	31	7					
BRISBANE	32.10	248.9	6	29	-2	11	34	-9					
RIVERVIEW	34.77	238.0	6	58A	4	12	35	11			8	20	PP
CANBERRA	36.88	236.4	7	8	-4						15	40	
CHARTERS TS.	38.00	261.7	7	17	-4	13	8	-6					
PORT MORESBY	39.42	278.6	7	29	-4	13	59	24			18	11	SSS
FORT NELSON	40.64	225.6	7	40	-3	13	56	2					
CAPE HALLETT	53.97	186.1	9	23	-4	16	54	-9					
TERRE ADELIE	55.71	199.9	9	43	3								
SCOTT BASE	59.50	184.8	10	7	0	18	23	7					
MUNDARING	63.84	243.2	10	32	-4								
PERTH	64.16	243.1	10	38	0	19	31	16					
BYRD STATION	65.23	171.1	10	43	-2								
WILKES	67.03	205.2	11	13	16	19	47	-3			20	25	PPS
TUKUBASAN	70.53	321.5	11	17	-1						13	42	
SOUTH POLE	70.93	180.0	11	19	-2								
MATUSIRO	71.87	320.6	11	25A	-1	20	51	4			21	24	SCS
BAGUIO CITY	73.98	294.1	11	51	12								

MIRNY	74.03	204.5	11	40	1						
LICK	74.36	40.5	11	19A	-22						
PASADENA	74.62	44.9	11	42	0	21	20	2		12	23
FRESNO	75.15	41.9	11	45	0						
PETROPAVLOVK	75.89	343.0	11	48	-2						
SHASTA	76.08	37.5	11	51	0						
RENO	76.86	39.7	11	57	2						
LEMBANG	77.47	267.1	11	44A	-15					21	44
DJAKARTA	78.42	267.4	12	55	51					22	59
TUCSON	78.68	50.0	12	7	2						
TUCSON TELE.	78.81	50.0	12	6	0						
EUREKA	79.19	41.6	12	8	0						
ZO-SE	80.30	307.6	12	16	2	22	40	21		22	30 SKS
GLEN CANYON	80.64	45.6	12	11	-5						
HONG KONG	81.95	296.9	12	24	1	22	42	6			
NANKING	82.56	307.5	12	26	0	23	0	17		22	52 SKS
CANTON	82.97	297.3	12	31K	3	23	6	19		22	56 SKS
PENTICTON	83.17	32.1	12	29	0						
CHANGCHUN	84.12	320.3	12	35K	1	23	9	11		22	54
FLAMING GRGE	84.18	43.2	12	33	-1						
MAWSON	84.24	198.7	12	30	-4						
BUTTE	84.99	37.6	12	43	5						
HUNGRY HORSE	85.50	35.1	12	42	1						
COLLEGE	86.05	10.6	12	42	-1						
PEKING	88.11	313.6	12	57K	4	23	50	13		23	23 SKS
KUNMING	92.71	295.5	13	14	-1	24	29	11		23	54 SKS
FAYETTEVILLE	92.72	52.8	13	13A	-2					26	38
HUANCAYO	93.50	103.9	13	23	5						
CHENGTU	93.53	301.1	13	21	2	24	37	12		23	55 SKS
SHILLONG	102.22	292.9								24	27
CALCUTTA	104.51	289.1								24	57
PALISADES	109.31	52.3				25	14	5		28	34 PS
NURMIJARVI	136.77	347.1	19	27	3						
SHIRAZ	137.21	293.2								22	56
SIMFEROPOL	145.65	324.5	19	41	1						
LWOW	146.43	339.5	19	45	4					21	30
WITTEVEEN	146.43	360.0	19	48	7						
POTSDAM	146.50	352.9	19	43	2						
KISHINEV	146.84	331.8	19	45	3						
KEW	147.32	8.1								42	12 SS
ADDIS ABABA	147.32	256.5	19	48	5						
HALLE	147.49	353.9	19	46	3					23	22 SKP
RACIBORZ	147.83	346.0	19	50	6					19	59 PKP2
JENA	148.09	354.1	19	46	2	20	14			20	52
BENSBERG	148.30	359.4	19	51	7					20	9
PRUHONICE	148.64	350.2	19	49	4					20	40
SONNEBERG	148.67	354.4	19	47	2						
LWIRO	149.55	228.0	19	53	7						
BRATISLAVA	149.87	346.0	19	54	7						
FOLINIERE	149.93	9.5	19	51	4						
VIENNA-H.	149.96	347.0	19	17	-30						
KSARA	150.20	305.2	19	49	2					23	44 PP
PARIS	150.26	5.6	19	58	11						
STRASBOURG	150.67	358.5	19	54	6					20	18
ISTANBUL KA.	150.98	323.6	20	4	15						
JERUSALEM	151.43	301.7	19	57	8					24	41 PP
BESANCON	152.01	1.0	20	16	26						
LJUBLJANA	152.44	348.1	19	58	7					20	10 PKP2
SOFIA	152.65	332.6	18	0	-111						
TRIESTE	152.97	349.0	20	11	20					20	23 PKP2
HELWAN	155.22	300.1	20	20	26						
TAMANRASSET	176.27	16.5	20	13	2					25	51 PP

NOVEMBER 22 6.H 21.M 45.S EPICENTRE -36.31 52.81 DEPTH= 0.KM

A= 0.48829 B= 0.64344 C=-0.58954 D= 0.7966 E=-0.6045
G=-0.3564 H=-0.4696 K=-0.8077 HT= -0.3

SE= 3.01

	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
TANANARIVE	17.93	343.6	4	10A	-2	7	33	3			4	23 PP
PIETERMZBURG	19.93	283.1	4	31K	-5							
GRAHAMSTOWN	21.73	270.2	4	50A	-4							
PRETORIA	23.52	289.7	5	7	-5							
KIMBERLEY	24.74	279.7	6	40K	76							

HERMANUS	27.37	264.0	5	49	0	10	22	-6			11	43	SS
BROKEN HILL	30.78	308.7	6	15A	-4								
MAWSON	31.86	172.7	6	28	-1	13	30	111			7	29	PP
WINDHOEK	33.77	284.0	5	28	-77								
MIRNY	38.08	155.2	7	23	1	12	45	-30					
LWIRO	40.51	321.3	7	41A	-1	13	51	-1			9	5	
WILKES	44.48	150.9	8	18	4	14	54	4			18	12	SS
ADDIS ABABA	46.99	340.9	8	35	1	15	31	5					
PERTH	51.54	104.6	9	13	4	16	24	-6					
MUNDARING	51.83	104.8	9	13	1								
SOUTH POLE	53.88	180.0	9	25	-2	17	6	5			10	34	PCP
MADRAS	55.43	33.0	9	37K	-1	17	24	2			12	5	PP
TERRE ADELIE	56.69	151.7	10	45	58	17	35	-4					
DJAKARTA	57.67	72.2	9	54K	0	17	56	4					
LEMBANG	57.87	73.4	9	57K	1	17	57	2					
POONA	58.06	23.7	9	55	-2	17	59	2			12	9	PP
BOMBAY	58.08	22.4	9	57	0	17	59	2			18	27	PS
HYDERABAD	58.69	28.9	10	1K	0	18	7	2			19	55	SCS
SCOTT BASE	59.55	167.0	10	8	1	18	28	11					
PORT BLAIR	60.76	46.1	10	6	-10								
CAPE HALLETT	63.41	162.3	10	32	-1	19	16	10			23	15	SS
BYRD STATION	63.84	181.5	10	22	-14						12	20	PP
SHIRAZ	65.61	359.7	10	45A	-3	19	30	-3	11	28	13	12	PP
ADELAIDE	67.44	117.5	10	59	0								
BOKARO	67.45	32.7	10	58	-1	19	27	-28					
QUETTA	67.46	13.2	10	59K	0	19	59	4			13	32	PP
CALCUTTA	67.49	35.6	11	6	6								
ARGENTINE I.	67.67	203.9	11	0	1								
HELWAN	68.85	340.1	11	6	-2						12	12	
CHITTAGONG	69.02	38.6	11	9	0	20	19	5			13	42	PP
JERUSALEM	69.71	344.1	11	12	-1	20	52	30					
MELBOURNE	70.37	122.9	11	18K	1								
DEHRA DUN	70.39	23.0	11	18	0	20	25	-5			14	6	PP
LAHORE	70.45	19.4	11	16	-2								
CHATRA	70.66	32.3	11	18K	-1	20	29	-4					
KSARA	71.54	345.2	11	25	1						14	2	PP
TEHERAN	71.69	358.8	11	25	0	20	48	3					
SHILLONG	71.74	36.8	11	25K	-1	20	45	-1			15	47	PPP
WARSAK DAM	72.10	16.3	11	28	0								
PORT STANLEY	73.50	217.4	11	38	2								
TAMANRASSET	73.82	315.1	11	36	-2	20	39	-30			14	9	PP
CANBERRA	74.45	122.4	10	43K	-59				11	46			
LHASA	74.79	33.9	11	44K	0	21	19	-1					
STALINABAD	75.95	12.8	11	50	0								
RIVERVIEW	76.75	122.2	11	59A	4	21	55	13					
KUNMING	77.15	45.4	11	56K	-1	21	44	-2					
TIFLIS	78.00	353.9	12	1	-1								
ATHENS	78.66	336.9	12	5K	0								
ANDIJAN	78.76	15.0	12	6K	0								
NAMANGAN	78.84	14.4	12	6K	0								
ISTANBUL UN.	80.02	341.9	12	14	1								
ISTANBUL KA.	80.02	342.0	12	13	0								
CHARTERS TS.	81.05	108.2	12	19	1	22	29	2					
FRUNSE	81.24	16.1	12	19K	0								
BRISBANE	81.64	117.7	12	23	2	22	36	3					
MESSINA	81.75	331.2				22	33	-1			14	2	
CHENGTU	82.13	42.7	12	23K	-1	22	34	-4					
HONG KONG	82.18	55.1	12	25	1	22	43	4					
CANTON	82.18	54.0	12	24	0	22	37	-2					
SIMFEROPOL	82.63	346.7	12	25	-1								
BAGUIO CITY	82.67	63.6	12	27	1								
MBOUR	82.81	293.6	12	31	4	22	54	9					
SOFIA	83.11	338.6	12	30	1	22	52	4					
BUCHAREST	83.92	341.1	12	34	1								
SETIF	84.52	323.3	12	35	-1						15	52	PP
KISHINEV	85.70	343.8	12	41	-1								
BELGRADE	85.90	337.6	12	45K	2	23	18	2			13	25	
ALGIERS UNI.	86.12	322.1	12	46K	2	23	4	-14			20	16	
ROME	86.13	331.0	12	46	2	23	13	-5			16	27	PP
LANCHOW	86.20	39.2	12	44K	0	23	11	-8					
RELIZANE	86.60	319.9	12	55	9								
SIAN	87.55	43.5	12	41	-10								
PORT MORESBY	87.98	100.1	12	54	1	23	25	-11					
TRIESTE	88.87	333.8	12	59	2	23	25	-19					
LJUBLJANA	88.94	334.4	13	0	3								
PADOVA	89.35	332.5	13	5	6	23	50	2			21	0	
TOLMEZZO	89.77	333.7	13	5	4						13	21	
GRANADA	89.87	318.3	13	20A	18	24	2	9			29	49	SS

MALAGA	89.97	317.5	13	5K	3				16	39	PP
VIENNA-H.	90.24	336.6	13	4	0						
NANKING	91.84	50.9	13	9	-2						
TOLEDO	92.10	319.9	13	0	-12						
PRUHONICE	92.33	336.4	13	11	-2	24	15	0			
SVERDLOVSK	93.01	4.3	13	15	-1	23	49	-32			
STUTTGART	93.13	332.9	13	14	-3				17	31	
BESANCON	93.16	330.2	13	27	10						
STRASBOURG	93.54	331.9	13	31	12	23	30	-55	25	45	PS
JENA	94.13	335.3	13	19	-2				13	50	
PEKING	95.72	43.6							17	25	
DE BILT	97.37	332.6							26	33	PS
KEW	99.02	329.6							26	34	PS
CHANGCHUN	103.36	45.2							18	17	
LA PAZ	103.41	237.8							17	40	PP
MATUSIRO	107.30	57.2				25	8	8	34	33	PSPS
TUKUBASAN	108.42	58.4							19	10	PP
HUANCAYO	111.45	235.8	18	39	3						
KHEYS	116.72	1.0	18	43	-3						
SCORESBY SD.	118.94	338.2							37	9	
NORD	122.79	350.6	18	55	-3				20	37	PP
THULE	132.18	344.2	19	16	0						
RESOLUTE	138.58	347.6	19	29	1				40	43	
PALISADES	138.66	293.3							32	23	PS
SHAWINIGAN	138.67	301.8	19	30	2						
OTTAWA	140.61	299.7	19	25A	-6						
COLUMBIA	142.46	280.4	19	36	1						
MORGANTOWN	142.94	289.8	19	32	-3						
MERIDA	143.89	255.3	19	30	-7						
VERA CRUZ	147.84	246.4	19	40	-4						
COLLEGE	148.86	16.9	19	48	3						
TACUBAYA	150.21	243.1	19	53	6				20	13	
ST. LOUIS 1	150.70	285.8	19	49	1						
FLORISSANT	150.82	286.1	19	49	1						
LITTLE ROCK	151.70	277.3	19	56	6						
FAYETTEVILLE	153.43	279.4	19	58K	6				23	47	PP
BANFF	162.96	334.3	20	5	2						
HUNGRY HORSE	164.55	325.2	20	5	0				24	46	PP
BOZEMAN	164.66	312.5	20	7	2				24	51	PP
FLAMING GRGE	165.34	293.7	20	6	0				24	57	PP
BUTTE	165.34	315.9	20	7	1				24	53	PP
TUCSON TELE.	165.82	258.6	20	8	2						
PENTICTON	165.87	339.3	20	6	0						
TUCSON	165.88	258.1	20	8	2				25	4	PP
SALT LAKE C.	167.19	295.0	20	7	0				24	43	PP
GLEN CANYON	167.45	277.6	20	13	6				25	6	PP
EUREKA	170.58	293.0	20	11	2				25	21	PP
PASADENA	172.31	256.4	20	12	2				25	32	PP
RENO	173.33	301.1	20	13	2						
FRESNO	174.03	276.6	20	18	7						
MINERAL	174.03	314.2	20	11K	0				25	36	
SHASTA	174.22	320.8	20	13	2						
LICK	175.43	284.7	20	17K	6				25	49	
BERKELEY	175.76	293.0	20	13K	2						

NOVEMBER 22 12.H 28.M 50.S EPICENTRE -40.08 -74.74 DEPTH= 0.KM

A= 0.20200 B=-0.74017 C=-0.64136 D=-0.9647 E=-0.2633
G=-0.1689 H= 0.6187 K=-0.7672 HT= -1.7
SE= 1.87

	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	3.87	33.8	0	58	-4	1	35	-14					
SANTA LUCIA	7.40	27.6	1	51A	0	3	14	-3			3	38	
LA PAZ	24.19	15.6	5	22K	3	9	46	11			6	0	PP
ARGENTINE I.	25.92	169.9	5	32	-3								
HUANCAYO	27.93	358.8	5	56	3	10	47	10					
BYRD STATION	43.40	190.3	8	5	-1						39	35	PKPPKP
BOGOTA	44.49	0.9	8	17A	3	14	55	5					
CHINCHINA	44.84	358.8	8	16A	-1	14	56	1					
FUQUENE	45.34	1.4	8	22K	1								
SOUTH POLE	50.11	180.0	8	56	-2	16	14	4			39	29	PKPPKP
CARACAS	50.84	9.9	9	4K	0	16	24	4					
TRINIDAD	51.97	16.7	9	13	0								

ST. VINCENT	54.44	16.2	9	30	-1						
SANTIAGO MA.	54.81	343.6	9	34	0						
SAN SALVADOR	55.15	342.8	9	37	1						
FORT FRANCE	55.98	15.9	9	42	0						
SCOTT BASE	56.69	192.9	9	45	-2	17	38	-1		12 4	PP
ANTIGUA	58.18	14.5	9	54	-4						
ST. KITTS	58.21	13.5	9	56	-2						
COMITAN	58.34	340.3								15 50	
SAN JUAN	58.71	9.6	9	58	-3						
CAPE HALLETT	59.25	198.8	11	19A	74	19	25	73	11 40	23 40	SS
VERA CRUZ	62.26	337.1	10	29	3	18	45	-6		26 25	
MERIDA	62.28	344.3	10	22K	-4					21 28	
TACUBAYA	63.42	334.1	10	32K	-1	19	10	4			
MAWSON	67.96	163.8	11	0	-2	20	4	3	11 15		
TERRE ADELIE	69.90	194.4	11	13	-1	20	24	0			
HERMANUS	71.52	119.6	11	26	2	20	45	2		21 7	SKS
WILKES	73.83	182.2	11	38	0	21	9	0		25 55	SS
COLUMBIA	73.94	354.6	11	40	2	21	10	0			
CHIHUAHUA	74.32	331.6	11	44	3					21 22	
LITTLE ROCK	76.25	345.1	11	50	-2						
WINDHOEK	77.17	108.6	11	56	-1						
ROXBURGH	77.31	220.4				21	44	-3			
FAYETTEVILLE	77.89	344.0	11	58K	-3	21	52	-2	12 20	12 38	*SP
CHATEAU	78.32	228.3	12	1	-2						
WASHINGTON	78.63	358.1	11	4	-61					14 1	PP
KIMBERLEY	78.73	118.0	12	8	3						
KARAPIRO	79.17	229.3	12	4	-4						
TUCSON	79.35	329.5	12	10	1					15 19	PP
TUCSON TELE.	79.39	329.6	12	10	1					15 30	PP
MORGANTOWN	79.48	355.9	12	10A	1						
ST. LOUIS 1	79.62	347.7	12	10K	0	22	9	-3			
FLORISSANT	79.80	347.6	12	11K	0	22	10	-4			
PENNSYLVANIA	80.55	357.6	12	13	-2	22	21	-1		12 17	PCP
PALISADES	80.72	0.6	12	14	-2	22	26	2		15 28	PP
CLEVELAND	81.42	354.8	12	18A	-2	22	30	-1	12 38		
WESTON	82.14	2.6	12	24K	1						
LUANDA	82.82	95.5	12	31	4						
PRETORIA	82.97	117.7	12	27	-1						
LOME	83.27	76.3	12	33	4						
GLEN CANYON	83.82	331.1	12	33	1					16 2	PP
PASADENA	84.05	325.0	12	34K	1	22	56	-1		15 50	PP
HALIFAX	84.91	8.0	12	36	-2	23	10	4			
OTTAWA	85.10	359.3	12	37K	-2						
LCO. MARQUES	85.78	120.5	12	44	2				13 3		
SHAWINIGAN	86.27	1.4	12	44	0						
FLAMING GRGE	86.58	334.4	12	46	0					16 32	PP
SEVEN FALLS	86.89	2.7	12	47	0						
BULAWAYO	86.95	113.7	12	47K	-1						
FRESNO	86.97	325.3	12	48	0						
RUTH	87.08	329.8	12	49K	1					16 23	PP
SALT LAKE C.	87.28	332.7	12	49	0					16 27	PP
VINEYARD	87.65	324.2	12	53	2						
EUREKA	87.68	329.3	12	51	0					30 40	PKKP
LICK	88.26	324.4	12	55K	1					13 40	
CONCORD	88.97	324.5	12	58K	1						
BERKELEY	88.97	324.3	12	58K	1	23	29	-16		16 37	PP
SAN FRANCSCO	88.97	324.1	12	58	1						
RENO	89.29	326.8	13	0K	1						
UKIAH	90.43	324.4	13	5	1						
BROKEN HILL	90.62	109.4	13	8K	3						
MINERAL	90.73	326.1	13	5K	-1						
SHASTA	91.36	325.8	13	8	-1						
BOZEMAN	91.36	335.5	13	8	-1						
BUTTE	92.16	334.7	13	12	0						
HUNGRY HORSE	94.69	334.9	13	23	-1					17 31	PP
RIVERVIEW	95.12	216.9	13	32	6	24	2	1			
TAMANRASSET	97.30	66.5	13	35	-1	23	56	-17	14 5	17 30	PP
PENTICTON	97.43	332.2	13	38	2						
BANFF	97.62	335.5	13	37	0						
LWIRO	98.88	100.5	13	46A	3	24	28	7		17 51	PP
BRISBANE	99.63	221.7	13	45	-1	24	10	-15			
MALAGA	100.04	50.2	13	50	2					17 56	PP
ALGIERS UNI.	104.59	54.2				25	9	21		18 25	PP
SETIF	105.71	55.9								18 44	PP
CHARTERS TS.	108.98	220.7	18	55	777						
CLERMONT-FD.	110.19	46.8								19 13	PP
KEW	111.81	40.5	19	37	61					38 59	
MESSINA	113.45	59.2								19 34	PP

ROME	113.51	54.4						19	36 PP
ADDIS ABABA	113.72	98.4	18	43	3			19	37 PP
STRASBOURG	114.40	46.3						19	40
DE BILT	114.96	42.1						29	40 PS
RESOLUTE	115.26	354.2	18	44	1			22	16 PP
STUTTGART	115.34	46.7	18	34	-9			19	43 PP
TARANTO	115.78	57.9						20	48
THULE	116.30	1.7	18	46	1				
SCORESBY SD.	116.62	17.4						19	50 PP
PORT MORESBY	117.36	227.9	18	49	2				
JENA	117.74	45.5	18	50	2	25 35	-7	35	25 SS
PRUHONICE	118.92	47.5	18	50	0			20	28 PP
COLLEGE	118.99	332.2	18	51	1			33	43 PKKP
BELGRADE	119.99	54.9						20	12 PPP
HELWAN	120.15	74.8						20	25 PP
SOFIA	120.34	58.2						19	54
BUCHAREST	123.42	57.5						20	26
WARSAW	123.57	47.3	18	50	-9			20	44 PP
SKALSTUGAN	123.76	32.5	19	1	1				
ISTANBUL KA.	123.93	62.2						20	41 PP
JERUSALEM	124.00	74.9	19	1	1			22	59 PP
UPPSALA	124.72	37.9	18	59	-2				
NORD	125.08	8.8	18	59	-3			20	45 PP
KSARA	125.47	73.1	19	6	3			20	57 PP
UMEA	127.18	33.7	19	6	0				
NURMIJARVI	128.27	38.4	19	8	0				
KIRUNA	128.29	28.8	19	7	-1				
HELSINKI	128.32	38.9	19	9	1				
SIMFEROPOL	128.88	59.7	19	9	0			21	15 PP
SODANKYLA	130.53	29.9	19	10	-3				
PULKOVO	130.85	40.2	19	14	1			21	28 PP
APATITY	133.16	30.0	19	9	-9			21	43 PP
LEMBANG	133.27	183.2	19	19A	1			22	49
MOSCOW	133.95	46.6	19	20	1			21	45 PP
TIFLIS	135.10	67.3	19	19	-2			21	56 PP
KHEYS	135.90	10.0	19	22	-1			22	2 PP
SHIRAZ	136.05	86.7	19	20	-3	28 35	123	22	3 PP
TEHERAN	137.81	78.1	19	29	3			22	16 PP
PETROPAVLOVK	141.96	308.1	19	30	-3	26 26	-16	19 58	22 42 PP
SEVERO-KUR.	143.43	304.1	19	34	-2				
ASHKABAD	143.81	77.9	19	34	-3			22	51 PP
KARACHI	144.64	103.7	19	39	1				
BOMBAY	145.03	117.6	19	40	1			23	16 PP
MADRAS	145.15	133.7	19	41	2			26	14
POONA	145.47	119.3	19	41	1			23	3
TIKSI	146.22	346.8	19	39	-2				
SVERDLOVSK	146.71	44.7	19	44	2			30	2 SKKS
QUETTA	147.36	95.5	19	44A	1		20 13	23	23 PP
HYDERABAD	147.63	126.4	19	50	7				
KURILSK	148.52	293.6	19	47	2				
PORT BLAIR	149.60	155.1	19	55	9				
TUKUBASAN	152.44	273.2	19	49K	-2			23	37 PP
WARSAK DAM	152.52	92.0	19	51	0				
TASHKENT	152.81	75.6	19	52	1	27 5	8	20	13 PKP2
BAGUIO CITY	152.92	213.8	20	1	10				
LAHORE	153.61	99.1	19	54	2				
MATUSIRO	153.99	272.8	19	51A	-2		20 14	23	35 PP
DEHRA DUN	155.80	105.2	20	14	19			24	4
FRUNSE	156.93	73.1	19	57	0		20 29	24	8
CALCUTTA	157.38	135.7	20	1	4				
CHITTAGONG	158.97	143.2	20	0	1				
SEMIPALATNSK	159.68	51.2	19	59	-1			24	20 PP
VLADIVOSTOK	159.88	287.4	20	0	0				
CHATRA	159.98	125.8	20	1	1			24	19 PP
SHILLONG	161.70	138.2	20	1	-1			24	30
CANTON	161.73	204.4	20	6	4			24	30 PP
ZO-SE	164.27	240.2	20	6	1			24	52 PP
LHASA	164.37	127.4	20	7	2			24	48 PP
CHANGCHUN	164.63	290.6	20	4	-1			24	49 PP
KUNMING	164.93	171.2	20	8K	3			24	47 PP
NANKING	166.46	238.0	20	7	0			24	59 PP
IRKUTSK	167.79	2.7	20	7	0			25	5 PP
CHENGTU	170.54	173.4	20	9K	0			25	15 PP
PEKING	171.63	273.1	20	8	-2			25	23 PP
ULAN-BATOR	172.08	352.0	20	11	1			25	27 PP
SIAN	173.49	207.8	20	14	3				
LANCHOW	175.82	163.8	20	6	-5			25	43 PP

NOVEMBER 23 4.H 11.M 20.S EPICENTRE -4.57 153.36 DEPTH= 342.KM

A=-0.89107 B= 0.44691 C=-0.07921 D= 0.4483 E= 0.8939
G= 0.0708 H=-0.0355 K=-0.9969 HT= 7.1

DEPTH OF FOCUS= 0.049R

SE= 3.96

	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	
RABAUL	1.25	287.3	1	6K	19								
PORT MORESBY	7.81	231.8	2	10	17	3	48	27					
HONIARA	8.12	126.8	1	56	0	3	33	5					
CHARTERS TS.	16.90	203.6	3	43	5	6	40	7					
NOUMEA	21.70	145.5	4	22	-3	7	49	-10					
BRISBANE	22.70	181.3	4	37	3	8	16	1					
SUVA	27.98	120.8									9	40	
RIVERVIEW	29.18	183.8	5	35A	2	9	56	-3					
CANBERRA	30.86	187.0	5	50A	3	10	23	-3	5	55			
ADELAIDE	33.15	202.3	6	11	4						11	1	
MELBOURNE	33.98	191.9	6	16K	2	11	11	-3			8	52	*SP
TARRALEAH	38.07	188.3	6	51K	3						8	57	PCP
BAGUIO CITY	38.55	303.5				12	36	-9					
FORT NELSON	38.57	187.1	6	51K	-1						8	58	PCP
KARAPIRO	38.88	151.6	6	58A	3						9	2	PCP
TONGARIRO	39.90	152.8	7	2	-1								
CHATEAU	39.90	152.8	7	2	-1								
COBB RIVER	40.29	157.2	7	6	0								
TUAI	40.34	150.9	7	5	-2								
KAIMATA	41.06	159.6	7	15	2								
WELLINGTON	41.27	155.4	7	14	0								
GEBBIES PASS	42.53	159.2	7	22	-2								
MATUSIRO	43.29	342.1	7	35K	4						9	13	PP
MUNDARING	44.19	227.4	7	42	4								
LEMBANG	45.56	264.9	7	58A	9	14	12	8					
DJAKARTA	46.35	265.8									13	52	
CANTON	47.77	306.9									13	48	
NANKING	49.08	320.4									15	5	
KUNMING	57.33	303.6	9	24	9	16	55	12					
CHENGTU	58.71	310.1				17	9	8			11	2	
LANCHOW	61.45	315.4	9	51	8	17	46	10					
TERRE ADELIE	62.69	185.3	9	50	-1	17	46	-5					
CHITTAGONG	65.81	296.8	10	21	10	18	40	11					
SHILLONG	66.69	300.2	10	23K	6								
LHASA	68.65	304.1	10	37K	8	19	13	10					
COLLEGE	81.44	21.7	11	40	-1								
BYRD STATION	85.02	169.9	11	58	-1				13	36	39	35	PKKP
SOUTH POLE	85.46	180.0	12	1	0	21	43	-18					
WARSAK DAM	85.77	304.5	12	8	6								
MAWSON	85.99	202.6	12	2	-1								
BERKELEY	88.34	52.0	12	15	0								
SHASTA	88.59	49.2	12	16	0						13	53	
LICK	88.77	52.6	12	16A	-1						12	51	
MINERAL	89.15	49.6	12	18A	0								
QUETTA	89.18	300.2	12	24A	5	22	17	-19					
RENO	90.43	50.5	12	25K	1								
PASADENA	91.27	56.0	12	28	0						14	0	
PENTICTON	91.49	40.8	12	28	-1								
EUREKA	93.39	50.8	12	38	0				14	12	29	47	PKKP
BANFF	94.22	39.1	12	41	-1								
HUNGRY HORSE	95.12	42.0	12	45	-1				14	23	16	33	
KHEYS	95.35	350.6	12	48	1								
GLEN CANYON	96.76	53.5	12	47	-6								
TUCSON	97.33	58.2	12	57	1				14	30			
TUCSON TELE.	97.42	58.1	12	59	3				14	31			
FLAMING GRGE	98.45	49.5	12	59	-2								
RESOLUTE	100.05	14.5	13	8	0								
NURMIJARVI	112.16	335.4	17	57	2								
BROKEN HILL	122.20	249.9	18	19	4								
LWIRO	124.20	264.2	18	24K	6								
HEIDELBERG	126.24	332.1	18	26	4								
STUTTGART	126.41	331.2	18	20	-3								
HUANCAYO	128.85	109.3	18	30	3								
FOLINIERE	130.65	337.4	18	35	4								
LA PAZ	133.94	118.0	18	41A	4						21	34	PP
SETIF	136.90	321.1									21	41	PP

SAN JUAN	139.06	67.2	18 46	0				21 18	22 1	*SPKP
ANTIGUA	143.32	67.3	18 51	-4						
TAMANRASSET	144.04	303.2	18 59K	3						
ST. VINCENT	144.77	73.7	18 55	-2						
TRINIDAD	145.04	78.0	18 56	-1						
BARBADOS	146.38	73.2	19 4	5						

NOVEMBER 23 14.H 12.M 21.S EPICENTRE -24.47-176.20 DEPTH= 0.KM

A=-0.90923 B=-0.06033 C=-0.41191 D=-0.0662 E= 0.9978
G= 0.4110 H= 0.0273 K=-0.9112 HI= 3.5

SE= 4.12

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	8.03	320.5	3 1	61	4 45	72		
APIA	11.41	22.3	2 39	-8	4 39	-17		
ONERAHI	13.89	213.7	3 27	7				
KARAPIRO	15.15	205.7	3 35	-2				
TUAI	15.36	200.0	3 49	10	6 16	-15		
NOUMEA	16.07	274.2	3 50	1				5 39
CHATEAU	16.26	203.5	3 49	-2				
TONGARIRO	16.27	203.5	3 48	-3				4 9
WELLINGTON	18.38	202.0	4 4	-13	7 19	-21		
COBB RIVER	18.97	206.5	4 27	2	7 42	-12		
KAIMATA	20.71	206.6	4 47	3	8 28	-3		
GEBBIES PASS	21.25	202.8	4 48	-2	8 24	-18		
ROXBURGH	24.01	205.6	5 13	-4				
HONIARA	27.21	299.3	5 43	-4				
BRISBANE	28.01	257.3	5 52	-2	10 34	-4		
RIVERVIEW	29.89	244.3	6 16A	5	11 9	1		7 16 PP
CANBERRA	31.90	242.0	6 29	0	11 47	7	6 38	7 34 PP
CHARTERS TS.	34.94	269.6	6 51	-4	12 24	-3		
MOORLANDS	35.07	230.2	6 54	-2				7 5 SP
FORT NELSON	35.12	229.3	6 57	0	12 13	-17		
MELBOURNE	35.54	238.7	6 59A	-1	12 52	16		8 22 PP
RABAUL	36.50	298.5	7 9	1	13 30	39		8 44
PORT MORESBY	37.98	286.8	7 17	-4	13 7	-7		
ADELAIDE	40.23	244.2	7 38	-2				9 24 PP
HONOLULU	48.78	22.7	8 52	4	15 45	-6		
KIPAPA	48.92	22.7	8 49	0				
TERRE ADELIE	49.86	200.4	8 55	-2	16 14	8		
GUAM	53.62	310.4	9 40	15	16 45	-13		
SCOTT BASE	54.05	184.4	9 27	-1	17 18	14		20 39 SS
MUNDARING	59.18	246.2	10 3	-2				
PERTH	59.50	246.1	10 12	5				12 33 PP
BYRD STATION	60.47	170.4	9 53	-21	18 19	-9		11 53 PP
WILKES	61.14	206.2	10 20K	2	18 30	-7		
SOUTH POLE	65.68	180.0	10 45	-3	19 40	7		13 1 PP
MANILA	72.51	295.6	11 37	7	21 9	15		
HONGO	72.91	323.7			21 22	23		
TUKUBASAN	73.12	324.3	11 33A	-1	21 2	1		29 6 SSS
BAGUIO CITY	73.84	296.9	11 40	2	20 42	-27		
MATUSIRO	74.37	323.3	11 35A	-6	21 0	-15		14 14 PP
LEMBANG	74.64	269.4	11 43K	0	21 23	5		
DJAKARTA	75.62	269.7	11 48	0				
ARGENTINE I.	76.68	156.3	11 56	2				
KURILSK	76.70	334.8	11 59	5	21 49	8		14 57 PP
MAWSON	78.40	199.6	11 59	-5	22 1	2		
SEVERO-KUR.	78.72	342.4	12 9	4	22 9	6		
BRANNER	79.81	40.9	12 12K	1				
SAN FRANCSCO	79.88	40.5	12 13	1				
BERKELEY	80.06	40.5	12 12	-1	22 23	6		27 15 SS
LICK	80.08	41.2	12 6A	-7				
PETROPAVLOVK	80.21	344.9	12 12	-1	22 18	0		23 7 PS
PASADENA	80.22	45.6	12 12	-1	22 29	11		27 21 SS
CONCORD	80.24	40.5	12 14	0				
UKIAH	80.34	39.0	12 13	-1				15 11 PP
FRESNO	80.83	42.6	12 16	-1				
ZO-SE	81.50	309.6	12 21	1	22 32	0		22 37
SHASTA	81.87	38.3	12 21A	-1				
HONG KONG	82.05	298.8	12 29	6	22 41	4		
MINERAL	82.08	39.0	12 21K	-2				
MANZANILLO	82.27	65.1			22 35	-5		25 43
VLADIVOSTOK	82.46	324.5	12 24	-1				22 51 PS

RENO	82.60	40.5	12	27	1					
MAZATLAN	82.63	60.6							28	59
KLYUCHI	82.79	347.4	12	25	-2				22	49 SCS
CANTON	83.10	299.1	12	31	2	22	53	5	22	49 SKS
NANKING	83.73	309.3	12	34	2	22	55	1	22	51 SKS
GUADALAJARA	83.89	64.2							25	55
CORVALLIS	83.99	35.0	12	44K	11					
TUCSON	84.09	50.8	12	33	-1	23	8	10	15	58 PP
TUCSON TELE.	84.22	50.7	12	33	-1	23	33	34	16	1 PP
EUREKA	84.88	42.4	12	36	-2	23	34	28	38	53 PKPPKP
RUTH	85.34	43.1	12	48K	8					
CHIHUAHUA	85.64	56.0	12	50	9	23	16	3		
GLEN CANYON	86.20	46.5	12	42	-2					
ALBERNI	86.49	30.8	12	53	7					
CHANGCHUN	86.53	321.8	12	44A	-2	23	21	-1	16	7 PP
VICTORIA	86.63	32.0	12	42	-4					
TACUBAYA	86.71	67.1	12	53	6	23	19	-4	23	37 SCS
PORT STANLEY	86.95	146.7	12	59	11					
OAXACA	87.71	70.3							13	51
SALT LAKE C.	88.19	43.2	12	52	-2	23	31	-6		
SITKA	88.19	21.0	13	0	6					
SANTA LUCIA	88.77	126.3	12	57	0	23	31	-12	16	31 PP
PENTICTON	89.03	33.1	12	55	-3				23	54
VERA CRUZ	89.21	68.6	13	5	6	23	49	2		
FLAMING GRGE	89.83	44.1	12	58	-4				16	54 PP
PEKING	89.86	314.8	12	59	-3	23	44	-9	23	27 SKS
BUTTE	90.77	38.6	13	4	-2					
HUNGRY HORSE	91.33	36.2	13	6	-2				16	47 PP
BOZEMAN	91.44	39.5	13	8	-1					
COLLEGE	91.73	11.7	13	6	-4	24	5	-5	31	19 PKKP
SIAN	91.94	306.9	13	9	-2	23	58	-13		
BANFF	92.23	33.3	13	10	-3					
KUNMING	92.61	296.3	13	1>	-1	24	18	1	23	58 SKS
CHENGTU	94.00	301.8	13	21	0	24	28	-1	23	57 SKS
HUANCAYO	94.75	105.4	13	35	11	24	13	-23		
MERIDA	95.49	69.6	13	39	11				17	30 PP
PORT BLAIR	95.71	280.2	13	45	16	24	15	10		
YAKUTSK	96.38	337.4	13	34	2	23	58	-10	17	31 PP
LANCHOW	96.47	306.6	13	30	-2				25	8
FAYETTEVILLE	97.99	54.1	13	39K	0	24	8	-9	17	46 PP
LITTLE ROCK	98.83	55.9	13	52	9				17	45 PP
LA PAZ	98.91	112.6	13	50A	7	24	24	3	17	51 PP
ULAN-BATOR	99.55	318.4	13	49	3					
BALBOA HTS.	99.67	84.5	13	53	6	24	33	8		
CHINCHINA	101.67	89.8	13	59	3	24	37	2		
SHILLONG	101.80	292.8	13	55	-1	24	34	-1	18	11 PP
FLORISSANT	101.85	52.8				24	39	3		
ST. LOUIS 1	101.89	53.0				24	39	3	18	4 PP
IRKUTSK	102.87	321.7	14	4A	3	24	30	-10	18	18 PP
BOGOTA	102.94	90.8				24	45	4		
TIKSI	102.98	344.6	14	3	2	24	38	-3		
CALCUTTA	103.69	288.7	17	29	205	24	59	15	24	35
LHASA	103.93	296.4	14	12	6				24	43
GALERAZAMBA	104.26	84.5				25	3	16	26	3 SKKS
CHATRA	106.19	292.4	14	16	777	24	50	-5		
BOKARO	106.35	289.1	14	27	777	24	59	3		
MADRAS	107.53	276.6	18	8	777	25	19	18		
KODAIKANAL	108.95	272.8				24	42	-25		
HYDERABAD	110.66	280.3							19	17
RESOLUTE	111.13	16.4	18	38	3				28	49
PENNSYLVANIA	111.62	53.9							19	33 PP
CARACAS	111.74	88.1	18	30	-6	25	22	3		
PALISADES	114.59	54.4	15	7	-215				19	47 PP
DEHRA DUN	114.88	293.5				25	42	11	19	53 PP
POONA	115.15	279.8	18	56	13	25	45	13	22	57 PP
SAN JUAN	115.23	80.4	18	42	-1					
BOMBAY	116.20	279.9	18	10	-35	25	52	16	21	40 PP
SHAWINIGAN	116.37	48.5	18	48	3					
WESTON	116.75	53.3							29	49 PS
TRINIDAD	116.83	90.2	18	50	4					
SEMIPALATNSK	116.94	315.7	18	48	2				19	58 PP
SEVEN FALLS	117.77	48.1	18	53	5					
THULE	117.80	14.7	18	51	3					
TANANARIVE	119.36	228.7	19	0	9				20	34 PP
HERMANUS	119.63	194.7							36	46 SS
FRUNSE	119.95	306.7	18	56	4				20	25 PP
WARSAK DAM	121.06	296.2	18	56	2					
NORD	122.21	3.5							20	24 PP
HALIFAX	122.58	51.5	18	58A	1					

LCO. MARQUES	122.64	211.0				26	45	47	30	21 SP
KIMBERLEY	123.37	202.1	18	54	-5					
TASHKENT	123.76	304.5	19	7	7				20	46 PP
DUZHANBE	123.91	301.1	19	4	4	26	4	2	22	39 PKS
QUETTA	124.22	290.9	19	2	1	25	54	-9	20	31 PP
PRETORIA	124.79	207.0	18	42	-20					
SVERDLOVSK	128.18	324.2	19	6	-2					
BULAWAYO	129.51	210.7	19	8	-3					
WINDHOEK	131.49	196.5	19	17	3					
SCORESBY SD.	131.59	11.3	19	21	6				22	49 PKS
ASHKABAD	132.07	299.8	19	22	6				22	54 PKS
APATITY	133.20	344.9	19	16	-2	26	37	10	21	46 PP
BROKEN HILL	134.43	214.5	19	15	-5					
SODANKYLA	134.81	347.8	19	20	-1				21	58 PP
KIRUNA	135.44	351.1	19	17	-5				22	10 PP
SHIRAZ	136.55	288.0	19	32	8	26	45	12	23	11 PKS
TEHERAN	137.69	296.8	19	24	-2				22	20 PP
UMEA	139.19	348.9	19	27	-2					
PULKOVO	140.16	339.3	19	24	-6				22	25 PP
MOSCOW	140.16	330.6	19	30	0				22	31 PP
SKALSTUGAN	140.50	354.0	19	25	-6					
NURMIJARVI	141.19	343.7	19	27	-5				23	15 PKS
GORIS	141.30	303.2	19	32	0				24	14
HELSINKI	141.40	343.2	19	33	0				23	22 PKS
TIFLIS	141.99	307.1	19	34	0					
ADDIS ABABA	143.30	251.3	19	39	3					
UPPSALA	143.34	348.3	19	36	0					
LUANDA	145.63	196.7	19	44	4				23	0 PP
GOTEBORG	146.28	352.1	19	43	2					
ABERDEEN	147.05	5.9	19	48	6				23	39 SKP
SIMFEROPOL	148.06	317.3	19	47	3				23	20 PP
COPENHAGEN	148.18	350.7	19	50	6					
WARSAW	149.33	339.1	19	51	5				23	24 PP
DURHAM	149.47	6.1	19	54K	8				20	23
IASI	150.45	326.1	20	1	13					
KSARA	150.57	295.9	19	51	3				23	27 PP
BACAU	151.21	325.8	19	59	10				20	15 PKP2
POTSDAM	151.25	348.1	19	51	2				23	36 PP
JERUSALEM	151.42	291.9	19	54	5				24	1 PP
KRAKOW	151.54	337.9	19	52	3				19	57 PKP2
WITTEVEEN	151.61	356.3	19	51	2					
CHORZOW	151.65	339.3	20	14	24				21	29
RACIBORZ	152.09	340.0	19	54	4				20	5 PKP2
SKALNATE PL.	152.16	336.5	19	58	8			19 58		
COLLMBERG	152.29	347.5	20	2	12				42	42 SS
HALLE	152.30	349.0	19	51	1				23	41 PP
MUNSTER	152.39	354.9	19	56	5				20	30
DE BILT	152.39	358.2	20	2	11				23	47 PP
KEW	152.86	5.6	19	57	6				23	47 PP
JENA	152.91	349.2	19	55	4	26	51	-6	23	43 PP
BUCHAREST	153.05	323.1	19	55A	3				23	53 PP
CAMPULUNG	153.05	325.6	20	2	10				20	22 PKP2
PRAGUE	153.14	344.7	19	58	6				23	49 PP
PRUHONICE	153.19	344.5	19	57A	5				23	37 PP
ISTANBUL KA.	153.20	314.3	19	45	-7				20	10 PKP2
PLAUEN	153.23	348.1	20	0	8				21	29
BENSBERG	153.43	355.2	19	59K	7				20	23 PKP2
CHEB	153.58	347.5	20	11	19				30	2 SKKS
HURBANOVO	154.00	337.5	20	2	9					
BUDAPEST	154.04	336.0	20	24	31					
BRATISLAVA	154.11	339.3	19	49A	-4				23	26 PKS
VIENNA-H.	154.27	340.4	19	55	2	27	9	10		
HEIDELBERG	154.82	352.4	20	1	7				23	53
HELWAN	154.95	288.5	19	56	2				20	30
STUTTGART	155.36	351.3	19	54	-1				24	1 PP
FOLINIERE	155.51	6.8	20	2	7					
BELGRADE	155.60	330.4	20	12K	17				30	58 SKKS
TUBINGEN	155.63	351.5	20	1	6					
SOFIA	155.70	323.2	19	59	4	27	3	3	24	13 PP
STRASBOURG	155.73	353.6	20	1	6	27	9	9	24	7 PP
EBINGEN	155.98	351.5	20	2	7					
RAVENSBURG	156.28	350.2	19	58	2					
ZAGREB	156.54	338.2	20	3	7					
BASLE	156.79	353.5	20	4A	7				29	14
LJUBLJANA	156.80	340.8	20	1	4				20	33 PKP2
TOLMEZZO	156.90	343.6	20	1	4				24	13 PP
BESANCON	157.20	356.2	20	5	8				20	31 PKP2
NEUCHATEL	157.38	354.4	20	5	8					

TRIESTE	157.39	341.6	20	4	7					20	41	PKP2
MBOUR	158.02	113.4	20	6	8							
PADOVA	158.11	344.6	20	9	41					25	50	
ATHENS	158.35	313.1	20	37A	38							
CLERMONT-FD.	158.74	1.3	20	7	8					24	27	PP
PAVIA	158.88	349.4	20	6	7					24	21	PP
CHIAVARI	159.69	348.5	20	58	58	26	51	-13		24	17	PP
PRATO	159.73	344.6	20	57	57					31	5	
ISOLA	160.16	353.1	20	8	7					24	32	PP
SERRA PILAR	160.43	28.9	19	58A	-3	26	57	-8	20 8	31	5	SKKS
MONACO	160.56	352.1	20	48	47					24	31	PP
ROME	161.18	339.6	20	6	4	27	0	-5		24	2	PP
BAGNERES	161.21	8.3	20	6	4							
COIMBRA	161.25	30.3	20	9	7					24	35	PP
LISBON	162.04	34.6	20	12K	10					24	39	PP
MESSINA	163.05	326.6	20	51	48	27	7	0		24	36	PP
TOLEDO	163.27	21.4	20	10	6					24	42	PP
ALICANTE	165.69	13.7	20	7	1	27	9	0		24	54	PP
GRANADA	165.84	24.8	19	27	-39	25	57	-72		23	25	PP
MALAGA	165.91	28.1	20	16A	10					25	2	PP
ALMERIA	166.54	22.1	20	11A	4					25	7	PP
ALGIERS UNI.	167.72	2.8	20	12	5	26	49	-21		25	10	PP
SETIF	168.23	353.6	20	12	4					25	1	PP
TAMANRASSET	177.69	223.6	20	12	0					25	55	PP

NOVEMBER 23 16.H 52.M 27.S EPICENTRE 4.64 125.83 DEPTH= 237.KM

A=-0.58355 B= 0.80810 C= 0.08027 D= 0.8107 E= 0.5854
G=-0.0470 H= 0.0651 K=-0.9968 HT= 7.0

DEPTH OF FOCUS= 0.032R

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
MANILA	11.02	335.2	2	34	1	4	30	-3				
GUIDCITY	12.80	336.6	2	54	-1	5	28	15				
HONG KONG	20.88	328.3	4	27	2	8	6	8				
LEMBANG	21.45	238.1	4	29K	-1	8	19	11				
DJAKARTA	21.80	240.7	4	32K	-2	9	22	67				
CANTON	21.96	327.8	4	36	1	8	25	8				
PORT MORESBY	25.41	123.3	5	7	-1	9	20	5			12	0
RABAUL	27.73	108.1	5	29A	0						7	28
NANKING	28.07	347.2									11	13
KUNMING	30.11	314.9	5	50	0							
ABUYAMA	31.41	15.5	6	1K	0							
CHARTERS TS.	31.73	141.4	6	3A	-1	11	0	5				
SIAN	33.39	334.0	6	18	0							
MATUSIRO	33.73	18.1	6	19K	-2						6	53 PSP
PEKING	36.30	347.4									16	40
LANCHOW	37.25	329.9	6	51	0	12	26	6				
CHITTAGONG	37.33	301.3	6	52	1							
MUNDARING	37.54	193.5	6	51	-2							
SHILLONG	38.64	306.1	7	0	-2							
VLADIVOSTOK	38.70	7.1	7	2A	-1	13	19	38				
BRISBANE	41.12	142.2	7	23	0	12	54	-23				
ADELAIDE	41.22	163.9	7	23	0	13	23	4				
LHASA	41.23	311.1	7	25A	2	13	24	5				
CHATRA	42.99	305.0	7	38A	0							
RIVERVIEW	45.12	149.8	7	56A	1	14	23	8			9	46 PP
CANBERRA	45.32	153.1	7	57A	1						13	11 SCP
MELBOURNE	45.84	158.8	8	0A	0							
ULAN-BATOR	46.08	342.4	8	2	0							
NOUMEA	47.90	125.7	8	16	0							
TARRALEAH	50.34	160.2	8	36K	1							
MOORLANDS	50.71	159.6	8	39K	1							
FORT NELSON	51.20	159.8	8	42K	1							
POONA	52.57	289.7	8	50	-1							
LAHORE	55.14	305.5	9	10	0							
YAKUTSK	57.33	2.2	9	24	-1							
WARSAK DAM	58.12	307.4	9	30	-1							
ANDIJAN	59.80	315.1	9	43	1	17	41	8				
NAMANGAN	60.38	315.1	9	48K	2	17	48	7				
QUETTA	60.91	302.0	9	49A	-1	17	53	6				
STALINABAD	61.66	311.6	9	56	1	18	4	7				

COBB RIVER	62.46	141.5	10	1	1						
KARAPIRO	62.57	137.2	10	1	0				10	38	
TONGARIRO	63.23	138.4	10	5	0						
CHATEAU	63.23	138.4	10	6	1						
WELLINGTON	63.85	140.7	10	9	0						
GEBBIES PASS	63.93	143.9	10	9	-1						
TIKSI	66.94	1.0	10	28	-1	19	3	1			
TERRE ADELIE	72.16	173.6	10	57	-4						
SHIRAZ	73.22	299.4	11	7K	0	20	16	2	11	52	22 3 PS
MIRNY	74.83	193.0	11	16	0						
KHEYS	81.89	351.2	11	55	1	21	53	7			
COLLEGE	84.28	25.4	12	7	1						
MAWSON	84.29	200.1	12	5	-1						12 45
MOSCOW	85.19	325.4	12	12	1						
SCOTT BASE	85.35	172.0	12	12	0						
ADDIS ABABA	86.39	278.7	12	21	4						
APATITY	86.67	337.4	12	17	-1						
JERUSALEM	88.11	301.6	12	27	2						
SODANKYLA	89.29	337.5	12	29	-1						
HELSINKI	91.40	330.6	12	39	-1						
NURMIJARVI	91. 8	331.0	12	40	-1						
KIRUNA	91.50	338.5	12	41	0						
NORD	92.11	354.9	12	43	-1						
UMEA	92.69	334.7	12	45	-1						
SOUTH POLE	94.60	180.0	12	56	1	23	9	-35			16 21 PP
UPPSALA	95.04	331.2	12	57	0						
RESOLUTE	97.09	10.1	13	8	2						
BYRD STATION	98.72	170.8	13	15	1						17 1 PP
HUNGRY HORSE	105.90	36.9	17	21	777						17 55 PP
EUREKA	108.28	45.9	18	4	777						
FLAMING GRGE	112.23	42.2	17	16	-51						18 12 PP
TUCSON TELE.	114.98	51.2	18	17	4						
TAMANRASSET	115.69	297.9	18	19	5						
FAYETTEVILLE	124.83	39.4	18	33A	1						
SHAWINIGAN	126.43	15.9	18	38	3						19 21
SAN JUAN	154.27	26.9	19	50	27						
HUANCAYO	157.82	110.7	19	35	7						20 9 PKP2

NOVEMBER 23 17.H 56.M 34.S EPICENTRE -24.32-176.27 DEPTH= 0.KM

A=-0.91036 B=-0.05937 C=-0.40955 D=-0.0651 E= 0.9979
G= 0.4087 H= 0.0267 K=-0.9123 HT= 3.5

SE= 2.63

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
APIA	11.29	22.9	2	40	-6	4	35	-19				
ONERAHI	13.99	213.2	3	36	14							
KARAPIRO	15.26	205.3	3	41	2							
NOUMEA	16.00	273.7	3	53	5	7	6	19				
CHATEAU	16.37	203.1	3	54	1							
WELLINGTON	18.49	201.7	4	15	-5	7	24	-20				
COBB RIVER	19.08	206.2				7	43	-14				
KAIMATA	20.82	206.3				8	23	-11				
GEBBIES PASS	21.36	202.5	4	50	-1	8	27	-18				
BRISBANE	27.98	257.0	5	53	-2	10	47	9				
RIVERVIEW	29.91	244.0	6	20	8						7	14
CANBERRA	31.91	241.8	6	29	-1	11	44	3	6	42	7	40 PP
CHARTERS TS.	34.88	269.4	6	55	0	12	25	-2				
MELBOURNE	35.57	238.5	7	0K	-1							
RABAUL	36.38	298.4	7	8	0							
PORT MORESBY	37.88	286.7	7	20	-1	13	35	22			9	15
ADELAIDE	40.24	244.0	7	39	-1							
KIPAPA	48.81	22.8	8	46	-3							
TERRE ADELIE	49.98	200.4	8	58	0							
SCOTT BASE	54.19	184.4	9	30K	0	17	2	-4				
MUNDARING	59.19	246.1	10	3	-2							
BYRD STATION	60.62	170.4	10	13	-2						39	45 PKPPKP
SOUTH POLE	65.82	180.0	10	49	-1						39	8 PKPPKP
MIRNY	68.24	205.5	11	3	-2							
MATUSIRO	74.22	323.3	11	39	-2	20	59	-15			21	48 SCS
LEMBANG	74.58	269.4	11	42K	-1							
ARGENTINE I.	76.84	156.4	10	49	-67							
MAWSON	78.52	199.6	12	4	-1				12	19		
SAN FRANCSCO	79.80	40.5	12	14	2							
BERKELEY	79.98	40.6	12	14A	1							

LICK	80.01	41.3	12 15K	2			12 32	
PASADENA	80.16	45.6	12 14	0			23 8	
CONCORD	80.16	40.6	12 15	1				
UKIAH	80.26	39.1	12 16	2		12 26		
FRESNO	80.76	42.7	12 18	1				
SHASTA	81.79	38.4	12 23	1				
MINERAL	82.01	39.0	12 25K	1				
RENO	82.52	40.5	12 27A	1				
TUCSON	84.04	50.8	12 36	2				
TUCSON TELE.	84.17	50.8	12 37	2				
EUREKA	84.81	42.5	12 38	0				
GLEN CANYON	86.14	46.5	12 46	1			13 49	
CHANGCHUN	86.38	321.8	12 46A	0				
TACUBAYA	86.70	67.1	12 57	10				
PENTICTON	88.94	33.1	12 58K	0				
PEKING	89.71	314.8	13 2A	0			23 35	
FLAMING GRGE	89.76	44.2	12 57	-5				
HUNGRY HORSE	91.24	36.2	13 8	-1				
BOZEMAN	91.37	39.6	13 8	-1				
COLLEGE	91.59	11.7	13 10	0				
SIAN	91.80	306.9	13 12	1				
BANFF	92.14	33.3	13 13	0				
KUNMING	92.49	296.3	13 16	1				
HUANCAYO	94.84	105.4	13 28	3				
LANCHOW	96.33	306.6	13 34	2				
FAYETTEVILLE	97.95	54.1	13 39K	0				
LA PAZ	99.03	112.6	13 56	12	24 52 29			
SHILLONG	101.69	292.8	13 58	2				
BOMBAY	116.11	280.0					21 48	
KHEYS	119.43	351.2	18 51	-1				
KIMBERLEY	123.48	202.2	18 55A	-5				
QUETTA	124.11	291.0	19 2	1				
SVERDLOVSK	128.02	324.2	19 9	0				
BULAWAYO	129.60	210.9	19 11	-1				
WINDHOEK	131.61	196.6	19 4	-11				
APATITY	133.04	344.9	19 17	-1				
SODANKYLA	134.66	347.8	19 21	0			23 3 SKP	
KIRUNA	135.28	351.1	19 20	-2				
SHIRAZ	136.45	288.1	19 27	3		20 23	22 59 PKS	
UMEA	139.03	348.9	19 19	-10				
MAKHACH-KALA	139.61	308.4	19 31	1				
MOSCOW	140.00	330.6	19 31	0				
NURMIJARVI	141.03	343.7	19 30	-3				
TIFLIS	141.85	307.2	19 30	-4				
UPPSALA	143.19	348.3	19 34	-2				
ADDIS ABABA	143.29	251.6	19 38	1				
LWIRO	144.07	226.2	19 38A	0				
LUANDA	145.75	196.8	19 44	3				
GOTEBORG	146.13	352.1	19 42	0				
SIMFEROPOL	147.91	317.5	19 46	2				
WARSAW	149.17	339.1	19 47	1			19 57 PKP2	
DURHAM	149.33	6.0	19 52A	5				
KISHINEV	149.76	324.8	19 51	4				
LWOW	150.02	333.3	19 53	5			21 34	
POTSDAM	151.09	348.1	19 54	5			23 45 PP	
JERUSALEM	151.31	292.1	19 59	9				
KRAKOW	151.38	337.9	19 56	6			20 19	
WITTEVEEN	151.46	356.3	19 56	6				
CHORZOW	151.49	339.3	19 58	8			20 6 PKP2	
RACIBORZ	151.93	340.0	19 59	8		20 7	20 28 *PPKP2	
SKALNATE PL.	152.00	336.6	19 58	7				
HALLE	152.14	349.0	19 52	1			23 36	
MUNSTER	152.23	354.8	19 51	0				
KEW	152.72	5.5	19 58	6				
JENA	152.75	349.1	19 52	0			23 38 PP	
PRUHONICE	153.03	344.5	20 0	8			23 45 PP	
ISTANBUL KA.	153.06	314.4	20 3	11				
BENSBERG	153.27	355.2	19 51	-2			20 13	
SONNEBERG	153.35	349.3	19 52	-1				
HURBANOVO	153.84	337.6					20 47 PKP2	
BRATISLAVA	153.95	339.4	19 53	-1				
VIENNA-H.	154.11	340.4	19 54	0			20 18 PKP2	
HEIDELBERG	154.66	352.4	19 56	2			20 19	
HELWAN	154.85	288.8	19 55	0			20 20	
STUTTGART	155.21	351.2	19 55	0			20 22	
FOLINIERE	155.37	6.7	20 4	9				
SOFIA	155.55	323.3	19 54	-2				
STRASBOURG	155.58	353.5	20 16	20				

BASLE	156.64	353.4								20	50	
LJUBLJANA	156.64	340.8	19	59	2					20	32	PKP2
BESANCON	157.05	356.1	19	46	-12							
TRIESTE	157.23	341.6	19	57	-1					20	32	PKP2
MBOUR	158.13	113.1	20	2	3							
CLERMONT-FD.	158.59	1.2	20	38	38							
ISOLA	160.00	353.0	20	43	42					24	29	
MALAGA	165.80	27.6	20	7	0					24	55	PP
TAMANRASSET	177.75	227.3	20	14A	2					25	51	PP

NOVEMBER 24 4.H 50.M 16.S EPICENTRE -4.67 152.95 DEPTH= 63.KM

A=-0.88768 B= 0.45330 C=-0.08090 D= 0.4548 E= 0.8906
G= 0.0720 H=-0.0368 K=-0.9967 HT= 7.0

DEPTH OF FOCUS= 0.005R

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	
RABAUL	0.91	301.1	0	21A	3								
PORT MORESBY	7.43	230.5	1	48	0	3	11	-1					
HONIARA	8.40	124.6	1	58	-4	3	0	-36					
CHARTERS TS.	16.65	202.5	3	51K	0	7	3	10					
GUAM	19.77	335.8	4	29	1	8	10	8					
NOUMEA	21.86	144.5	4	45	-4	8	49	7					
BRISBANE	22.59	180.4	4	56	0	8	46	-9					
SUVA	28.28	120.3									12	14	
RIVERVIEW	29.06	183.1	5	57K	0	10	42	0			11	8	*SS
CANBERRA	30.72	186.3	6	11A	0	11	9	1			7	15	PP
ADELAIDE	32.90	201.8	6	29K	-1	11	45	2			12	55	SCP
MELBOURNE	33.80	191.4	6	37	-1	11	56	0			7	55	PP
TARRALEAH	37.91	187.8	7	15A	2				7	29			
MOORLANDS	37.96	186.9	7	15A	2						9	30	PCP
BAGUIO CITY	38.26	303.9	7	15	-1	12	33	-32					
FORT NELSON	38.42	186.6	7	18A	1	13	8	1					
KARAPIRO	38.99	151.1	7	21	-1						7	35	
TONGARIRO	40.00	152.3	7	31	1						7	44	
CHATEAU	40.01	152.3	7	29	-1						7	49	
COBB RIVER	40.36	156.7	7	33	0								
WELLINGTON	41.36	154.9	7	47	6	13	47	-4			9	44	PCP
TUKUBASAN	42.42	344.5	7	45A	-5	14	34	27			9	43	PPP
GEBBIES PASS	42.58	158.8	7	51	0								
ABUYAMA	42.60	338.7	7	49A	-3								
MATUSIRO	43.25	342.6	7	54A	-3	14	19	0			9	45	PP
MUNDARING	43.82	227.2	8	1	-1	14	25	-2					
PERTH	44.09	227.5	8	4	0	14	36	5			17	56	
LEMBANG	45.14	265.0	8	14	2	14	51	5					
DJAKARTA	45.93	265.9	8	11	-7	14	53	-5					
HONG KONG	46.44	306.8	8	24A	2	15	18	13	9	4			
ZO-SE	46.74	321.7	8	25A	0	15	5	-4			15	31	PS
CANTON	47.50	307.2	8	32A	1				8	54	9	6	*SP
NANKING	48.89	320.7	8	42A	0	15	41	2			11	39	PP
KURILSK	49.88	355.3	8	48	-1	15	55	2			18	36	SCS
VLADIVOSTOK	51.24	340.3	8	58	-1	16	12	0			18	44	SCS
CHANGCHUN	54.32	335.6	9	21A	-1	16	50	-4			9	49	*SP
HONOLULU	54.47	59.8	9	29	6	17	0	4					
KIPAPA	54.58	59.7	9	23	-1								
PEKING	55.86	326.3	9	32A	-2	17	14	0			10	2	*SP
SIAN	56.75	316.5	9	39A	-1	17	31	5					
KUNMING	57.04	303.9	9	43A	1	17	37	7			11	54	PP
PETROPAVLOVK	57.68	4.1	9	44	-2	17	35	-3			13	13	PPP
CHENGTU	58.46	310.3	9	51A	-1	17	50	1	10	11	11	59	PP
KLYUCHI	61.13	5.0	10	8	-2								
LANCHOW	61.23	315.7	10	11	0								
TERRE ADELIE	62.56	185.1	10	17	-3	18	42	1					
CHITTAGONG	65.49	297.0	10	41A	2	19	20	3			13	10	PP
ULAN-BATOR	66.08	328.0	10	41	-2	19	23	-1					
SHILLONG	66.38	300.4	10	43A	-2	19	57	29					
WILKES	68.23	197.0	10	56A	0	19	51	1	11	13	20	15	SP
LHASA	68.36	304.3	10	58A	1	19	57	5	11	24	13	33	PP
YAKUTSK	68.86	348.5	10	58	-2	19	54	-4					
IRKUTSK	70.06	330.6	11	6	-1	20	13	1			13	39	PP
CHATRA	70.79	300.3	11	12	0	21	1	41					
SCOTT BASE	73.49	177.0	11	28	0	20	58	7					

MADRAS	74.35	284.8	11	33	0	21	38	37		
KODAIKANAL	76.60	281.6	11	54	8					
HYDERABAD	76.69	289.0	11	49	3					
TIKSI	77.77	352.4	11	49	-3	21	30	-8		
DEHRA DUN	79.40	301.9	12	6	5	22	1	6	14	53 PP
POONA	81.18	289.5	12	10	0					
COLLEGE	81.69	21.8	12	9	-4				22	25
BOMBAY	82.20	289.7	12	14	-2	22	24	0	15	14 PP
SEMIPALATNSK	82.67	322.0	12	17	-1	22	29	0		
LAHORE	82.77	302.5	12	19A	0					
SITKA	84.09	31.4	12	23	-2					
FRUNSE	84.63	313.6	12	29	1				22	47 SCS
BYRD STATION	85.00	169.9	12	28	-2	22	25	-27		
SOUTH POLE	85.36	180.0	12	31	-1	23	0	4	30	36 PKKP
WARSAK DAM	85.48	304.5	12	32A	0					
MAWSON	85.74	202.6	12	32	-2	22	53	-7		
TASHKENT	88.30	311.5	12	46	0	23	29	5	16	13 PP
DUZHANBE	88.34	308.7	12	49	3	23	10	-14		
BERKELEY	88.73	52.0	12	46	-2					
CORVALLIS	88.80	45.3							13	46
QUETTA	88.87	300.2	12	49A	0	23	25	-4	16	17 PP
SHASTA	88.97	49.2	12	59	10					
LICK	89.16	52.6	12	54K	4				16	26
MINERAL	89.53	49.6	12	59K	7					
FRESNO	90.56	53.3	13	3	6					
RENO	90.81	50.6	13	26	28					
PASADENA	91.67	56.0	13	0	-2				16	43 PP
PENTICTON	91.83	40.8	12	58	-4				30	22
EUREKA	93.77	50.8	13	10	-1			13 37	29	59 PKKP
RUTH	94.53	51.1	13	10	-5					
BANFF	94.55	39.1	13	12	-3					
SVERDLOVSK	95.15	326.5	13	17	-1	23	47	1	17	10 PP
KHEYS	95.38	350.6	13	16	-3					
HUNGRY HORSE	95.47	42.0	13	17	-2				17	5 PP
BUTTE	96.45	44.4							17	18 PP
ASHKABAD	96.47	307.5	13	25	1	23	55	2	17	24 PP
GLEN CANYON	97.15	53.5	13	20	-7				17	16 PP
TUCSON	97.73	58.2	13	30	1				13	50
TUCSON TELE.	97.82	58.1	13	30	0					
FLAMING GRGE	98.83	49.5	13	34	0				17	34 PP
RESOLUTE	100.25	14.5	13	39	-2					
SHIRAZ	101.35	299.2	13	44	-2	24	19	1	17	29 PP
TEHERAN	102.09	305.4	17	56	247	24	26	4		
NORD	102.96	358.4	13	49	-4					
APATITY	105.27	339.7	14	0	777	24	36	0		
GORIS	105.77	309.6	14	5	777	24	43	5	25	17 SKKS
TIFLIS	106.62	312.1	14	8	777	24	45	3	18	35 PP
SODANKYLA	107.64	340.9	14	11	777					
MOSCOW	107.93	327.5	14	13	777	24	49	1	18	42 PP
KIRUNA	109.30	342.8	18	22	777					
FAYETTEVILLE	111.17	53.2	18	44	18			19 4	29	34 PS
UMEA	111.86	339.4	18	27	-1					
NURMIJARVI	112.08	335.2	18	29	1				14	31 P
HELSINKI	112.13	334.8	18	32	4				14	33 P
LITTLE ROCK	112.88	54.3							19	15 PP
SIMFEROPOL	113.47	317.3				25	14	4	19	33 PP
FLORISSANT	113.59	49.6							26	21 SKKS
ST. LOUIS 1	113.73	49.8							19	27 PP
ADDIS ABABA	114.57	277.8	18	38	5	25	27	12		
SKALSTUGAN	114.66	341.8	18	33	0					
KSARA	114.99	305.1	18	40	6	25	23	7	19	37 PP
UPPSALA	115.31	336.9	18	35	0					
JERUSALEM	115.94	303.0	18	38	2				19	42 PP
HELWAN	119.60	301.7	18	44	1				20	20 PP
BULAWAYO	120.04	243.7	18	45	1					
REYKJAVIK	120.54	357.4	18	47A	2					
RACIBORZ	120.93	327.8	18	47	2					
OTTAWA	121.41	38.3	18	47	1					
BROKEN HILL	121.77	249.9	18	49K	2					
SHAWINIGAN	122.60	35.9	18	49	0					
BRATISLAVA	122.60	326.4	18	47	-2					
PRUHONICE	122.89	329.3	18	49	0					
VIENNA-H.	122.96	326.8							22	20 PKS
HALLE	123.18	332.0	18	43	-7				20	31 PP
JENA	123.74	331.6	18	50	-1				20	30 PP
LWIRO	123.77	264.2	18	53K	2					
SONNEBERG	124.28	331.3	18	52	0					
PALISADES	124.66	42.2								
LJUBLJANA	125.27	325.5	18	54A	0				19	25

BENSBERG	125.72	334.0	18 54A	-1				
HEIDELBERG	126.13	331.8	18 56	1				
STUTTGART	126.29	330.9	18 56A	0			20 53	PP
TUBINGEN	126.56	330.8	18 56	0				
RAVENSBURG	126.79	329.8	18 56	-1				
EBINGEN	126.84	330.5	18 56	-1				
STRASBOURG	127.15	331.6	18 58	1				
PRATO	128.51	325.2					22 18	
BESANCON	128.94	331.5	18 58	-3				
WINDHOEK	129.06	236.0	19 5K	4			22 20	
HUANCAYO	129.21	109.6	19 4	3			22 37	PP
ISOLA	130.54	327.9	19 5	1			22 23	SKP
FOLINIERE	130.57	337.1	19 5	1				
MONACO	130.64	327.3	19 3	-1			22 24	PKS
CLERMONT-FD.	131.37	332.0					22 27	
CHINCHINA	131.61	87.5	19 5	-1			22 25	SKP
FUQUENE	133.51	86.9	19 10	0			22 14	SKP
LA PAZ	134.26	118.3	19 14	3			21 40	PP
BAGNERES	134.80	331.8	19 10	-2				
SETIF	136.71	320.7	19 12	-3		19 39		
ALGIERS UNI.	137.78	323.2	19 17	0			22 5	PP
TOLEDO	139.26	332.6	19 13	-7			22 14	PP
SAN JUAN	139.48	67.1	19 17	-4			22 57	PP
CARACAS	140.08	79.3					22 27	
ALMERIA	140.84	328.1	19 20	-3			22 25	PP
MALAGA	141.93	329.9	19 19K	-6			22 29	PP
ANTIGUA	143.74	67.3	19 25	-3				
TAMANRASSET	143.74	302.8	19 27A	-1		19 53	22 40	PP
ST. VINCENT	145.20	73.7	19 30	-1				
TRINIDAD	145.46	78.1	19 29	-2				
LOME	151.82	274.2	19 49	8				
MBOUR	166.15	314.9	19 59	1			24 48	PP

NOVEMBER 24 6.H 52.M 42.S EPICENTRE -24.87-176.26 DEPTH= 0.KM

A=-0.90639 B=-0.05924 C=-0.41827 D=-0.0652 E= 0.9979
G= 0.4174 H= 0.0273 K=-0.9083 HT= 3.4

SE= 3.67

	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	
SUVA	8.32	322.5	2	0	-4								
AFIAMALU	11.69	22.0	2	36K	-15								
KARAPIRO	14.77	206.3	3	32	0								
TUAI	14.96	200.3	3	41	7	6	19	-3					
CHATEAU	15.87	203.9	3	43	-3								
TONGARIRO	15.88	203.9	3	46	0								
NOUMEA	16.06	275.6	3	40	-8	6	56	9					
WELLINGTON	17.99	202.4	4	3	-10	7	21	-11			4	55	
COBB RIVER	18.59	206.9	4	21	1	7	38	-7					
GEBBIES PASS	20.86	203.1	4	41	-5	8	26	-8					
HONIARA	27.36	300.0	5	47	-1						6	6	
BRISBANE	27.87	258.1	5	51	-2	9	33	-63					
RIVERVIEW	29.68	244.9	6	10A	1	11	4	-1			7	6	PP
CANBERRA	31.67	242.6	6	28A	1	11	29	-7			7	37	PP
MOORLANDS	34.78	230.6	6	54K	0						9	35	PCP
FORT NELSON	34.82	229.7	6	54	0	12	29	4					
CHARTERS TS.	34.88	270.2	6	52	-3						11	41	
TARRALEAH	35.25	231.1	6	58	0				7	9			
MELBOURNE	35.29	239.1	6	58	0	12	30	-2	7	6	8	31	PP
RABAUL	36.65	299.0	7	8	-2								
PORT MORESBY	38.05	287.4	7	17	-5	13	17	2			9	1	
ADELAIDE	40.01	244.6	7	35	-3						9	20	PP
HONOLULU	49.17	22.6	8	49	-2	15	50	-7					
KIPAPA	49.31	22.6	8	48	-4						10	40	
TERRE ADELIE	49.47	200.5	8	56	2	15	51	-10					
SCOTT BASE	53.64	184.4	9	28	3	17	6	8			11	12	PP
GUAM	53.84	310.7	9	23	-4						12	13	
MUNDARING	58.97	246.4	10	1	-2	18	8	-1					
PERTH	59.29	246.4	10	3	-3	18	36	23			12	28	PP
BYRD STATION	60.08	170.3	10	12	1	18	31	8			38	49	PKPPKP
WILKES	60.76	206.3	10	16K	0	18	27	-5			22	31	SS
SOUTH POLE	65.27	180.0	10	47	1	19	36	7			39	21	PKPPKP
MERA	72.58	323.3	11	29	-2								
OSIMA	72.71	322.9	11	23	-8						22	15	

TOKYO C.M.O.	73.19	323.8	11	26	-8					
MISIMA	73.21	322.9	11	31	-3	21	27	25		
OMAESAKI	73.23	322.1	11	36	2	21	24	21		
TUKUBASAN	73.41	324.4	11	31K	-5	20	51	-14	28	53 SSS
HUNATU	73.59	323.0	11	36	-1	21	50	43		
KUMAGAYA	73.74	323.9							12	10
UTUNOMIYA	73.78	324.5	11	43	5				12	24
SIOMISAKI	73.80	319.7	11	39	1	21	0	-9		
KOHU	73.83	323.0	11	56	18	21	43	34		
BAGUIO CITY	73.97	297.0	11	33	-6	21	9	-2		
OWASE	73.99	320.4	11	40	1	20	59	-12		
SHIRAKAWA	74.03	325.1	11	39	0					
NAGOYA	74.34	321.7	11	29	-12	21	58	43		
KAMEYAMA	74.40	321.2	11	45	4	21	10	-6	14	32 PP
ISINOMAKI	74.47	326.6	11	39	-3					
SENDAI	74.56	326.3							20	55
MATUMOTO	74.58	323.1	11	42	0					
LEMBANG	74.59	269.5	11	41K	-1	21	21	3		
MUROTO	74.60	318.6	11	44	2	21	20	2	26	15
GIHU	74.62	321.7	11	42	-1					
MATUSIRO	74.66	323.4	11	37A	-6	21	8	-11	14	57 PP
NAGANO	74.76	323.5	11	44	1	22	4	44	14	42
OSAKA	74.79	320.4	11	48	4					
YAMAGATA	74.82	325.9	11	44	0					
HIKONE	74.82	321.3	11	45	1	22	4	44		
ABUYAMA	74.93	320.6	11	41A	-3					
SUMOTO	74.93	319.8	11	45A	1	21	15	-7	21	57
TOKUSIMA	74.94	319.4	11	46	2					
KYOTO	74.94	320.8	11	46	2	21	13	-9		
SIMIDU	75.02	317.5	11	40	-5	21	11	-12	26	34
KOBE	75.02	320.2	11	50	5	21	9	-14		
YAKUSIMA	75.02	314.3	11	51	6	21	18	-5		
MIYAKO	75.10	327.8							12	8
MIZUSAWA	75.10	327.0	11	47	2	22	1	37		
KOTI	75.20	318.4	11	54	8	21	4	-21	25	54
NIIGATA	75.24	324.9	11	48	2	21	47	22	17	59
TOYAMA	75.33	322.9	11	53	6	21	32	6		
MIYAZAKI	75.40	315.9	11	45K	-2	21	17	-10		
TAKAMATU	75.43	319.3	11	49	2	21	16	-11		
MORIOKA	75.52	327.4	11	35	-13	21	54	26		
DJAKARTA	75.57	269.8	11	47	-1	21	39	10		
SAKATA	75.58	326.0							12	11
KAGOSIMA	75.72	315.2	11	55	6	22	2	32	21	12
MATUYAMA	75.86	318.2	11	52	2	21	28	-4		
WAZIMA	75.99	323.2							22	23
AKITA	76.07	326.7	11	52	1					
OOITA	76.15	317.1	11	50A	-1	21	28	-7		
ARGENTINE I.	76.34	156.3	11	52	0					
NEMURO	76.40	332.4	11	51	-2	21	36	-2	22	10
HIROSIMA	76.43	318.4	11	49	-4	21	28	-10		
KUMAMOTO	76.45	316.2	12	4	11					
AOMORI	76.58	327.9	11	59	5					
KUSIRO	76.62	331.4	12	15	21	22	4	24		
URAKAWA	76.68	329.9	11	52	-2	21	51	10		
HENGCHUN	76.88	301.9	12	3	8					
NAGASAKI	76.91	315.7	11	54	-2	21	39	-4		
TAWU	76.95	302.3	12	4	8					
SAGA	76.99	316.3				21	48	4	12	28
HAMADA	77.01	318.6	12	5	9	21	38	-6	27	24
SIMONOSEKI	77.06	317.2	11	53	-3					
HUKUOKA	77.16	316.6	12	4	7	21	40	-6	25	10
HWALIEN	77.32	304.0	11	42	-16					
HAKODATE	77.35	328.5	11	57	-1				22	19
TOMIE	77.55	315.0	11	59	0	21	50	0		
TOMAKOMAI	77.60	329.5	12	9	10					
MORI	77.66	328.6	12	7	7	22	9	18		
TAIPEI	77.99	304.9	12	4	2	21	41	-14		
MAWSON	78.01	199.7	12	2	0	22	3	8	12	13
SAPPORO	78.05	329.7	12	2	0	21	45	-11	15	6 PP
TAICHUNG	78.13	303.7	11	50	-12					
SUTTSU	78.36	328.8	12	9	5	22	27	28		
WAKKANAI	79.74	331.3	12	18	7	21	48	-26		
BRANNER	80.14	40.9	12	12A	-1					
VINEYARD	80.18	41.8	12	12	-1					
SAN FRANCSCO	80.22	40.5	12	14	0					
BERKELEY	80.40	40.5	12	14A	-1	22	22	2	26	54 SS
LICK	80.41	41.2	12	13A	-2					
PASADENA	80.53	45.5	12	13A	-2	22	21	-1	15	20 PP

CONCORD	80.57	40.5	12	14K	-2				
PETROPAVLOVK	80.58	344.9	12	13	-3	22	14	-8	12 22 PCP
UKIAH	80.68	39.0	12	15A	-1				
FRESNO	81.16	42.6	12	17	-2				
ARCATA	81.39	37.3	12	20A	0				
ZO-SE	81.72	309.7	12	22K	1	22	28	-6	15 25 PP
HONG KONG	82.19	298.8	12	24	0	22	34	-5	14 57 PP
SHASTA	82.21	38.3	12	23	-1				12 50
MINERAL	82.43	39.0	12	23A	-2				
MANZANILLO	82.48	65.1	12	50	25				20 18
VLADIVOSTOK	82.76	324.5	12	25	-2	22	41	-4	17 36 PPP
RENO	82.94	40.5	12	27A	-1				
KLYUCHI	83.17	347.4	12	26	-3	22	42	-7	
CANTON	83.25	299.1	12	29A	0	22	46	-4	23 32 PS
NANKING	83.94	309.3	12	31A	-2	22	53	-4	22 47 SKS
GUADALAJARA	84.11	64.1	12	34	0				35 18
CORVALLIS	84.35	35.0	12	36	1				
TUCSON	84.38	50.7	12	34K	-1	23	3	2	30 53 PKKP
TUCSON TELE.	84.51	50.7	12	35A	-1	23	13	11	16 31 PP
EUREKA	85.21	42.4	12	38K	-1				
RUTH	85.67	43.1	12	43	1				
OKHA	85.72	337.0	12	40	-2				
CHIHUAHUA	85.91	56.0	12	43	0	23	13	-3	28 55 SS
GLEN CANYON	86.52	46.5	12	46	0				16 37 PP
PORT STANLEY	86.64	146.7	12	48	2	23	32	9	
CHANGCHUN	86.82	321.9	12	46A	-1	23	19	-6	23 3 SKS
ALBERNI	86.86	30.9	12	48	1				
TACUBAYA	86.91	67.1	12	46K	-2	23	17	-9	16 5 PP
VICTORIA	87.00	32.0	12	47	-1				
PUEBLA	87.58	67.9	12	54	3				
OAXACA	87.89	70.3	12	54	2				23 42 SCS
MAGADAN	88.38	343.9	12	54	-1				
SALT LAKE C.	88.52	43.3	12	54A	-1	23	26	-15	
SITKA	88.59	21.0	12	55K	-1	23	39	-2	
PENTICTON	89.40	33.1	12	56A	-4				
VERA CRUZ	89.40	68.6	13	4A	4	23	58	9	24 6 SCS
PEKING	90.11	314.8	13	1A	-2	23	50	-5	23 29 SKS
FLAMING GRGE	90.15	44.2	13	1	-2				14 15
BUTTE	91.12	38.7	13	5A	-3	23	52	-12	30 0 PKKP
COMITAN	91.55	72.9	13	14	4	24	18	10	30 14 SS
HUNGRY HORSE	91.68	36.2	13	6K	-4	23	46	-23	16 49 PP
BOZEMAN	91.79	39.6	13	9A	-2				16 46 PP
COLLEGE	92.13	11.7	13	8K	-4	23	41	-32	42 48 SKPPKP
SIAN	92.14	306.9	13	11A	-1				
BANFF	92.60	33.3	13	12	-2				
KUNMING	92.74	296.3	13	15A	0	24	19	1	17 4 PP
SAN SALVADOR	93.04	76.4	13	17	1	24	29	8	
SANTIAGO MA.	93.61	76.9	13	22	3	24	35	9	
CHENGTU	94.17	301.8	13	21A	-1	24	28	-3	23 52 SKS
HUANCAYO	94.69	105.5	13	27	3	24	22	-13	
MERIDA	95.68	69.7	13	27K	-2	24	45	40	17 45 PP
PORT BLAIR	95.73	280.1	13	38	9	24	2	-3	
LANCHOW	96.67	306.6	13	33	0				
YAKUTSK	96.73	337.4	13	29	-4	24	0	-10	
FAYETTEVILLE	98.27	54.2	13	38A	-2	24	18	0	17 33 PP
LA PAZ	98.81	112.7	13	46A	3	24	17	-4	17 44 PP
LITTLE ROCK	99.10	56.0	13	43K	-1				17 45 PP
BALBOA HTS.	99.75	84.6	13	46A	-1	24	24	-2	
ULAN-BATOR	99.81	318.3	13	45	-2	24	21	-5	
CHINCHINA	101.72	89.9	13	57	1	24	36	1	18 7 PP
SHILLONG	101.91	292.7	13	55	-2	24	31	-5	
FLORISSANT	102.13	52.9	13	56	-2				17 38 PP
ST. LOUIS 1	102.17	53.1	13	56K	-2	24	39	2	18 0 PP
IRKUTSK	103.15	321.7	14	2K	0	24	36	-6	
TIKSI	103.35	344.5	14	1	-2	24	35	-8	
FUQUENE	103.64	90.3	14	4A	0				18 21 PP
CALCUTTA	103.76	288.6	14	19	14	24	49	4	17 9
LHASA	104.07	296.3	14	7	1	24	43	-3	18 18 PP
GALERAZAMBA	104.35	84.6				24	55	8	18 32 PP
CHATRA	106.30	292.4	14	18	777	25	11	15	17 55 PP
MADRAS	107.52	276.5	14	34	777				20 54
COLUMBIA	107.55	60.2	17	52	777	25	4	2	29 51 PKKP
KODAIKANAL	108.92	272.7							30 39
CLEVELAND	109.41	52.6				26	46	97	19 0 PP
HYDERABAD	110.68	280.2				25	17	2	
RESOLUTE	111.53	16.4	18	34	0				14 40
CARACAS	111.80	88.3	18	41	5	25	16	-3	
PENNSYLVANIA	111.89	54.0							19 19 PP

WASHINGTON	112.01	56.2	18	25	-12				19	21 PP
OTTAWA	114.45	49.5	18	40	-2					
PALISADES	114.86	54.6	18	44	1	25	26 -5	18 55	19	39 PP
DEHRA DUN	114.99	293.3	19	19	36				22	56
POONA	115.17	279.7	18	5	-38				31	7 PS
SAN JUAN	115.35	80.6	18	43	0				29	23 PKKP
BOMBAY	116.21	279.7	18	10	-35	25	31 -5		21	35 PPP
SHAWINIGAN	116.67	48.7	18	47	1					
TRINIDAD	116.88	90.4	18	46	0					
WESTON	117.03	53.5	19	55A	68				36	8 SS
SEMIPALATNSK	117.19	315.6	18	47	0					
ST. VINCENT	117.93	87.8	18	49	1					
ST. KITTS	118.05	82.9	18	49	0					
SEVEN FALLS	118.07	48.3	18	49	0					
GRAHAMSTOWN	118.18	201.6	18	49	0					
THULE	118.20	14.8	18	47	-2				20	1 PP
LAHORE	118.39	293.7	18	54	5					
ANTIGUA	118.79	83.4	18	50	0					
TANANARIVE	119.06	228.6	19	5	14				20	12 PP
HERMANUS	119.23	194.7							20	28 PP
KHEYS	119.97	351.2	18	51	-1				20	23 PP
PIETERMZBURG	120.08	206.8	19	0	7					
FRUNSE	120.14	306.5	18	58	5				20	20 PP
WARSAK DAM	121.19	295.9	18	54	-1					
LCO. MARQUES	122.27	210.9				26	24 27		20	36 PP
NORD	122.61	3.5	18	54	-4				37	18 SS
HALIFAX	122.87	51.7	18	56	-2					
KIMBERLEY	122.97	202.1	18	58	0					
KARACHI	123.06	284.4	19	0	2					
TASHKENT	123.95	304.3	18	58	-2				20	44 PP
DUZHANBE	124.07	300.9	19	1	1	26	2 -1		22	39 PKS
QUETTA	124.31	290.6	19	3A	2	27	47 103		21	1 PP
PRETORIA	124.40	206.9							19	49
SVERDLOVSK	128.47	324.0	19	9	0					
BULAWAYO	129.13	210.6	19	5	-5					
WINDHOEK	131.09	196.5	19	16	2					
SCORESBY SD.	132.00	11.3	19	16	0				21	34 PP
ASHKABAD	132.22	299.5	19	16	0				22	43 SKP
APATITY	133.57	344.8	19	17A	-1	26	23 -5		21	51 PP
SODANKYLA	135.20	347.7	19	12	-10	26	22 -9		21	50 PP
KIRUNA	135.82	351.0	19	16	-7				19	34
SHIRAZ	136.63	287.6	19	22	-2				21	52 PP
TEHERAN	137.82	296.4	19	20	-6				23	3 PKS
UMEA	139.57	348.8	19	22	-7					
MOSCOW	140.48	330.3	19	26	-5	26	29 -11		22	27 PP
PULKOVO	140.52	339.1	19	30	-1	26	40 0		19	39 PSP
SKALSTUGAN	140.89	354.0	19	29	-3					
GORIS	141.48	302.8	19	29	-4				22	56 PKS
NURMIJARVI	141.56	343.5	19	26	-7				23	10 PKS
HELSINKI	141.77	343.0	19	28	-5				23	10 PKS
TIFLIS	142.19	306.7	19	29	-5					
ADDIS ABABA	143.12	250.9	19	34	-2					
LWIRO	143.69	225.6	19	37A	0				29	51
UPPSALA	143.72	348.2	19	31	-6					
BERGEN	144.48	358.7	19	44	6				41	18 SS
LUANDA	145.23	196.6	19	42	3	26	46 -1			
GOTEBORG	146.67	351.9	19	41	-1				23	1 PP
ABERDEEN	147.46	5.9	19	56A	13				22	57 PP
SIMFEROPOL	148.31	316.9	19	44	0				23	20 PP
COPENHAGEN	148.57	350.5	19	44	-1					
WARSAW	149.68	338.8	19	46	-1				23	27 PP
DURHAM	149.88	6.1	19	50K	3			19 53	23	40 PP
KSARA	150.69	295.2	19	47A	-1				23	42 PP
IASI	150.75	325.7	19	54	6				20	13 PKP2
JERUSALEM	151.51	291.2	19	51	2					
BACAU	151.51	325.3	19	56	7					
POTSDAM	151.63	347.9	19	47	-3				23	38 PP
KRAKOW	151.90	337.6	19	54	4				19	59 PKP2
CHORZOW	152.01	338.9	20	14	24				23	46
RACIBORZ	152.44	339.6	19	50	-1			19 56	21	55
SKALNATE PL.	152.51	336.2	20	0	9				23	26 PKS
COLLMBERG	152.67	347.3	20	3	12				22	45
HALLE	152.68	348.8	19	51	0				23	48 PP
MUNSTER	152.78	354.7	19	51	0					
DE BILT	152.79	358.1	19	46	-5				23	43 PP
KEW	153.26	5.6	19	52	0				23	39 PP
JENA	153.29	348.9	19	51	-1				23	40 PP
BUCHAREST	153.34	322.6	19	52K	0				23	33 PP
CAMPULUNG	153.35	325.1	20	1	9					

ISTANBUL KA.	153.44	313.7	19	48	-4						23	45 PP
PRAGUE	153.51	344.5	19	50	-2						23	57 PP
PRUHONICE	153.56	344.2	19	51A	-1						23	43 PP
PLAUEN	153.61	347.9	19	59	7						23	35 PP
BENSBERG	153.82	355.1	19	53K	0						23	54 PP
SONNEBERG	153.89	349.1	19	51	-2				19	58	30	40
CHEB	153.96	347.3	20	7	14						30	41 SKKS
HURBANOVO	154.35	337.1	19	58	5						23	32 PP
BUDAPEST	154.38	335.6	20	8	15						23	38 PKS
BRATISLAVA	154.46	339.0	19	51K	-3						20	21 PKP2
KECSKEMET	154.58	334.0	20	6	12						23	52 PP
VIENNA-H.	154.63	340.1	19	53A	-1						23	59 PP
TIMISOARA	154.86	330.3	19	59	5							
HELWAN	155.03	287.7	19	38	-16						20	2
HEIDELBERG	155.21	352.2	19	53	-2						24	2 PP
STUTTGART	155.75	351.1	19	54	-1						24	3 PP
FOLINIERE	155.92	6.9	19	58A	3							
BELGRADE	155.92	329.9	19	55K	0						30	41 SKKS
SOFIA	155.99	322.6	20	4	8	27	0	0			24	22 PP
TUBINGEN	156.02	351.3	19	54	-2						20	42
STRASBOURG	156.13	353.4	19	56	0						23	46 PP
EBINGEN	156.37	351.2	19	56	0						20	27
RAVENSBURG	156.67	350.0	19	56	-1						24	33
ZAGREB	156.89	337.8	19	50K	-7							
LJUBLJANA	157.16	340.4	19	56A	-1						24	7 PP
BASLE	157.18	353.3	19	57	0						29	33
TOLMEZZO	157.27	343.2	19	58	1						23	32 PKS
BESANCON	157.60	356.0	19	58	0						20	30 PKP2
TRIESTE	157.75	341.2	19	56	-2						24	7 PP
NEUCHATEL	157.77	354.2	19	58	0							
MBOUR	157.91	114.3	19	59	1						24	9 PP
PADOVA	158.48	344.2	20	34A	35	26	38	-25			24	14 PP
ATHENS	158.58	312.3									20	36 PKP2
CLERMONT-FD.	159.14	1.2	20	2K	2						20	31 PKP2
PAVIA	159.27	349.1	19	58	-2						27	53 PPP
CHIAVARI	160.07	348.2				27	13	8			27	59 SKKS
PRATO	160.11	344.2	20	10	9						33	32
TARANTO	160.77	327.2	20	22	21						30	52 SKKS
SERRA PILAR	160.80	29.4	19	57K	-4	26	57	-8	20	8	24	20 PP
MONACO	160.95	351.8	20	1	-1						20	46 PKP2
LOME	161.20	172.2	20	0	-2						24	30 PP
ROME	161.54	339.0	20	5	3	26	29	-37			20	51 PKP2
BAGNERES	161.61	8.4	20	0	-2							
COIMBRA	161.62	30.8	20	3	1						24	32 PP
LISBON	162.40	35.3	20	5K	2	26	38	-28			24	38 PP
MESSINA	163.35	325.7	20	2	-2						24	36 PP
REGGIO CALA.	163.38	325.3	20	4	0						21	6 PKP2
TOLEDO	163.67	21.8	20	4A	0						24	43 PP
TORTOSA	163.87	8.9	20	2	-2						25	6 PPKP
ALICANTE	166.09	13.9	20	5	-2	27	8	-1			24	53 PP
GRANADA	166.22	25.4	20	31	24	27	19	10			24	49 PP
MALAGA	166.28	28.7	20	5K	-2	27	5	-4			24	57 PP
ALMERIA	166.93	22.6	20	7A	0	27	1	-9			24	54 PP
ALGIERS UNI.	168.13	2.7	20	9	1						25	3 PP
SETIF	168.62	353.2	20	9	1						25	8 PP
TAMANRASSET	177.35	218.4	20	14	2							

NOVEMBER 25 21.H 54.M 12.S EPICENTRE 38.19 140.81 DEPTH= 103.KM
A=-0.61080 B= 0.49790 C= 0.61565 D= 0.6318 E= 0.7751
G=-0.4772 H= 0.3890 K=-0.7880 HT= -1.0

DEPTH OF FOCUS= 0.011R

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
SENDAI	0.11	39.0	0	14A	-1	0	23	-3				
YAMAGATA	0.37	280.0	0	15	-2	0	26	-3				
ISINOMAKI	0.47	58.4	0	16A	-1	0	27	-3				
HUKUSIMA	0.51	212.1	0	15A	-3	0	26	-5				
MIZUSAWA	0.97	14.6	0	19	-2	0	36	0				
SAKATA	1.05	313.0	0	23A	2	0	40	2				
SHIRAKAWA	1.16	204.1	0	22A	-1	0	38	-2				
ONAHAMA	1.24	176.8	0	23K	-1	0	41	-1				

NIIGATA	1.42	259.7	0	26A	0	0	45	0			
MORIOKA	1.54	10.3	0	28A	1	0	49	1			
AKITA	1.63	340.2	0	30A	1	0	52	2			
MIYAKO	1.72	31.3	0	30A	0	0	49	-3			
UTUNOMIYA	1.80	205.0	0	31	0	0	54	1			
MITO	1.82	188.8	0	30A	-1	0	50	-4			
KAKIOKA	2.02	194.7	0	33K	0	0	55	-3			
AIKAWA	2.03	266.1	0	33	0	0	56	-2			
TUKUBASAN	2.04	196.4	0	31A	-3						
MAEBASI	2.26	218.5	0	38A	1	1	4	0			
TAKADA	2.31	242.7	0	37	0	1	3	-2			
KUMAGAYA	2.33	209.8	0	38A	0	1	8	2			
HATINOHE	2.41	13.1	0	39A	0	1	2	-6			
TYOSI	2.46	179.3	0	38A	-1	1	4	-5			
NAGANO	2.57	234.8	0	42A	1	1	13	1			
OIWAKE	2.59	225.0	0	42A	1	1	17	5			
TITIBU	2.60	212.7	0	41	0	1	13	1			
HONGO	2.61	199.0	0	30	-11						
AOMORI	2.63	359.4	0	43A	1	1	14	1			
TOKYO C.M.O.	2.64	199.1	0	42A	0	1	12	-1			0 50
MATUSIRO	2.65	232.4	0	42K	0	1	5	-8			4 48
YOKOHAMA	2.91	199.1	0	45A	0	1	23	3			
MATUMOTO	2.98	230.5	0	47	1	1	24	2			
KOHU	3.09	216.4	0	49K	1	1	26	2			
HUNATU	3.14	212.1	0	50A	1	1	22	-3			
WAZIMA	3.20	256.6	0	50	1	1	25	-2			
TOYAMA	3.24	243.8	0	50	0	1	27	-1			
MERA	3.35	194.0	0	51	-1	1	22	-9			
MISIMA	3.41	206.7	0	51A	-1	1	31	-1			
AJIRO	3.42	204.3	0	52	0	1	31	-1			
TAKAYAMA	3.50	235.6	0	54	1	1	37	3			
IIDA	3.58	222.9	0	56	1	1	39	3			
OSIMA	3.60	199.2	0	55	0	1	35	-2			
HAKODATE	3.62	359.4	0	56A	1	1	44	7			
KANAZAWA	3.71	244.8	0	56	0						
SHIZUOKA	3.75	211.9	0	58	1	1	39	-1			
MORI	3.91	357.3	1	2A	3	1	48	4			
MURORAN	4.13	1.7	1	7	5	1	56	6			
OMAESAKI	4.15	211.1	1	3A	1	1	50	0			1 20
URAKAWA	4.24	20.2	1	4	0	1	53	1			1 28
HUKUI	4.24	241.2	1	6	2	1	58	6			
HAMAMATU	4.26	216.7	1	5	1	2	0	7			
GIHU	4.27	230.6	1	5K	1	1	55	2			
NAGOYA	4.31	226.9	1	4K	-1	1	46	-8			
HIROO	4.52	24.3	1	6	-1	1	55	-4			
TSURUGA	4.57	237.8	0	59	-9	1	59	-1			
SUTTSU	4.63	354.7	1	10	1	2	4	2			
HIKONE	4.68	232.9	1	11K	1	2	4	1			
KAMEYAMA	4.83	227.7	1	12	0	2	6	-1			
SAPPORO	4.90	4.6	1	8	-5	2	12	4			1 40
TU	4.91	226.1	1	14	1						
OBIHIRO	5.07	20.3	1	14	-1	2	2	-11			
NARA	5.33	230.5	1	20	2	2	26	7			
ABUYAMA	5.36	233.5	1	19K	0						
TOYOOKA	5.49	242.9	1	22K	1	2	24	1			1 52
KUSIRO	5.51	28.5	1	18A	-3	2	17	-7			
OSAKA	5.53	232.0	1	22	1	2	45	21			
OWASE	5.55	223.7	1	21	0	2	47	23			
KOBE	5.73	234.1	1	24	0	2	29	0			
RUMOE	5.79	5.8	1	24	-1	2	34	4			
TOTTORI	5.95	245.4	1	26	-1	2	36	2			2 2
WAKAYAMA	6.03	230.8	1	29	1	2	34	-2			3 0
SUMOTO	6.12	233.0	1	31K	2	2	36	-2			4 7
SIOMISAKI	6.25	222.4	1	34	3	3	11	29			
NEMURO	6.28	33.6	1	28	-3	2	35	-7			
SAIGO	6.29	253.9				2	34	-19			1 53
HIMEJI	6.35	236.5	1	29	-3	2	38	-6			4 30
ABASHIRI	6.39	23.1	1	35A	2	2	47	2			
TOKUSIMA	6.50	232.7	1	34	0	2	55	7			
YONAGO	6.59	247.6	1	59K	23	2	52	2			
TAKAMATU	6.69	236.8	1	37	0	3	9	17			
WAKKANAI	7.26	4.8	1	48	3	3	2	-4			6 28
MUROTO	7.30	229.6	2	6	21	3	24	17			
KOTI	7.51	234.1	1	50	2	3	6	-6			2 22
TORISIMA	7.70	183.3	1	49	-2	3	9	-8			
HAMADA	7.76	247.7	1	52K	0	3	19	0			
HIROSIMA	7.77	243.2	1	53	1	3	22	3			
MATUYAMA	7.82	238.7	1	56	4	3	20	0			

UWAZIMA	8.34	236.1			3	24	-9			5	6
SIMIDU	8.37	232.2	1	57	-3					3	57
VLADIVOSTOK	8.38	308.8				3	30	-4			
KURILSK	8.79	34.6	2	3	-3	3	38	-6			
OOITA	8.96	239.3	2	6K	-2	3	50	2		2	35
SIMONOSEKI	9.05	245.1	1	38	-31						
ASOSAN	9.53	239.3	2	11	-4						
HUKUOKA	9.63	244.6	2	33	16	4	19	15			
KUMAMOTO	9.83	240.0	2	19	-1	4	34	25			
SAGA	9.86	243.2	2	49	29	4	39	30			
MIYAZAKI	9.91	233.7	2	30	9	4	12	1			
UNZENDAKE	10.19	240.9	1	55	-29	3	50	-27			
NAGASAKI	10.44	241.9	2	29	1	4	45	22			
TOMIE	11.29	244.1								5	10
CHANGCHUN	13.00	300.6	3	1K	-1	5	27	3			
SEVERO-KUR.	16.54	36.1	3	44	-3	6	40	-6		3	50
ZO-SE	17.62	252.2	3	57K	-3	7	8	-2	4 17	4	29 *SP
NANKING	19.01	257.9	4	13K	-3	7	36	-5	4 35	4	44 *SP
PEKING	19.20	283.2	4	13K	-5	7	36	-8	4 34	4	44 *SP
PETROPAVLOVK	19.30	34.0	4	18	-1	7	48	2		4	48 PP
MAGADAN	22.32	13.4	4	53	4	8	50	7			
KLYUCHI	22.53	29.9	4	52	0					8	53 PCP
YAKUTSK	24.83	347.5				9	27	1			
SIAN	25.96	271.1	5	22K	-2						
ULAN-BATOR	26.44	302.5	5	26	-3	9	48	-5			
HONG KONG	27.80	242.9	5	42K	1	10	16	1	6 10		
CANTON	27.89	245.3	5	42K	0	10	15	-1		6	12 *SP
BAGUIO CITY	28.05	224.9	5	42	-1	10	16	-3			
IRKUTSK	28.97	311.0	5	50K	-2	10	30	-5		7	2 PPP
LANCHOW	29.45	277.4	5	54	-2						
CHENGTU	31.12	267.2	6	9K	-2	11	2	-5		6	41 *SP
TIKSI	34.07	353.3	6	33	-3	11	50	-3		13	48 SS
KUNMING	34.69	259.2	6	40K	-1	12	1	-2	7 1	6	12 *SP
TOCKLAI	40.12	267.4	7	34	7						
SHILLONG	42.97	267.7	7	48K	-2	14	2	-5	8 11	9	33 PP
SEMIPALATNSK	43.87	306.5	7	56	-1	14	17	-3			
CHITTAGONG	44.64	263.8	8	4	0	14	31	0	8 45	9	54 PP
CHATRA	46.07	272.2	8	14	-1	14	51	-1		10	3 PP
PORT MORESBY	47.71	171.5	8	31	3	15	15	0			
COLLEGE	48.38	32.8	8	33	0						
FRUNSE	49.38	297.5	8	41	0	15	42	4		10	36
KHEYS	51.42	348.0	9	0	4	16	6	0		11	0 PP
DEHRA DUN	51.60	281.2	9	1	3	16	7	-2			
TASHKENT	53.63	297.5	9	12	-1	16	37	1		18	48 SCS
LAHORE	53.91	284.4	9	17	2						
SVERDLOVSK	53.98	318.0	9	15	0	16	43	2		17	23 *SS
LEMBANG	54.40	222.0	9	17K	-1	16	53	6			
WARSAK DAM	54.96	288.3	9	22	0						
DUZHANBE	55.06	294.5	9	24	1	16	57	1			
SITKA	55.83	41.0	9	31	2						
CHARTERS TS.	58.19	174.0	9	44	-1						
NORD	59.87	356.3	9	55	-2					10	31 PCP
QUETTA	60.16	286.5	9	57K	-2	18	5	3	10 37	12	18 PP
POONA	60.85	271.3	10	4	0						
APATITY	61.45	335.3	10	6K	-2	18	17	-2		19	42 SCS
BOMBAY	61.46	272.3	10	6	-2	18	21	2		18	51 PS
RESOLUTE	61.61	14.5	10	7A	-2	18	21	0			
ASHKABAD	62.70	298.1	10	16	0	18	38	4			
SODANKYLA	63.72	336.8	10	22	-1	18	49	2			
THULE	64.18	7.3	10	23	-3	18	51	-2	10 45	10	5 PCP
KIRUNA	65.27	338.9	10	32	-1					10	56
VICTORIA	65.97	46.4	10	37K	0						
MOSCOW	66.05	322.9	10	37	-1	19	15	-1		13	4 PP
PULKOVO	66.96	329.0	10	43	0	19	27	0		11	6 PCP
PENTICTON	67.68	44.2	10	47	-1						
UMEA	68.04	335.7	10	50	0						
CORVALLIS	68.11	50.0	10	52A	2						
AFIAMALU	68.23	129.7	10	50	-1						
TEHERAN	68.63	299.1	10	54	0	19	49	2			
NURMIJARVI	68.71	331.5	10	53	-1						
HELSINKI	68.81	331.1	10	54	-1						
TIFLIS	69.74	307.5	11	0	-1	20	0	0			
GORIS	69.98	304.8	11	3	1	20	3	0		13	42 PP
SKALSTUGAN	70.67	338.2	11	5	-1					11	29
SHASTA	70.79	53.1	11	8A	1						
SCORESBY SD.	70.92	354.0				20	16	3		21	0
SHIRAZ	71.13	293.1	11	8	-1	20	15	-1		13	50 PP
HUNGRY HORSE	71.26	42.8	11	10	0						
MINERAL	71.49	53.0	11	12K	1						

UPPSALA	71.72	333.6	11	11	-1						
RIVERVIEW	72.29	171.0	11	15	-1	20	33	4		21	14
RENO	73.08	52.9	11	22A	2						
BUTTE	73.47	44.1	11	24	1						
CANBERRA	73.53	173.0	11	23	0						
SIMFEROPOL	74.17	315.0	11	27K	0	20	50	0	12 1	21	29 PS
BOZEMAN	74.52	43.7	11	18	-11						
FRESNO	74.71	55.2	11	30	0						
GOTEBORG	75.28	334.4	11	32	-1						
EUREKA	75.50	51.1	11	36	2				12 0		
IASI	76.22	319.8	11	39	1						
COPENHAGEN	76.68	332.8	11	41	0	21	17	-1			
SALT LAKE C.	77.17	48.0	11	45	1						
PASADENA	77.34	56.5	11	45	0	21	58	33		27	18 SS
KRAKOW	77.88	325.5	11	48	0						
BOULDER CITY	78.37	53.3	11	52	2						
RACIBORZ	78.63	326.4	11	52	0					14	33
BUCHAREST	78.85	318.4				21	44	3			
ISTANBUL KA.	79.50	314.4	11	56	0	21	50	2			
GLEN CANYON	79.75	50.9	11	58	0						
COLLMBERG	79.87	329.7	11	58K	0				12 23	14	57 PP
KSARA	80.10	305.3	11	59	-1	22	15	21	12 23	15	12 PP
HALLE	80.13	330.4	12	0	0				12 24	15	1 PP
PRUHONICE	80.26	328.1	12	1K	0	21	58	2	12 25	12	36 *SP
BRATISLAVA	80.53	325.6	12	2	0					12	18 PCP
JENA	80.72	330.2	12	3	0	22	0	-1	12 27	15	6 PP
VIENNA-H.	80.79	326.1	12	5	2					12	29
PLAUEN	80.84	329.7	12	1	-3					12	53
SONNEBERG	81.30	330.1	12	5	-1						
MUNSTER	81.37	332.9	12	7	1						
SOFIA	81.50	318.6	12	8	1	22	9	0			
BENSBERG	82.36	332.5	12	12	0					12	36
HEIDELBERG	83.05	330.8	12	15	0						
LJUBLJANA	83.29	325.6	12	16K	0					15	32 PP
TUCSON	83.30	54.1	12	18	2					13	43
TUCSON TELE.	83.31	53.9	12	18	2						
STUTTGART	83.34	330.1	12	17	1				12 52		
TUBINGEN	83.62	330.1	12	18	0					12	43
TOLMEZZO	83.67	326.6	12	16	-2	22	30	0	12 52	14	50
TRIESTE	83.94	325.7	12	19	0	22	32	-1	12 56	15	37 PP
EBINGEN	83.94	329.9	12	20	1					12	44
RAVENSBURG	84.00	329.3	12	20	0						
STRASBOURG	84.08	330.8	12	20	0						
PADOVA	84.95	326.6	12	1	-24	22	42	-1			
BASLE	85.01	330.3	12	26	1						
HELWAN	85.60	304.8	12	28	0					15	48 PP
PARIS	85.82	333.8	12	31	2				12 54		
BESANCON	85.86	331.0	12	31	2						
TARANTO	86.24	320.4				23	16	21			
FOLINIERE	86.86	335.5	12	34	0						
ROME	87.44	324.1	12	9	-28	22	56	-11		16	6 PP
ISOLA	87.97	328.7	12	40	1					16	3 PP
FLORISSANT	90.10	37.5	12	50	1	22	52	-39			
ST. LOUIS 1	90.30	37.5	12	51A	1	23	39	6			
SHAWINIGAN	90.43	22.4	12	52	1						
LITTLE ROCK	92.25	41.2	13	0	1				13 34		
PENNSYLVANIA	93.80	28.4				24	11	7		23	30 SKS
ADDIS ABABA	93.81	284.5	13	8	2	23	40	-24		16	58 PP
PALISADES	95.03	25.6	13	22	10	23	40	4		17	16 PP
SETIF	95.28	325.2	13	13	0				13 38	17	7 PP
TAMANRASSET	106.25	317.4	14	4	777					18	24 PP
LWIRO	108.41	282.2								18	46 PP
BULAWAYO	119.38	266.6	18	38	1						
KIMBERLEY	126.75	260.0								29	46
SOUTH POLE	128.00	180.0	18	54	0					32	9 SKKP
BYRD STATION	129.00	167.2	18	57	1						
HUANCAYO	138.61	60.8	19	18	4						
LA PAZ	146.65	57.6	19	32A	4					23	9 PKS

NOVEMBER 26 7.H 37.M 3.S EPICENTRE 36.68 141.09 DEPTH= 66.KM

A=-0.62554 B= 0.50491 C= 0.59478 D= 0.6281 E= 0.7781
G=-0.4628 H= 0.3736 K=-0.8039 HT= -0.5

DEPTH OF FOCUS= 0.005R

SE= 3.23

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ONAHAMA	0.31	330.3	0	7K	-6	0	13	-9				
MITO	0.58	239.1	0	10K	-5	0	18	-9				
SHIRAKAWA	0.82	302.3	0	14K	-4	0	24	-7				
KAKIOKA	0.86	238.7	0	14K	-4	0	24	-7				
TUKUBASAN	0.92	240.3	0	14K	-5	0	26	-6				
TYOSI	0.98	191.5	0	15K	-4	0	27	-6				
UTUNOMIYA	0.99	262.7	0	15K	-4	0	28	-6				
HUKUSIMA	1.18	335.3	0	18A	-4	0	31	-7				
HONGO	1.44	228.2	0	20	-5	0	40	-4				
TOKYO C.M.O.	1.48	227.7	0	23	-3	0	41	-4				
KUMAGAYA	1.48	249.5	0	21K	-5	0	42	-3				
SENDAI	1.59	354.6	0	23A	-4	0	41	-6				
MAEBASI	1.65	260.8	0	25K	-3	0	45	-4				
YAMAGATA	1.67	339.6	0	24A	-4	0	42	-7				
YOKOHAMA	1.71	223.5	0	27	-2	0	48	-2				
ISINOMAKI	1.75	5.9	0	26A	-3	0	45	-6				
TITIBU	1.77	247.3	0	27K	-3	0	47	-5				
MERA	2.04	210.6	0	33	0	0	53	-5				
NIIGATA	2.04	307.8	0	25	-8	0	53	-5				
OIWAKE	2.08	261.0	0	33	-1							
HUNATU	2.22	238.6	0	34	-2	1	1	-1				
KOHU	2.28	244.5	0	35	-2	1	4	0				
AJIRO	2.29	225.4	0	36	-1	1	3	-1				
TAKADA	2.32	281.2	0	36	-1	1	6	1				
MATUSIRO	2.32	267.4	0	35K	-2	1	2	-3				
NAGANO	2.32	270.6	0	38A	1	1	5	0				
MISIMA	2.33	228.7	0	35	-2	1	9	4				
OSIMA	2.36	216.6	0	36	-2	1	5	-1				
SAKATA	2.43	336.1	0	44	5	1	13	5				
MIZUSAWA	2.44	0.7	0	35	-4	1	1	-7				
MATUMOTO	2.55	261.2	0	39	-1	1	14	3				
AIKAWA	2.63	301.4	0	41	-1	1	21	8				
SHIZUOKA	2.77	232.8	0	44A	0	1	16	0			2	17
MORIOKA	3.01	1.2	0	43K	-4	1	16	-6				
MIYAKO	3.04	12.9	0	54	7	1	22	-1				
TOYAMA	3.13	271.5	0	54	5	1	26	1				
OMAESAKI	3.13	229.2	0	50	1	1	32	7				
AKITA	3.13	345.9	0	50	1	1	21	-4				
TAKAYAMA	3.14	261.4	0	47	-2							
HAMAMATU	3.37	235.5	0	55	3	1	38	7				
WAZIMA	3.43	283.0	0	50	-3							
KANAZAWA	3.58	268.9									1	15
NAGOYA	3.67	246.9	0	57	1	1	42	3				
GIHU	3.73	251.2	0	55	-2	1	39	-1				
HATIDYOZIMA	3.73	197.0	0	56	-1	1	40	0				
HATINOHE	3.86	5.0	0	56	-3	1	43	0				
HUKUI	3.97	262.3	1	3	3	1	43	-3				
AOMORI	4.14	356.7	1	3	0	1	49	-1				
HIKONE	4.17	251.7	1	5	2	1	59	8				
KAMEYAMA	4.18	245.4	1	7	4	1	57	6				
TSURUGA	4.19	257.3	1	3	0							
TU	4.21	243.4	1	12	8							
KYOTO	4.66	250.7	1	9	-1	2	19	16				
NARA	4.72	246.5	1	6	-5	2	12	7				
OWASE	4.77	238.3	1	15	4	2	20	14				
ABUYAMA	4.84	249.7	1	11A	-1							
OSAKA	4.96	247.5									1	46
HAKODATE	5.13	357.2	1	17A	1	2	16	1				
TOYOOKA	5.21	259.1				2	21	4				
KOBE	5.21	249.2									2	42
SIOMOSAKI	5.43	235.1				2	14.	2			2	53
MORI	5.43	355.9	1	24	3	2	11	-11				
SUMOTO	5.56	246.9	1	43K	21	2	45	19				
URAKAWA	5.62	12.9	1	25	2	2	19	-8				
MURORAN	5.63	359.2	1	24	1	2	24	-4				
TOTTORI	5.72	260.2	1	25	0							
HIROO	5.85	16.5				2	23	-10				
TOKUSIMA	5.92	245.8	1	30	3	2	55	20				
TOMAKOMAI	5.95	3.5	1	50	22							
SUTTSU	6.15	354.1	1	38	8	2	43	3				
TAKAMATU	6.21	249.8	1	50	19	3	9	27				
SAPPORO	6.38	1.7	1	36	2	2	38	-8				
OBIHIRO	6.44	14.0	1	42	7	2	53	6				
MUROTO	6.63	240.9									2	42
KUSIRO	6.79	21.0	2	0	21	2	46	-10				

KOTI*	6.94	245.5								3	7
MATUYAMA	7.37	249.8	1	56	9	3	28	18			
HIROSIMA	7.43	254.5								3	51
NEMURO	7.48	26.0								3	2
ABASHIRI	7.72	17.4								3	14
SHILLONG	43.15	269.5	7	54	-2						
CHITTAGONG	44.72	265.5	8	4	-5						
COLLEGE	49.53	32.1	8	45	-1						
LEMBANG	53.44	223.0	9	14A	-2						
CHARTERS TS.	56.67	174.2	9	37	-2						
QUETTA	60.81	287.4	10	5	-3						
NORD	61.39	356.4	10	8	-4						
RESOLUTE	63.01	14.3	10	20	-3						
BRISBANE	64.67	168.5	10	33	0					11	38
SODANKYLA	65.19	337.2	10	35	-2						
PENTICTON	68.60	43.9	10	57	-1						
CORVALLIS	68.91	49.7	11	1	1						
UMEA	69.50	336.0	11	1	-3						
NURMIJARVI	70.13	331.9	11	6	-2						
SHASTA	71.52	52.8	11	15	-1						
SHIRAZ	71.93	293.7	11	16	-2						
CANBERRA	72.01	173.2	11	18A	-1					11	33 PCP
MINERAL	72.22	52.8	11	19K	-1						
HUNGRY HORSE	72.22	42.6	11	19	-1						
BUTTE	74.39	44.0	11	32	-1						
BOZEMAN	75.45	43.6	11	38	-1						
EUREKA	76.27	50.9	11	43	0	11	57				
PASADENA	77.99	56.4	11	52	-1						
SALT LAKE C.	78.01	47.9	11	54	1						
FLAMING GRGE	79.36	46.6	11	59	-2						
KARAPIRO	80.79	153.1	12	8	0						
COLLMBERG	81.28	330.0	12	10A	-1					12	33
PRUHONICE	81.65	328.4	12	11K	-2					12	46 *SP
JENA	82.13	330.5	12	13	-2					12	39
TUCSON	84.00	54.1	12	25	0	12	39			13	38
STUTTGART	84.75	330.3	12	27	-1						
TAMANRASSET	107.51	317.4								18	19 PP
SOUTH POLE	126.50	180.0	18	56	0						
BYRD STATION	127.48	167.5	18	58	0						
HUANCAYO	139.13	62.6	19	23	3						
LA PAZ	147.24	59.9	19	38A	4	19	53				

NOVEMBER 27 15.H 17.M 17.S EPICENTRE 42.74 143.45 DEPTH= 107.KM

A=-0.59180 B= 0.43877 C= 0.67620 D= 0.5956 E= 0.8033
G=-0.5432 H= 0.4027 K=-0.7367 HT= -2.7

DEPTH OF FOCUS= 0.012R

SE= 2.30

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
OBIHIRO	0.26	314.8	0	16K	0	0	26	-3				
HIROO	0.47	191.5	0	16A	-2	0	27	-4				
KUSIRO	0.74	70.8	0	18K	-2	0	31	-3				
URAKAWA	0.77	220.1	0	20A	0	0	34	-1				
TOMAKOMAI	1.38	266.1	0	28	2	0	46	1				
ABASHIRI	1.42	25.1	0	27K	1	0	47	1				
SAPPORO	1.58	282.8	0	29K	1	0	49	0				
NEMURO	1.67	68.6	0	29K	0	0	46	-5				
RUMOE	1.80	312.8	0	32K	1	0	54	0				
MURORAN	1.87	257.9	0	33A	1	0	55	-1				
HAKODATE	2.20	245.9	0	37A	1	1	3	0				
MORI	2.22	254.3	0	38	2	1	4	0				
SUTTSU	2.37	272.5	0	49	11	1	11	4				
HATINOHE	2.63	213.7	0	41A	-1	1	10	-4				
AOMORI	2.77	227.0	0	44	0	1	15	-2				
WAKKANAI	2.97	335.2	0	47A	1	1	25	3			1	44
MIYAKO	3.28	200.3	0	49	-2	1	24	-5				
MORIOKA	3.49	210.2	0	52A	-2	1	30	-4				
AKITA	3.93	221.0	1	9	9						1	44
MIZUSAWA	4.01	206.7	0	58	-3	1	40	-7				
KURILSK	4.05	50.5	1	3	2	1	49	1				
ISINOMAKI	4.60	201.3	1	7A	-2	1	56	-5				
SAKATA	4.72	216.8	1	11	1	2	5	1				

SENDAI	4.87	204.3	1	10A	-2	2	2	-6			
YAMAGATA	5.07	208.8	1	14A	-1	2	9	-4			
HUKUSIMA	5.48	205.5	1	18A	-3	2	18	-5			
ONAHAMA	6.11	199.6	1	26	-3	2	30	-8			
SHIRAKAWA	6.14	204.9	1	28	-1	2	34	-5			
AIKAWA	6.16	221.8	1	33	3						
MITO	6.75	200.9	1	35A	-3	2	47	-7			
UTUNOMIYA	6.77	205.2	1	37	-1	2	47	-7			
TAKADA	6.90	217.0	1	41	1						
KAKIOKA	6.97	202.3	1	39	-2	2	49	-10			
TUKUBASAN	7.01	202.8	1	38K	-3	1	51	-69			
MAEBASI	7.18	209.5	1	42	-2	3	2	-2			
NAGANO	7.29	215.4	1	49	4	3	1	-6			
KUMAGAYA	7.29	206.9	1	41	-4	3	2	-5			
TYOSI	7.29	196.9	1	42	-3	2	58	-9			
WAZIMA	7.34	225.3	1	50	4	3	8	0			
MATUSIRO	7.39	214.8	1	45K	-2	3	5	-5			
OIWAKE	7.43	212.2	1	48	1						
TITIBU	7.55	208.0	2	0	11	3	5	-8			
TOKYO C.M.O.	7.61	203.3	1	49	-1	3	6	-9			
MATUMOTO	7.74	214.9	1	58	7						
YOKOHAMA	7.87	203.3	1	57	4	3	15	-6			
KOHU	8.01	209.8	1	56	1	3	21	-4			
HUNATU	8.09	208.2	1	57	1	3	21	-6			3 45
TAKAYAMA	8.14	218.1	1	56	-1						
MERA	8.30	201.0	1	57	-2	3	23	-9			
MISIMA	8.38	206.2	1	56	-4	3	28	-6			
AJIRO	8.39	205.2	2	2	2						2 31
IIDA	8.43	213.0	2	8	7	3	35	0			
OSIMA	8.57	203.1	2	2	-1	3	26	-12			
SHIZUOKA	8.70	208.5				3	34	-7			
GIHU	8.98	217.5	2	8	0	3	46	-2			
NAGOYA	9.08	215.8	2	10	0	4	13	22			
OMAESAKI	9.09	208.4									3 31
TSURUGA	9.10	221.4	2	10	0						
HAMAMATU	9.17	211.0									3 44
HIKONE	9.32	219.2	2	14	1						
KAMEYAMA	9.57	216.9	2	17	1	4	19	17			
KYOTO	9.77	220.5	2	19	0						
ABUYAMA	9.97	220.6	2	20K	-1						
NARA	10.00	219.0	2	22	0						
SIOMISAKI	11.07	215.6									5 2
TOKUSIMA	11.10	221.7	2	33	-3						
MAGADAN	17.43	12.6	3	58	1						
YAKUTSK	20.96	341.8	4	32	-4	8	12	-6			
ULAN-BATOR	26.04	294.2	5	23	-2						
IRKUTSK	27.79	303.7	5	38	-3	10	15	1			
TIKSI	29.84	350.8	5	55K	-4						
MANILA	33.95	221.3	6	39	4	11	59	8			
COLLEGE	43.48	35.3	7	54	0						
SHILLONG	45.27	264.9	8	7	-1						
RABAUL	47.38	168.1	8	26	1						8 52
KHEYS	47.41	347.2	8	24	-1						
CHATRA	48.01	269.6	8	31A	1						
SITKA	51.12	43.9	8	55	1				9	19	
PORT MORESBY	52.00	175.4	9	1	1						
NORD	55.46	356.5	9	23	-3						
RESOLUTE	56.70	15.7	9	33A	-1						
APATITY	58.16	334.9	9	43A	-2						
LEMBANG	59.12	222.6	9	52K	1						
ALBERNI	60.24	49.0	10	0	1						
SODANKYLA	60.34	336.6	9	59	-1						
QUETTA	60.84	285.4	10	2A	-1						
VICTORIA	61.42	49.1	10	7A	0						
KIRUNA	61.75	338.8	10	8	-1						
PENTICTON	63.05	46.8	10	17A	-1						
MOSCOW	63.64	322.6	10	23	1						
CORVALLIS	63.70	52.7	10	23A	1						
PULKOVO	64.10	328.8	10	23	-2						
BANFF	64.10	43.4	10	24A	-1						
UMEA	64.72	335.8	10	28	-1				10	53	
NURMIJARVI	65.66	331.6	10	33	-2	19	8	-2			
HELSINKI	65.79	331.2	10	35	-1						
SHASTA	66.51	55.8	10	41A	1						
SCORESBY SD.	66.60	354.7	10	40A	-1				10	50	11 4 *SP
HUNGRY HORSE	66.60	45.2	10	41	0						
SKALSTUGAN	67.18	338.6	10	42	-2				11	9	
MINERAL	67.20	55.7	10	45A	0						11 8

TEHERAN	68.18	298.9	10 50	-1						
BERKELEY	68.30	58.1	10 52A	1					11	16
UPPSALA	68.53	333.9	10 51	-2				11	15	
RENO	68.79	55.5	10 55A	1						
BUTTE	68.84	46.5	10 55	0						
LICK	69.02	58.3	10 56A	0						
BOZEMAN	69.88	46.0	11 2	1						
FRESNO	70.52	57.8	11 5	0						
EUREKA	71.13	53.5	11 10	1				11	33	
SHIRAZ	71.19	293.1	11 9K	0	20	14	-2			
GOTEBORG	72.03	335.0	11 13	-1					21	14 SCS
SIMFEROPOL	72.36	315.3	11 16	0				11	35	
SALT LAKE C.	72.67	50.3	11 19	1						
PASADENA	73.22	59.0	11 21	0						
COPENHAGEN	73.53	333.5	11 22A	-1						
LWOW	73.69	324.0	11 24A	0				11	49	
FLAMING GRGE	73.94	48.9	11 25	0						
BOULDER CITY	74.09	55.7	11 27	1						
KRAKOW	75.24	326.2	11 33	0						
GLEN CANYON	75.37	53.1	11 34	1						
RACIBORZ	75.92	327.1	11 36	0						
COLLMBERG	76.92	330.6	11 42A	0				11	39	
PRUHONICE	77.42	329.0	11 45A	0				12	8	14 42 PP
ISTANBUL KA.	77.72	315.2	11 46	0						12 11
										14 47 PP
JENA	77.74	331.2	11 47	1				12	12	12 44
CANBERRA	77.85	175.4	11 49A	2						
BRATISLAVA	77.87	326.5	11 49A	2						
VIENNA-H.	78.11	327.0	11 49	0						
MUNSTER	78.21	333.9	11 50	1						12 15
TUCSON	79.05	56.2	11 56	2				12	20	
BENSBERG	79.22	333.6	11 54	-1						12 20
SOFIA	79.37	319.5	11 57	2						
HEIDELBERG	80.02	331.9	11 59	0				12	25	
MELBOURNE	80.20	178.8	12 2A	2						
STUTTGART	80.36	331.2	12 1A	0				12	26	
LJUBLJANA	80.63	326.7	12 2A	0						
TUBINGEN	80.64	331.2	12 2	0						
TOLMEZZO	80.94	327.8	12 4	0						17 26
EBINGEN	80.97	331.1	12 3	-1						
RAVENSBURG	81.07	330.5	12 5	0						
TRIESTE	81.26	326.9	12 6	0						
FOLINIERE	83.51	336.9	12 17	0						
HELWAN	84.60	306.1	12 25	3						
ISOLA	85.08	330.1	12 24K	-1						12 28 PP
FLORISSANT	85.29	39.3	12 27	1						
MONACO	85.33	329.7	12 24	-2						
KARAPIRO	85.43	155.1	12 28	1				12	54	
SHAWINIGAN	85.46	24.1	12 27A	0						
ST. LOUIS 1	85.48	39.3	12 27A	0						
FAYETTEVILLE	85.58	43.3	12 28A	1						12 53
CHATEAU	86.60	155.6	12 33	1						
LITTLE ROCK	87.53	43.0	12 37	0						
PALISADES	90.07	27.3	12 49	0	23	12	-18			24 52 PS
SETIF	92.61	327.2	13 0	-1				13	26	16 46 PP
TOLEDO	92.65	335.5	13 2	1						
TAMANRASSET	104.15	320.4								18 9 PP
SOUTH POLE	132.55	180.0	19 4	2						
BYRD STATION	132.97	166.3	19 7	4				19	35	22 25 SKP

NOVEMBER 27 20.H 37.M 25.S EPICENTRE -3.45 29.20 DEPTH= 37.KM

A= 0.87137 B= 0.48697 C=-0.05972 D= 0.4878 E=-0.8729
G=-0.0521 H=-0.0291 K=-0.9982 HT= 7.1

DEPTH OF FOCUS= 0.001R

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
UVIRA	0.09	300.8	0	3	-4	0	6	-6				
ASTRIDA	0.99	32.2	0	17	-1						0	31
LWIRO	1.25	341.5	0	23	1	0	44	6				
BROKEN HILL	10.96	183.7	2	30	-8							
ADDIS ABABA	15.64	37.5	3	38	-2							
BULAWAYO	16.60	181.9	3	47	-5						6	39
WINDHOEK	22.34	210.6	5	1	5							

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.

TANANARIVE	23.63	132.0	5 12	3							
KIMBERLEY	25.51	189.0	4 56	-31							
PIETERMZBERG	26.06	177.6							11 2		
GRAHAMSTOWN	29.82	184.4							15 31		
HERMANUS	32.18	195.6							16 58	SCS	
HELWAN	33.19	3.4	6 35	-1							
TAMANRASSET	34.84	319.6	6 51K	1			7 2		8 10	PP	
KSARA	37.60	9.1	7 15	2					21 43		
SHIRAZ	39.78	32.6	7 32	1					11 7	PP	
TEHERAN	44.18	26.2	8 9	2							
ISTANBUL UN.	44.27	359.8	8 8	0							
ISTANBUL KA.	44.30	359.9	8 8	0							
SETIF	45.28	332.7	8 16	0			8 33		10 5	PP	
SOFIA	46.24	354.0	8 19	-5							
ALGIERS UNI.	46.85	331.0	8 31	3							
RELIZANE	47.32	328.0	8 26	-6	15 15	-7	8 44		10 22	PP	
QUETTA	49.19	44.5	8 48A	1							
TRIESTE	50.78	346.0	8 59	0							
LJUBLJANA	50.97	346.9	9 1	1							
VIENNA-H.	52.69	349.2	9 14	1							
BASLE	54.20	342.1	9 26A	2							
PRUHONICE	54.70	348.5	9 27	-1					10 29		
STUTTGART	54.82	344.0	9 28	-1							
COLLMRERG	56.27	347.8	9 39	0			9 55				
PARIS	57.00	339.3	9 46	1							
BENSBERG	57.39	343.6	9 48	1							
SHILLONG	67.15	60.5	10 52K	0							
UMEA	67.43	355.7	10 54	0							
SKALSTUGAN	68.05	351.9	10 58	0							
SOUTH POLE	86.58	180.0	12 42	1							
CAPE HALLETT	100.39	168.7							17 20		

NOVEMBER 29 9.H 32.M 2.S EPICENTRE -44.16 -75.78 DEPTH= 59.KM

A= 0.17683 B=-0.69768 C=-0.69424 D=-0.9693 E=-0.2457
G=-0.1706 H= 0.6730 K=-0.7197 HT= -3.2

DEPTH OF FOCUS= 0.004R

SE= 2.06

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
PORT STANLEY	14.15	128.5	3 20	1					
LA PAZ	28.32	15.6	5 50A	-1	10 37	6		12 8	SS
HUANCAYO	32.00	0.8	6 22	-1	12 58	89			
BYRD STATION	39.26	191.0	7 25	0					
SOUTH POLE	46.03	180.0	8 19	-1				8 57	
BOGOTA	48.58	2.3	8 44	4	15 47	11			
CHINCHINA	48.90	0.2	8 41	-1	15 48	8			
FUQUENE	49.43	2.7	8 46A	0					
CARACAS	54.99	10.6	9 27	-1	17 8	4			
CAPE HALLETT	55.15	199.9	9 29A	0	17 17	11		13 7	PPP
SAN JUAN	62.86	10.3	10 18	-4					
MAWSON	64.27	163.7	10 29	-3					
MIRNY	69.29	175.2	11 3	0				11 21	PCP
WILKES	69.73	182.7	11 8K	2	20 18	9	11 17	13 53	PP
HERMANUS	70.20	118.9	11 12	3	20 23	8			
CHATEAU	75.06	229.6	11 37	0					
TONGARIRO	75.06	229.6	11 37	-1					
GRAHAMSTOWN	75.48	122.3	11 40	0					
KARAPIRO	75.96	230.5	11 42	-1					
WINDHOEK	76.61	108.4	11 46	0					
MBOUR	79.05	57.6	11 58	-2	22 1	8			
LITTLE ROCK	80.00	346.2	12 2	-3					
FAYETTEVILLE	81.61	345.0	12 12K	-1			12 40	12 20	PCP
TUCSON	82.50	330.6	12 21	3					
ST. LOUIS 1	83.45	348.7	12 21K	-2	22 38	0			
FLORISSANT	83.63	348.6	12 23	-1					
PALISADES	84.80	1.4	12 33	3	23 7	16		15 53	PP
BULAWAYO	86.01	114.2	12 36A	0					
PASADENA	86.97	325.9	12 41	1					
GLEN CANYON	87.03	332.0	12 46	5					
BOULDER CITY	87.29	329.2	12 44	2					
HALIFAX	89.06	8.7	12 50	0					
EUREKA	90.81	330.0	12 58	0					
RIVERVIEW	91.40	217.5	12 59A	-2				24 28	

BRISBANE	96.08	222.1	13	18	-4	23	18	-34				
HUNGRY HORSE	98.06	335.3	13	30	-1							
LWIRO	98.86	101.8	13	40	5	24	13	6			17	36 PP
TAMANRASSET	99.60	67.7	13	38	-1						17	34 PP
COLLMBERG	122.05	47.8	18	49	1							
KSARA	127.28	76.5									21	4 PP
NORD	129.22	9.4	19	2	0							
NURMIJARVI	131.90	40.8	19	8	1							
SODANKYLA	134.43	32.0	19	8	-4							
SHIRAZ	136.88	91.7	19	15	-1	26	8	-11			21	48 PP
MOSCOW	137.24	49.9	19	18	1							
TEHERAN	139.24	83.2	19	23	2							
KHEYS	140.05	10.6	19	16	-6							
POONA	143.95	125.4	19	27	-2							
PORT BLAIR	146.14	159.5	19	51	18							
MANILA	147.28	211.3	19	39	4							
QUETTA	147.48	102.7	19	38	3							
NHATRANG	147.89	189.2	19	41	5				20	0		
TIKSI	149.98	344.7	19	35	-4							
TUKUBASAN	151.64	266.2	19	59A	17						43	48 SS
WARSAK DAM	152.84	100.7	19	40	-3							
MATUSIRO	153.15	265.3	19	49	5						23	33 PP
SHILLONG	158.91	147.5	19	51K	0							
VLADIVOSTOK	159.97	276.7									20	26

NOVEMBER 29 14.H 7.M 6.S EPICENTRE 26.71 126.38 DEPTH= 148.KM

A=-0.53056 B= 0.72013 C= 0.44713 D= 0.8051 E= 0.5932
G=-0.2652 H= 0.3600 K=-0.8945 HT= 2.8

DEPTH OF FOCUS= 0.018R

SE= 2.15

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ZO-SE	6.31	315.0	1	31	-1	2	45	2					
NANKING	8.50	310.6	2	2	1	3	35	-1					
ABUYAMA	11.33	41.9	2	30A	-8								
HONG KONG	11.95	251.0	2	26	-20								
CANTON	12.37	255.9	2	48K	-4						5	28	
MANILA	12.97	203.5	3	1	2	5	23	2					
MATUSIRO	14.04	42.9	3	7A	-6	5	58	12			6	37	
TUKUBASAN	15.05	47.6	3	25A	-1	6	14	5					
PEKING	15.77	329.9	3	36K	1	6	38	13			4	9	*SP
VLADIVOSTOK	16.97	14.0	3	50	0								
CHANGCHUN	17.10	357.4	3	52K	1	7	6	11	4	15	4	25	*SP
MIZUSAWA	17.48	41.2	4	2	6	7	22	19					
CHENGTU	20.01	286.6	4	23	0				4	35	4	57	*SP
KUNMING	21.32	271.0	4	37	1	8	32	13	5	2	5	16	*SP
ULAN-BATOR	26.09	329.3	5	20	-2								
SHILLONG	30.95	275.7	6	3K	-2								
CHATRA	34.91	279.2	6	39	0								
PETROPAVLOVK	35.59	33.7	6	43A	-2								
LEMBANG	37.98	211.3	7	6A	1						13	12	
RABAUL	39.58	137.1	7	16	-2						7	38	
PORT MORESBY	41.17	147.9	7	29	-2	13	35	2					
TIKSI	44.98	1.1	8	2	0								
WARSAK DAM	47.40	292.7	8	21	0								
CHARTERS TS.	50.36	155.5	8	46	2						15	51	
QUETTA	51.80	288.6	8	56K	2								
BRISBANE	59.48	152.7	9	49	-1						10	15	
KHEYS	60.31	349.9	9	53	-2								
ADELAIDE	62.45	168.6	10	8	-2								
TEHERAN	63.36	298.5	10	17	2								
SHIRAZ	64.12	291.7	10	19A	-1	20	2	78	10	49	11	1	*SP
COLLEGE	64.39	28.2	10	21	-1								
CANBERRA	65.30	159.7	10	28A	0								
APATITY	66.72	335.3	10	36	-1						11	4	
MOSCOW	67.68	322.3	10	42	-1								
SODANKYLA	69.29	335.9	10	52	-1				11	23	11	15	PCP
NORD	70.30	354.6	10	57	-2						11	19	PCP
KIRUNA	71.31	337.3	11	4	-1								
FORT NELSON	71.94	164.0	11	9	0								
NURMIJARVI	72.62	329.5	11	13	0				11	44			
UMEA	73.12	333.6	11	13	-3						11	29	

SIMFEROPOL	73.16	312.2	11	17	1			
RESOLUTE	75.38	10.4	11	28K	-1			
UPPSALA	76.06	330.5	11	31	-2		12	3
SKALSTUGAN	76.32	335.1	11	33	-1			
LWOW	77.48	319.6	11	41K	1			
ISTANBUL KA.	78.08	310.0	11	43	-1			
ISTANBUL UN.	78.15	310.0	11	43	-1			
KARAPIRO	79.11	142.5	11	47	-2	12	13	
GOTEBORG	79.70	330.2	11	54	1			
KRAKOW	79.72	321.1	11	43	-10			
CHATEAU	80.03	143.4	11	54	0			
SCORESBY SD.	80.49	349.7	11	57A	0			
RACIBORZ	80.67	321.7	11	59	1			
SOFIA	81.19	313.4	12	0	0		12	9 PCP
HELWAN	81.19	298.9	12	2K	2			
ALBERNI	81.43	38.8	12	3	1			
VICTORIA	82.61	39.0	12	8K	0			
VIENNA-H.	82.65	320.7	12	9	1			
PRUHONICE	82.72	322.8	12	9K	1			
COLLMBERG	82.81	324.5	12	9K	0		15	22 PP
ATHENS	83.17	309.0	12	6K	-5			
HALLE	83.24	325.0	12	9	-2		13	4
JENA	83.76	324.7	12	14	0		13	7
ADDIS ABABA	83.88	277.0	12	29	15			
PENTICTON	84.26	36.9	12	16K	0			
SONNEBERG	84.27	324.4	12	16	0			
CORVALLIS	84.79	42.3	12	20K	1			
LJUBLJANA	84.90	319.5	12	20K	1			
MUNSTER	85.12	327.0	12	22	2			
BANFF	85.28	33.9	12	19	-2			
HEIDELBERG	86.14	324.6	12	26	1			
STUTTGART	86.23	323.8	12	26	0			
TUBINGEN	86.49	323.7	12	28	1			
RAVENSBURG	86.65	322.9	12	28	0			
EBINGEN	86.75	323.5	12	30	2			
SHASTA	87.47	45.2	12	34K	2			
HUNGRY HORSE	87.79	35.5	12	34	1			
MINERAL	88.16	45.1	12	35K	0		13	2
BERKELEY	89.11	47.5	12	40K	1			
RENO	89.75	45.0	12	44	1			
LICK	89.81	47.7	12	44K	1			
BUTTE	90.04	36.7	12	44	0			
BOZEMAN	91.08	36.2	12	50	1			
FOLINIERE	91.13	328.0	12	49	0			
FRESNO	91.35	47.3	12	51	1			
EUREKA	92.18	43.3	12	55	1			
SALT LAKE C.	93.83	40.3	13	2	1			
PASADENA	93.95	48.6	13	3	1	13	29	
GLEN CANYON	96.44	43.1	13	9	-4			
LWIRO	97.78	271.4	13	24	5			
TUCSON	99.96	46.3	13	29	0			
TAMANRASSET	104.56	305.1	13	53	3		17	53 PP
SOUTH POLE	116.56	180.0	18	27	1			
BYRD STATION	120.26	169.4	18	35	2		20	0 PP
HUANCAYO	154.92	58.6	19	40A	6		20	3 PKP2
LA PAZ	163.12	55.9	19	19	-25			

DECEMBER 1 4.H 2.M 37.S EPICENTRE 38.37 30.47 DEPTH= 70.KM

A= 0.67750 B= 0.39867 C= 0.61811 D= 0.5071 E=-0.8619
G= 0.5327 H= 0.3135 K=-0.7861 HT= -1.1

DEPTH OF FOCUS= 0.006R

SE= 2.94

	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	
ISTANBUL KA.	2.91	338.6	0	39	-6						1	27	SG
ATHENS	5.34	267.8	1	15A	-4						1	27	PP
KSARA	6.30	134.4	1	33	1	2	39	-5					
SOFIA	6.95	310.8	1	42	1	3	18	18			1	55	
SIMFEROPOL	7.12	21.4	1	41	-3	3	2	-2					
JERUSALEM	7.63	148.0	1	46	-5	3	10	-6					
HELWAN	8.50	175.0	1	59	-4	3	29	-9					
BELGRADE	9.89	313.9	3	4A	43	5	2	50			3	38	
TIMISOARA	10.08	320.0									3	29	

MESSINA	11.73	273.8	2	46	0	6	20	84			
LWOW	12.35	340.1	2	52	-2				7	20	
BRATISLAVA	13.80	319.5	3	21	7				7	28	SG
LJUBLJANA	14.08	308.1	3	16	-1				3	33	PP
ROME	14.21	290.0							7	33	
VIENNA-H.	14.23	318.5	3	13A	-6				3	40	PPP
TRIESTE	14.39	305.7							7	36	SGSG
TOLMEZZO	15.17	307.5	3	27	-4				7	46	
PADOVA	15.52	302.9							8	28	
PRUHONICE	16.25	320.7	3	48A	3						
TEHERAN	16.90	92.5	3	58	5						
COLLMBERG	17.85	322.0	4	5A	0	7	26	7	4	18	PP
MOSCOW	18.02	13.2	4	6	-1						
MONACO	18.17	294.5	4	12	3						
SONNEBERG	18.21	317.5	4	7	-2						
JENA	18.33	319.3	4	12	1				4	31	PP
EBINGEN	18.42	309.1	4	10	-2						
STUTTGART	18.49	311.0	4	12	0						
TUBINGEN	18.51	310.2	4	12	-1						
ISOLA	18.51	295.7	4	16	3				4	51	SP
BASLE	19.04	306.1	4	20A	1				10	31	
HEIDELBERG	19.10	312.3	4	18	-1						
STRASBOURG	19.32	309.2	4	25	3				4	49	
SETIF	20.05	271.6	4	29	-1						
SHIRAZ	20.20	108.9	4	31K	0	11	8	179	5	0	7 40 PKS
BENSBERG	20.71	315.0	4	40	4						
MUNSTER	20.97	317.8	4	39	0						
PULKOVO	21.42	359.8	4	43	-1						
CLERMONT-FD.	21.54	298.8	4	47	2				5	5	
ALGIERS UNI.	21.77	274.3	4	49	2						
NURMIJARVI	22.47	352.5	4	53	-1						
PARIS	22.68	306.4	4	58	2						
UPPSALA	23.01	343.3	4	57	-2				5	33	PP
TAMANRASSET	26.40	241.1	5	30K	-2	9	45	-13	6	5	PP
SVERDLOVSK	27.13	37.3	5	38	0						
SODANKYLA	29.13	356.9	6	21	25						
ADDIS ABABA	30.15	163.5	6	13	8						
LWIRO	40.44	182.6	7	33	0						
BROKEN HILL	52.57	182.4	9	9	1						
BULAWAYO	58.22	182.1	9	48K	-1						
PALISADES	75.15	310.7							26	52	SS
ST. LOUIS 1	85.98	317.5	12	34	0						
HUNGRY HORSE	88.08	337.2	12	44	0						
SOUTH POLE	128.18	180.0	19	0	2						

DECEMBER 1 20.H 49.M 46.S EPICENTRE 49.04-129.12 DEPTH= 0.KM

A=-0.41517 B=-0.51053 C= 0.75299 D=-0.7758 E= 0.6309
G=-0.4751 H=-0.5842 K=-0.6580 HT= -5.1

SE= 2.91

	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
ALBERNI	2.83	83.7	0	46	-1							
VICTORIA	3.80	95.7	0	58	-3							
CORVALLIS	5.99	136.0	1	32A	0						2	43
PENTICTON	6.23	83.9	1	34	-1							
SITKA	8.85	337.4	2	18	6							
ARCATA	8.91	154.5	2	13A	0							
BANFF	8.99	71.2	2	13	-1							
HUNGRY HORSE	10.00	88.3	2	25	-3						4	2
MINERAL	10.20	145.6	2	31K	0						3	26
BUTTE	11.59	98.9	2	48	-1							
RENO	11.60	141.5	2	51K	1						3	50
CONCORD	12.18	152.6	2	58K	0						7	8
BERKELEY	12.22	153.5	2	57K	-1						3	33
BOZEMAN	12.71	98.6	3	4	-1	5	15	-1				
LICK	12.90	152.3	3	7K	0	5	43	15			3	53
EUREKA	13.40	130.6	3	15	1							
VINEYARD	13.52	152.4	3	16	1							
FRESNO	14.02	147.5	3	20K	-2							
RUTH	14.09	128.8	3	25K	2	6	6	5				
SALT LAKE C.	14.74	117.6	3	32	1	6	26	9				
FLAMING GRGE	16.11	112.8	3	49	0	6	27	-22				
BOULDER CITY	16.73	136.0	3	57	0							

PASADENA	16.95	147.3	3	59	-1	7	15	7		
GLEN CANYON	17.55	126.9	4	9	2	6	53	-29		
COLLEGE	18.73	334.8	4	20	-2					
TUCSON TELE.	21.65	133.6	4	55	1					
TUCSON	21.68	134.0	4	54	0				5	27
CHIHUAHUA	26.97	130.7				10	50	-28	14	34
FAYETTEVILLE	28.53	103.8	5	58K	-1	10	51	5		
FLORISSANT	29.44	95.6	6	11	4	11	9	8	6	33
RESOLUTE	29.48	17.7	6	6	-2	11	2	0		
ST. LOUIS 1	29.62	95.8	6	8A	-1	11	13	9		
LITTLE ROCK	30.52	104.0	6	19	2					
CLEVELAND	33.87	84.6	6	46A	0	12	15	5		
GUADALAJARA	35.01	134.7							8	6 PP
OTTAWA	35.83	75.1	7	2	-1					
MORGANTOWN	35.84	86.3	7	3A	0					
PENNSYLVANIA	36.60	83.2	7	25	16	13	3	10	8	32 PP
SHAWINIGAN	37.20	71.9	7	19	5					
TACUBAYA	38.10	130.3							7	44 PCP
WASHINGTON	38.12	85.3	7	5	-17	13	16	0		
SEVEN FALLS	38.16	70.1	7	23	0					
COLUMBIA	38.35	94.8	7	24	0	13	16	-3		
PALISADES	39.07	80.4	7	22	-8	13	26	-4	8	34 PP
FORDHAM	39.17	80.6	7	32	1					
VERA CRUZ	39.85	126.6	7	31	-6	13	30	-12	17	46
WESTON	40.05	77.0							9	14
OAXACA	41.33	129.2							23	54
MERIDA	42.08	117.5				14	14	-1	12	16
PETROPAVLOVK	43.83	303.8	8	7	-2	14	38	-3		
COMITAN	44.42	124.3							18	14
NORD	44.94	11.1	8	15	-3				9	54 PP
TIKSI	47.88	335.3	8	43	2	15	38	-1		
SCORESBY SD.	49.92	24.8	9	5	8					
YAKUTSK	52.85	324.5	9	15	-4					
SAN JUAN	58.69	98.0	10	0	-1					
KIRUNA	61.23	12.7	10	36	17					
CHINCHINA	62.95	115.9	10	31	1	19	9	9		
APATITY	62.99	7.4	10	32	1	19	3	3	11	11 PCP
FUQUENE	63.68	113.9	10	41	6	19	28	19	20	3 PS
SKALSTUGAN	63.68	18.1	10	31	-4					
CARACAS	64.01	104.6	10	38	1	19	14	1		
VLADIVOSTOK	64.05	306.5	10	40	2					
BOGOTA	64.15	114.8	10	31	-7	19	17	2	13	22
MATUSIRO	65.06	297.5	10	40	-4	19	22	-4		
ABERDEEN	65.44	28.6				19	29	-2	26	19 SSS
CHANGCHUN	66.93	310.7				19	49	0		
UPPSALA	68.15	17.4	11	3	-1					
NURMIJARVI	68.76	13.6	11	10	2					
IRKUTSK	69.32	328.2	11	1	-10					
PULKOVO	70.26	10.9	11	13	-4	20	29	1		
WITTEVEEN	71.81	26.5	11	32	6					
DE BILT	71.99	27.7	12	14	47				25	14 SS
FOLINIERE	72.97	32.7	11	37	4					
BENSBERG	73.59	27.1	11	37K	0					
POTSDAM	73.96	23.0	11	38	-1					
PARIS	73.97	30.9	11	40	1					
SVERDLOVSK	74.19	354.4	11	37	-3	21	10	-3		
PEKING	74.27	313.6	11	39	-2	21	16	2		
HALLE	74.47	24.1	11	41	-1	21	26	10	15	2 PP
JENA	74.88	24.5	11	48	4	21	26	5	12	27
COLLMBERG	74.93	23.5	11	45	1				14	29 PP
MOSCOW	75.01	7.7	11	44	-1					
SONNEBERG	75.27	25.0	11	46	0					
HEIDELBERG	75.44	26.9	11	46	-1					
STRASBOURG	75.88	27.9	11	51	1					
WARSAW	75.95	18.4				21	27	-6	29	31 SSS
STUTTGART	76.17	26.9	11	50	-1	21	39	4	12	14 PCP
PRUHONICE	76.54	23.2	11	52	-1	21	46	7		
HUANCAYO	77.05	125.9	12	1	5					
RACIBORZ	77.35	20.9	11	58	0					
ZO-SE	78.65	304.5	12	6	1	22	5	3		
BRATISLAVA	78.86	22.3	12	8	2					
TOLEDO	79.05	39.9	12	8	1				15	23 PP
NANKING	79.19	306.8				22	13	5		
ISOLA	79.55	30.4	12	13	3					
LJUBLJANA	80.14	24.8	11	26	-47				12	14
TRIESTE	80.29	25.4	11	26	-48				12	30
GRANADA	81.50	41.1	12	49K	29	22	43	11		
AREQUIPA	82.76	125.2	12	31	4					

BELGRADE	82.81	21.3	12	30K	3	22	50	5	12	57
ROME	83.34	27.8							23	1
ALGIERS UNI.	84.60	36.7	12	32	-4					
LA PAZ	84.63	122.6	12	38	2	23	6	3	16	18 PP
SOFIA	85.49	20.0	12	44	3					
SETIF	86.01	35.3	12	46	3					
FRUNSE	86.16	342.7	12	41	-3					
CHENGTU	87.60	316.4							23	35
MESSINA	87.66	27.1	12	51	0				16	33
ISTANBUL KA.	88.23	16.3	12	55	1					
ANDIJAN	88.60	343.8	12	54	-2					
HONG KONG	89.42	304.2				23	37	-12		
TIFLIS	89.46	4.5	13	1	1					
STALINABAD	91.34	346.1				23	18	-48		
KUNMING	92.90	314.4							24	11
KSARA	96.43	12.5	13	29	-3				17	25 PP
SANTA LUCIA	97.20	134.1							24	54
DEHRA DUN	97.35	336.5							18	14
TAMANRASSET	97.86	41.5	13	42	4	24	33	17	17	43 PP
CALCUTTA	101.30	325.0							19	31
SHIRAZ	101.65	358.5							18	24 PP
RIVERVIEW	108.64	239.8	14	11A	777				34	22 SS
BOMBAY	109.60	337.9							25	8
CAPE HALLETT	128.20	199.8	19	11	3				38	38 SS
BYRD STATION	128.92	177.9	19	8	-2					
LWIRO	129.69	29.2							37	54 SS
SOUTH POLE	138.85	180.0	19	23	-5					
BULAWAYO	146.09	39.7	19	42K	1					
TANANARIVE	149.83	6.3	19	54	7				20	22
K MBERLEY	151.54	54.2	19	54	5					
MIRNY	152.30	215.3	20	0	9					

DECEMBER 2 9.H 10.M 42.S EPICENTRE -24.37 -70.01 DEPTH= 0.KM

A= 0.31182 B=-0.85701 C=-0.41024 D=-0.9397 E=-0.3419
G=-0.1403 H= 0.3855 K=-0.9120 HT= 3.5

SE= 4.63

	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
AREQUIPA	7.99	349.7	1	57	-3							
LA PAZ	R.02	13.0	2	4A	4	3	59	26				
SANTA LUCIA	9.06	183.4	2	10	-5	4	0	1				
CONCEPCION	12.55	187.6	3	2	-1	6	6	42				
HUANCAYO	13.25	336.7	3	18K	6	5	49	8				
BOGOTA	29.08	351.6	6	10K	6	11	1	6				
CHINCHINA	29.67	348.6	6	15K	6	11	12	7				
FUQUENE	29.87	352.5	6	16A	5							
BALBOA HTS.	34.41	343.1	6	43	-8						8	8 PP
CARACAS	34.78	5.3	6	52	-2	12	32	7				
GALERAZAMBA	35.31	351.0	7	13	14							
TRINIDAD	35.80	14.6	7	1	-2							
ST. VINCENT	38.27	13.8	7	25	1							
BARBADOS	38.62	16.4	7	36	10							
FORT FRANCE	39.81	13.5	7	34	-2	14	25	44				
ARGENTINE I.	41.05	176.3	7	42	-5							
SANTIAGO MA.	41.72	332.4	7	56	4	14	14	4				
SAN SALVADOR	42.20	331.6	8	1	5	13	47	-30				
SAN JUAN	42.65	5.5	7	55A	-5	14	0	-24			9	33 PP
COMITAN	45.78	329.7	8	34	9	15	14	5				
OAXACA	48.72	325.0	9	6	18	16	2	11			20	58
MERIDA	48.92	335.4	8	51	1	15	52	-1			20	57 SSS
VERA CRUZ	50.23	327.2	9	21	21	16	21	9			18	54 SCS
PUEBLA	51.14	325.0	9	26	19	16	18	-6			25	38
TACUBAYA	51.97	324.2	9	13K	0	16	24	-12			11	15 PP
GUADALAJARA	55.28	321.3	10	2	25						23	54
COLUMBIA	58.98	349.3	10	0K	-4	17	58	-11				
LITTLE ROCK	62.52	339.3	10	25	-3	18	54	-1				
CHIHUAHUA	63.10	324.5	10	34	3	19	8	6				
FAYETTEVILLE	64.33	338.4	10	34A	-6	19	27	10			12	51 PP
MBOUR	64.52	59.1	10	40	-1	19	25	5				
PITTSBURGH	65.13	351.6	10	43K	-2						11	37
PALISADES	65.14	356.7	10	53A	8	19	27	0			13	7 PP
PENNSYLVANIA	65.24	353.4	10	49	4	19	28	0				
ST. LOUIS I	65.48	342.7	10	41	-6	19	30	-1				

FLORISSANT	65.67	342.6	10	47	-1	19	33	-1			
SOUTH POLE	65.78	180.0	10	43	-6	19	24	-11		22	28
CLEVELAND	66.38	350.6	10	50A	-3	19	40	-2			
WESTON	66.42	358.9	10	50A	-3					19	44
TUCSON	68.47	323.5	11	2K	-4	20	12	5		24	39 SS
TUCSON TELE.	68.48	323.6	11	3K	-3						
HALIFAX	68.90	4.9	11	7A	-2						
OTTAWA	69.62	355.7	11	9	-4						
SHAWINIGAN	70.62	358.0	11	16	-3						
SEVEN FALLS	71.15	359.4	11	20	-2						
SCOTT BASE	72.84	190.7	11	36	4	21	2	4		26	18 SS
BOULDER CITY	73.46	323.4	11	32	-4	21	17	12			
PASADENA	74.02	320.0	11	36	-3	21	8	-4		25	42 SS
ANGRA DO HO.	74.40	33.5				21	36	20		26	34
PONTA DELGDA	74.50	35.1	11	49K	7						
FLAMING GRGE	74.55	330.1	11	39	-3	21	21	3			
CAPE HALLETT	75.40	195.9	11	42	-5	21	20	-7	11 50	26	18 SS
SALT LAKE C.	75.57	328.5	11	46A	-2	21	29	0		26	29 SS
LOME	75.62	76.4	11	55	7	21	42	13			
RUTH	75.95	325.5	11	53A	3	21	36	3			
HERMANUS	76.06	121.6	11	57	6	21	40	6			
EUREKA	76.65	325.1	11	53A	-1						
FRESNO	76.81	321.0	11	59	4						
VINEYARD	77.71	320.0	11	58	-2				12 7		
LICK	78.27	320.3	12	0A	-3				12 10		
WINDHOEK	78.52	109.6	11	44	-21						
RENO	78.75	323.0	12	4	-2				12 12		
CONCORD	78.94	320.6	12	5	-2				12 13		
BERKELEY	78.99	320.4	12	6A	-1	22	4	-2		27	18 SS
SAN FRANCSCO	79.03	320.2	12	13	6						
BOZEMAN	79.06	332.0	12	4	-4					12	31
BUTTE	79.99	331.4	12	8	-5	22	18	2			
LUANDA	80.28	95.3	12	17A	3	22	29	10			
MINERAL	80.30	322.6	12	11A	-3				12 19		
SHASTA	80.98	322.4	12	13	-5						
MAWSON	81.89	163.5	12	17	-6	22	40	4			
ARCATA	82.05	321.7	12	30A	7						
HUNGRY HORSE	82.43	332.1	12	22K	-3	22	35	-6		15	51 PP
KIMBERLEY	82.56	118.1	12	24K	-2						
CORVALLIS	84.11	324.8	12	32	-2				12 40		
LISBON	84.73	43.3	12	39K	2	23	19	14		15	43 PP
BANFF	85.21	333.2	12	36	-3						
PENTICTON	85.62	330.0	12	37	-4						
COIMBRA	86.06	42.5				23	20	3		24	35 PS
SERRA PILAR	86.51	41.6	12	40A	-6	23	13	-9	12 52	16	4 PP
PIETERMZBURG	86.66	120.9	12	51	4						
VICTORIA	86.85	327.7	12	44	-4	22	49	-36			
TAMANRASSET	86.99	63.5	12	46	-2	23	27	1		16	16 PP
GRANADA	87.44	47.1	13	0K	10	24	11	40		16	26 PP
ALMERIA	88.02	47.9	12	49	-4	23	34	-2	12 59	16	29 PP
ALBERNI	88.04	327.6	12	58	5						
TOLEDO	88.63	44.7	12	56K	0	23	50	8		15	15 PP
BULAWAYO	89.31	111.7	12	57	-2						
WILKES	89.58	180.2	12	53	-8	23	31	-20	13 4	16	47 PP
LCO. MARQUES	90.03	118.5	13	4	1	24	12	17	13 16	16	48 PP
ALICANTE	90.15	47.4	12	53	-10	23	53	-3		16	36 PP
WELLINGTON	91.33	223.0	13	22	13	24	45	39		25	10 SP
BROKEN HILL	91.63	106.5	13	11K	1						
ALGIERS UNI.	91.78	50.2	13	10	-1	23	37	-33		16	51 PP
CHATEAU	92.01	225.1	13	10	-2						
TONGARIRO	92.02	225.0	13	10	-2					14	49
ROXBURGH	92.05	217.3	13	30A	18	23	46	-27		17	40
TORTOSA	92.07	45.7	13	24	12	24	8	-5			
KAIMATA	92.65	220.5								13	49
COBB RIVER	92.71	222.3	13	24	9						
KARAPIRO	92.72	226.1	13	11	-4					13	29
SETIF	93.17	51.6	13	18	1					17	7 PP
BARCELONA	93.44	45.8				24	11	-14			
ONERAHI	94.70	227.4	13	32	8						
AFIAMALU	94.74	252.5	13	38	14	24	4	-32		17	14 PP
FOLINIERE	95.54	38.5	13	31	3						
REYKJAVIK	95.82	19.2	13	42A	13						
CLERMONT-FD.	96.18	42.4	13	38A	7	24	30	23			
HONOLULU	96.88	290.2	13	50	16	26	20	129		31	46 SS
KEW	97.01	36.2	13	31	-4	24	48	36		17	29 PP
LWIRO	97.09	95.7	13	36A	1	24	12	0		17	41 PP
CUGLIERI	97.20	49.2								25	48
PARIS	97.27	39.5	13	35	-1	24	21	8			
SITKA	97.78	329.9								31	58 PKKP

ISOLA	97.93	45.1	13	39	0			13	50	
MONACO	97.98	45.6	13	39	0					17 29 PP
BESANCON	98.62	42.0	13	42	0					
ABERDEEN	99.04	30.7				24	43 21			18 0 PP
NEUCHATEL	99.10	42.5	13	51	7					17 52
CHIAVARI	99.46	45.7				24	50 26	15	15	20 43 PPP
BASLE	99.72	42.2								14 25
PAVIA	99.72	44.8	14	5	18	26	3 97			19 5 PP
RESOLUTE	100.11	353.5	13	46	-3					32 16
STRASBOURG	100.28	41.3	14	3	13	24	48 20			17 55 PP
DE BILT	100.31	37.3	14	1	11	24	48 20			17 56 PP
PRATO	100.45	46.6	13	54	4	24	54 25			
SCORESBY SD.	100.46	14.7	13	54	4	24	42 13			27 6 PS
THULE	100.56	0.4	13	50	-1					18 5 PP
ROME	100.60	48.8	13	59	8	24	33 3			18 7 PP
CHUR	100.64	43.4	13	56A	5					17 59
EBINGEN	100.84	42.0	13	51	-1					18 8 PP
BOLOGNA	100.85	46.1				26	6 95			18 20
BENSBERG	100.94	38.9	14	3	10	24	43 11			
TUBINGEN	101.05	41.7	13	52	-1					18 4 PP
SUVA	101.05	244.3				24	40 8			27 3 SP
RAVENSBURG	101.08	42.5	13	53	0					18 6 PP
HEIDELBERG	101.19	40.8	13	52	-2					18 6 PP
STUTTGART	101.27	41.5	13	52	-2					18 5 PP
MESSINA	101.36	53.2	13	49	-5	24	31 -3			18 3 PP
REGGIO CALA.	101.40	53.4								16 48
WITTEVEEN	101.45	37.1	14	5	10					
PADOVA	101.56	45.4	14	2	7	24	51 16			18 45 PP
MUNSTER	101.62	38.1	13	57	1					
TOLMEZZO	102.68	44.8	13	59	-1	24	45 5			18 29 PP
TRIESTE	102.87	45.7	14	1	0	24	52 11			18 23 PP
SONNEBERG	103.05	40.5								18 23 PP
JENA	103.49	40.1	14	3	-1	24	48 4			18 25 PP
LJUBLJANA	103.52	45.5	14	6	2					18 29 PP
CHEB	103.65	41.1	14	6	1	24	49 5			18 36 PP
PLAUEN	103.66	40.6				25	6 22			
BERGEN	103.96	29.7								33 19 SS
ZAGREB	104.39	46.1	14	18	10					
COLLMBERG	104.45	40.1	14	18	10					18 33 PP
FORT NELSON	104.72	207.4				25	5 16			18 50
POTSDAM	104.88	39.0	14	18	8	25	9 19			18 28 PP
PRAGUE	104.88	41.6								17 45
PRUHONICE	104.92	41.7	14	16	6	25	6 16			18 35 PP
VIENNA-H.	105.46	43.8	18	9	777	25	30 37			18 46 PP
TANANARIVE	105.50	119.4	14	28	777					18 58 PP
COPENHAGEN	105.68	35.7								27 49 PS
BRATISLAVA	105.90	44.0	14	37	777					18 38 PP
GOTEBORG	106.13	33.6	18	35	777					
HURBANOVO	106.51	44.6	14	21	777					
COLLEGE	106.78	334.2	14	16K	777					
BUDAPEST	106.91	45.1				25	18 19			18 51 PP
BELGRADE	107.06	48.1	14	27	777	25	22 22			18 50 PP
RACIBORZ	107.18	42.4								17 45 PP
ATHENS	107.35	55.7								18 40 PP
CHORZOW	107.73	42.3								18 23
TIMISOARA	107.85	47.3								19 12
SKALNATE PL.	108.19	43.7								19 2 PP
KRAKOW	108.24	42.7								18 12
SOFIA	108.44	50.9	18	28	777	25	22 16			19 35 PP
WARSAW	109.48	40.7				26	32 82			29 50 PKKP
UPPSALA	109.58	32.4	18	40	777					19 6 PP
MELBOURNE	109.95	208.9				25	32 20			19 21 PP
CANBERRA	110.09	213.2	18	29	-4	25	7 -5			19 20 PP
RIVERVIEW	110.14	215.7	14	46	-227	25	13 0			19 18 PP
CAMPULUNG	110.30	48.6								21 53
ADDIS ABABA	110.73	89.3	14	42	-233					19 31 PP
LWOW	110.74	43.7	18	42	7					25 34 SKKS
BUCHAREST	110.83	49.7	18	30	-5					
HELWAN	111.04	65.9	14	53	-222					18 32
UMEA	111.68	28.5	18	48	12					19 31 PP
ISTANBUL KA.	112.16	53.7	18	29	-8					22 4
KIRUNA	112.47	24.2	18	35	-3					29 41 PKKP
NURMIJARVI	113.15	32.4	18	41	2					19 33 PP
BRISBANE	114.04	221.4	14	54	-227	25	28 0			
JERUSALEM	114.77	64.8	18	50	8					19 38 PP
SODANKYLA	114.78	25.0	18	33	-9					19 50 PP
ADELAIDE	115.01	205.8	18	42	-1					27 30
KSARA	115.79	62.8	19	5	21	26	14 39			19 49 PP

PULKOVO	115.89	33.6	15	5	-220	25	45	10		19	56 PP
SIMFEROPOL	116.55	50.3	18	54	8					19	50 PP
APATITY	117.40	24.9	18	49	1	25	51	10		20	5 PP
MOSCOW	119.64	38.3	18	50	-2					20	18 PP
KHEYS	119.80	8.6	18	57	5						
CHARTERS TS.	123.44	221.8	18	57	-2					32	32
MUNDARING	123.67	186.3	18	55	-5					20	54 PP
PERTH	123.73	186.0	19	21	21					26	21
GORIS	124.96	57.8	19	3	1					20	51 PP
TEHERAN	128.69	62.8	19	11	2					21	25 PP
SHIRAZ	128.96	70.7	19	8A	-2					22	38 SS
RABAUL	130.11	241.1	19	8	-4					19	32
PORT MORESBY	130.59	231.7	19	13	0					21	40 PP
TIKSI	131.51	352.1								22	28 SKP
ASHKABAD	134.32	60.0								22	45 SKP
YAKUTSK	140.05	345.6	19	30	-1						
KARACHI	141.06	80.1	19	28	-4					22	44 PP
QUETTA	141.47	71.6	19	29	-4	26	38	-3	19 41	22	39 PP
TASHKENT	142.23	53.3	19	32	-2					22	38 PP
DUZHANBE	142.41	57.9	19	35	0					33	0 PS
BOMBAY	145.09	91.6	19	38	-1					23	11 PP
WARSAK DAM	145.26	65.0	19	37	-3						
SEMIPALATINSK	145.28	33.9	19	38	-2					23	5 PKS
Y.-SAKHLINSK	145.50	319.2								29	34 SKKS
FRUNSE	145.58	48.9	19	40	0					30	18
POONA	145.93	92.7	19	42	1					22	52
KODAIKANAL	146.02	108.7	19	44A	3	25	53	-55		23	56 PP
COLOMBO	146.32	116.0	19	51	10					36	39
LEMBANG	148.91	175.4	19	46A	0					23	26
MADRAS	149.65	106.5	20	5	18						
HYDERABAD	149.78	97.1	19	57	10					34	23 PPP
TUKUBASAN	151.56	301.6	19	54A	4					23	47 PP
IRKUTSK	151.80	7.4	19	51	1					20	7 PKP2
MATUSIRO	152.92	303.2	19	51	-1					24	6 PP
ABUYAMA	155.49	301.2	19	53A	-2						
ULAN-BATOR	156.36	5.2	19	57	1						
CHANGCHUN	156.88	330.9	19	56	-1					24	14 PP
BOKARO	157.91	86.4	20	4	6					31	27
CHATRA	159.27	78.3	20	1	1					23	21
PORT BLAIR	159.31	124.6	20	10	10					25	48
CALCUTTA	160.08	90.9	20	15	14					24	43 PP
LHASA	162.32	68.6	20	2	-1					24	46 PP
CHITTAGONG	163.19	93.1	20	12	8						
SHILLONG	163.52	82.0	20	5A	1					34	17 PS
PEKING	163.54	343.1	20	7	3					21	23 PKP2
MANILA	165.79	229.3	20	15	9						
TOCKLAI	166.05	77.0	20	17	10						
LANCHOW	167.20	23.1	20	9	2					25	4 PP
BAGUIO CITY	167.32	233.4	20	18	10						
ZO-SE	168.04	306.6	20	8	0					25	24 PP
NANKING	169.10	316.7	20	10	1					25	21 PP
CHENGTU	171.78	38.9	20	11	1					25	29 PP
KUNMING	173.36	82.0	20	11	0					25	39 PP
HONG KONG	175.65	242.7	20	19	7					26	8 PP

DECEMBER 2 9.H 37.M 43.S EPICENTRE -24.41 -70.41 DEPTH= 64.KM

A= 0.30567 B=-0.85891 C=-0.41091 D=-0.9421 E=-0.3353
G=-0.1378 H= 0.3871 K=-0.9117 HT= 3.5

DEPTH OF FOCUS= 0.005R

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
LA PAZ	8.15	15.6	1	57	-1							
SANTA LUCIA	9.00	181.2	2	11	1	3	57	7				
HUANCAYO	13.15	338.4	3	8K	3							
BOGOTA	29.07	352.5	5	58	2							
CHINCHINA	29.64	349.5	6	0	-1							
BALBOA HTS.	34.34	343.8	6	43	1							
CARACAS	34.86	6.0	6	46A	-1	12	17	5				
TRINIDAD	35.94	15.2	6	55	-1							
ST. VINCENT	38.40	14.4	7	15	-2							
BARBADOS	38.76	17.0	7	38	18							

ARGENTINE I.	41.03	176.1	7	35	-3					9	30 PP
SAN SALVADOR	42.07	332.1	7	48	1						
SAN JUAN	42.73	6.0	7	50	-2						
OAXACA	48.55	325.5	8	41	3						
MERIDA	48.80	335.9	8	38	-2	15	41	3		13	20
VERA CRUZ	50.07	327.7								10	31
PUEBLA	50.96	325.4								17	5
TACUBAYA	51.79	324.7	9	2K	-1	16	21	2		11	2 PP
COLUMBIA	58.95	349.7	9	52A	-3						
LITTLE ROCK	62.43	339.7	10	17A	-2						
CHIHUAHUA	62.92	324.9	10	25	3	18	53	8			
WASHINGTON	63.28	354.2	10	24A	0						
FAYETTEVILLE	64.23	338.7	10	29A	-1	19	33	32	10 41	12	55 PP
MORGANTOWN	64.32	351.8	10	31A	0						
MBOUR	64.86	59.3	10	34	0	19	23	14			
PITTSBURGH	65.12	352.0	10	36A	0						
PALISADES	65.16	357.1	10	35	-1						
PENNSYLVANIA	65.24	353.8	10	36	-1						
ST. LOUIS 1	65.41	343.0	10	34A	-4	19	15	-1			
FLORISSANT	65.60	343.0	10	38A	-1						
SOUTH POLE	65.74	180.0	10	37	-3					35	3
CLEVELAND	66.36	350.9	10	43A	-1	19	29	2	10 55		
WESTON	66.45	359.3	10	45A	0						
TUCSON	68.29	323.7	10	55A	-1	19	59	8		39	19 PKPPKP
TUCSON TELE.	68.30	323.9	10	56	0					39	12 PKPPKP
HALIFAX	68.97	5.2	11	1A	1						
OTTAWA	69.64	356.0	11	3A	-1						
SHAWINIGAN	70.65	358.3	11	10A	-1						
SEVEN FALLS	71.19	359.7	11	14A	0						
GLEN CANYON	72.33	326.4	11	23A	2	20	49	11		13	54 PP
SCOTT BASE	72.73	190.7	11	22	-1	20	47	5			
BOULDER CITY	73.27	323.6	11	26	0	21	55	67		38	57 PKPPKP
PASADENA	73.82	320.3	11	29	0	21	3	9		21	27 *SS
FLAMING GRGE	74.41	330.3	11	33	0	21	5	4			
PONTA DELGDA	74.74	35.3	11	36K	1						
CAPE HALLETT	75.25	196.0	11	35K	-3					38	57 PKPPKP
SALT LAKE C.	75.42	328.7	11	39A	1	20	54	-18		24	38 SS
LOME	75.98	76.6	11	42	0	21	40	22			
EUREKA	76.48	325.4	11	45A	1						
FRESNO	76.61	321.2	11	44	-1						
VINEYARD	77.51	320.3	11	51	1						
LICK	78.06	320.6	11	54A	1						
RENO	78.57	323.2	11	57A	1						
CONCORD	78.74	320.8	11	58	1						
BERKELEY	78.78	320.6	11	57A	0						
WINDHOEK	78.85	109.7	11	56K	-2					12	18
BOZEMAN	78.92	332.3	11	54A	-4						
BUTTE	79.85	331.6	12	2	-1						
MINERAL	80.11	322.8	12	3A	-1					12	35
LUANDA	80.64	95.5	12	8	1	22	31	23			
SHASTA	80.79	322.6	12	7A	-1						
ARCATA	81.86	321.9	12	15K	1						
MAWSON	81.96	163.6	12	11	-3	22	22	1			
HUNGRY HORSE	82.29	332.3	12	16A	0					15	41 PP
CORVALLIS	83.93	325.0	12	25A	1						
LISBON	85.01	43.5	12	32A	2					15	45 PP
BANFF	85.08	333.4	12	18	-12						
PENTICTON	85.47	330.2	12	32A	0						
COIMBRA	86.34	42.7	12	36	0						
VICTORIA	86.69	327.9	12	31	-7						
SERRA PILAR	86.78	41.8	12	39K	1				12 50	16	1 PP
TAMANRASSET	87.34	63.7	12	41	0					16	4 PP
GRANADA	87.74	47.3	12	52A	9	24	1	43		16	37 PP
ALBERNI	87.88	327.8	12	45	1						
ALMERIA	88.32	48.1	12	45A	-1	23	13	-11		16	15 PP
TOLEDO	88.92	44.8	12	49A	1					16	8 PP
BULAWAYO	89.64	111.9	12	51A	-1						
LCO. MARQUES	90.33	118.7	12	55A	0	23	47	5		24	53 PS
ALICANTE	90.45	47.6	12	57	1	23	49	6		16	32 PP
WELLINGTON	91.05	223.2	13	1	3						
CHATEAU	91.72	225.2	13	2	0						
TONGARIRO	91.73	225.2	13	3	1						
BROKEN HILL	91.97	106.7	13	4A	1						
ALGIERS UNI.	92.09	50.4	13	3A	0	24	11	14		16	48 PP
TORTOSA	92.37	45.9	13	8	3						
KARAPIRO	92.42	226.3	13	6	1					13	26
COBB RIVER	92.43	222.5	13	16	11						
SETIF	93.49	51.8	13	10K	0	24	0	-10		16	52 PP
FOLINIERE	95.80	38.7	13	20	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.

LWIRO	97.46	95.9	13	29A	1			17	24
PARIS	97.53	39.6						17	25 PP
ISOLA	98.22	45.2	13	32A	1	24 10	8		
MONACO	98.27	45.7	13	32	1			20	27
BESANCON	98.90	42.1						17	33 PP
NEUCHATEL	99.38	42.6	13	37	1			17	37
BASLE	100.00	42.3						17	44
RESOLUTE	100.11	353.6	13	39	-1				
STRASBOURG	100.56	41.4						17	45 PP
HEIDELBERG	101.47	40.9	13	45	-1				
STUTTGART	101.55	41.6	13	45	-1			17	52 PP
PADOVA	101.85	45.5	14	7	19				
TOLMEZZO	102.97	44.9	13	52	0			18	4 PP
TRIESTE	103.17	45.8	13	55	2			18	6 PP
JENA	103.75	40.2	13	57	1			14	32
LJUBLJANA	103.81	45.6	13	57	1			18	8 PP
COLLMBERG	104.72	40.2	14	1	1			18	33 PP
PRUHONICE	105.19	41.8	14	3	777			17	45 PP
VIENNA-H.	105.75	43.9						18	16 PP
TANANARIVE	105.80	119.7	14	7	777				
BRATISLAVA	106.19	44.1						18	27 PP
BELGRADE	107.36	48.2						17	38
ATHENS	107.68	55.8						18	40 PP
SOFIA	108.75	51.0	18	40	777			19	57 PP
RIVERVIEW	109.89	216.0						19	2 PP
ISTANBUL KA.	112.49	53.8	18	28	-1				
NURMIJARVI	113.39	32.5	18	42	12				
ADELAIDE	114.81	206.1						19	37 PP
SODANKYLA	114.97	25.1	18	35	2				
JERUSALEM	115.12	64.9	18	35	1			19	30 PP
KSARA	116.14	62.9						19	40 PP
APATITY	117.59	24.9	18	29	-10				
KHEYS	119.89	8.5	18	45	2		19 13		
MOSCOW	119.90	38.4	18	44	1			20	6 PP
CHARTERS TS.	123.16	222.1	18	51	2			20	34
MUNDARING	123.59	186.8	18	50	0			20	32 PP
TIFLIS	124.27	55.0	18	54	2			20	35 PP
TEHERAN	129.03	62.9	19	3	2			21	8 PP
SHIRAZ	129.32	70.8	19	3K	2	25 52 -10		21	36 PP
RABAUL	129.76	241.4	19	3	1				
PORT MORESBY	130.27	232.0	19	4	1			19	22
YAKUTSK	140.00	345.4	19	23	2				
KARACHI	141.43	80.2	19	21K	-3			22	25 PP
QUETTA	141.84	71.7	19	22K	-2			22	28 PP
GUAM	145.11	258.3	19	25	-5				
BOMBAY	145.46	91.8	19	34	3			22	17 PP
SEMIPALATNSK	145.52	33.6	19	33	2				
WARSAK DAM	145.61	65.0	19	32	1				
FRUNSE	145.89	48.7	19	34	3			22	50 PP
POONA	146.29	92.9	19	34	2			21	22
LEMBANG	148.89	176.2	19	38A	2			23	15
DJAKARTA	149.48	174.6	19	42	5			23	12
MIZUSAWA	149.61	306.5	19	46	9				
MADRAS	149.99	106.9	19	44A	6				
TUKUBASAN	151.27	301.3	19	41	1				
IRKUTSK	151.89	6.9	19	43	2			23	29 PP
MATUSIRO	152.63	302.9	19	43A	1			23	33 PP
ABUYAMA	155.19	300.8	19	47A	2				
ULAN-BATOR	156.44	4.5	19	59	12				
CHANGCHUN	156.74	330.2	19	48A	1			23	59 PP
CHATRA	159.64	78.4	19	54	3				
PEKING	163.47	342.0	19	59A	4			20	50
CHITTAGONG	163.56	93.5						19	57 PKP2
SHILLONG	163.89	82.2	19	57A	2				
ZO-SE	167.77	305.6	20	0A	2			25	11 PP
NANKING	168.88	315.3	20	0A	1			21	14 PKP2
CHENGTU	172.04	37.3	20	4A	3			25	16 PP
KUNMING	173.73	82.1	20	3A	1			25	27 PP

DECEMBER 3 4.H 24.M 14.S EPICENTRE 43.18 104.46 DEPTH= 0.KM

A=-0.18265 B= 0.70830 C= 0.68187 D= 0.9683 E= 0.2497
G=-0.1703 H= 0.6603 K=-0.7315 HT= -2.9

SE= 2.31

	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	
PAOTOW	4.90	120.1	1	19A	2						2	33	
LANCHOW	7.14	184.1	1	46	-2						2	43	
TATUNG	7.29	112.0	1	52	2								
KYAKHTA	7.32	10.1	1	51	0						3	33	
TAIYUAN	8.21	128.3	3	2	59								
TIENSHUI	8.65	172.9	2	9	0						4	19	
KABANSK	8.99	8.7	2	14A	0						4	1	
IRKUTSK	9.09	359.5	2	16	1						4	17	
PEKING	9.32	105.8	2	16	-2	3	59	-6					
BAYANDAI	9.92	3.7	2	26	-1								
CHENGTU	12.50	181.8	3	1	-1	5	21	-2					
DAIREN	13.65	102.5	3	17	0	5	43	-8					
CHANGCHUN	15.14	80.4	3	40K	3	6	10	-16					
NANKING	15.85	129.7	3	45A	-1	6	35	-8					
SUIHWA	16.32	70.1	3	54	2	7	8	14					
LHASA	17.27	222.9	4	4	0	7	19	4					
ZO-SE	17.94	126.7	4	12A	0	7	23	-8					
SEMIPALATNSK	18.03	302.0	4	13	0	7	38	5					
KUNMING	18.07	185.0	4	12A	-2	7	24	-10					
TOCKLAI	18.19	208.8	4	21K	6	7	48	11			5	0	PPP
PRZHEVALSK	19.11	276.8	4	27	0	8	5	8					
VLADIVOSTOK	19.99	80.7	4	36	-1	8	10	-7					
ALMATA	20.02	279.7	4	36	-1						5	0	PP
SHILLONG	20.37	214.4	4	38A	-3	8	24	0			5	8	PP
NARYN	21.08	275.0	4	48	0						8	43	
ITUHARA	21.29	106.6	4	49	-1						11	6	
CANTON	21.35	157.0	4	50A	-1	8	32	-12					
CHATRA	21.53	226.3	4	53K	0	8	53	6			5	19	PP
FRUNSE	21.78	279.4	4	56	1						9	0	
TOMIE	21.82	110.8	4	55A	0	8	55	2					
HONG KONG	22.34	155.7	5	0A	-1	8	57	-5					
HUKUOKA	22.39	106.7	5	3	2	9	9	6					
SAGA	22.52	107.5	5	7	5						5	54	
NAGASAKI	22.52	109.1	5	2A	0	9	10	5					
SIMONOSEKI	22.58	105.2	5	2	-1						11	59	
UNZENDAKE	22.77	108.7	5	6	1	9	9	-1					
HAMADA	22.91	101.9	5	7A	1	9	19	6			12	13	
KUMAMOTO	23.03	107.9	5	5	-3	9	23	8					
SAIGO	23.21	97.7	5	14	5	9	25	7					
ASOSAN	23.25	107.3	5	11	1						10	32	
CHITTAGONG	23.27	210.8	5	11A	1	9	23	4	5	26	5	51	PP
MATSUE	23.36	99.6	5	12	1	9	29	8					
HIROSIMA	23.43	102.7	5	11A	0	9	24	2			5	40	PP
OOITA	23.45	106.0	5	12A	0	9	24	2			6	40	
YONAGO	23.57	99.4	5	12	-1	9	32	8			12	19	
KAGOSIMA	23.65	110.7	5	13A	-1						12	27	
MATUYAMA	23.95	103.4	5	18	2	9	43	12			11	21	
YAKUTSK	24.04	29.6	5	19	2						9	35	
MIYAZAKI	24.05	108.9	5	20A	3	9	42	9			11	9	SS
UWAZIMA	24.11	104.9	5	16	-2	9	43	9					
TOTTORI	24.14	98.5	5	19	1						15	23	
OKAYAMA	24.34	100.5	5	20	0						10	30	
NAMANGAN	24.35	276.1	5	23	3						5	51	
FERGANA	24.45	274.7	5	21	0						9	52	SSS
CALCUTTA	24.55	218.1	5	25A	3	9	51	10					
TOYOOKA	24.59	97.8	5	21A	-2	9	49	7			11	11	
TAKAMATU	24.61	101.1	5	22	-1	9	43	1			6	19	PP
DEHRA DUN	24.63	247.3	5	23	0	9	49	6			6	53	PP
KOTI	24.63	103.2	5	23A	0	9	40	-3			6	27	PP
SIMIDU	24.65	105.4	5	21	-2	9	51	8			13	13	
BOKARO	24.69	224.5	5	23K	-1	9	40	-3			5	53	PP
HIMEJI	24.78	100.4	5	20	-4	9	41	-4			13	19	
MAIZURU	25.03	97.5	5	28	1	10	5	16					
TOKUSIMA	25.12	101.1	5	28	0	9	58	7			6	21	PP
SUMOTO	25.22	100.2	5	28A	-1	9	40	-12					
KOBE	25.25	99.3	5	28	-1	10	0	7					
MUROTO	25.25	103.2	5	29	0	10	1	8			13	19	
WAZIMA	25.32	92.2	5	31	1	10	4	10					
ABUYAMA	25.44	98.5	5	30A	-1								
TSURUGA	25.44	96.5	5	26	-5						13	18	
WAKAYAMA	25.46	100.2	5	30	-1	9	57	1			13	47	
KANAZAWA	25.48	94.2	5	35	4								
TCHIMKENT	25.51	280.1	5	32	1								
OSAKA	25.52	99.0	5	30	-2	10	5	8			14	19	
KHOROG	25.63	268.4	5	33	0						10	16	
NARA	25.72	98.7	5	36	3	9	55	-6			6	3	PP

HIKONE	25.75	97.1	5	36	2	10	8	7	12	54	
TOYAMA	25.81	93.4	5	34	0	10	9	7			
TASHKENT	25.99	278.0	5	36	0				10	24	
SUTTSU	26.05	78.4	5	37	1	10	9	3			
AIKAWA	26.06	89.9	5	39A	2	10	9	3			
GIHU	26.07	96.4	5	36	-1	10	14	7			
TAKAYAMA	26.08	94.5	5	36	-1						
KAMEYAMA	26.10	97.8	5	36	-1	10	16	9	6	36	PP
TU	26.21	98.0	5	38	0						
OWASE	26.28	99.6	5	38	-1	10	18	8	13	56	
SIOMISAKI	26.29	101.2	5	37	-2	10	9	-1	13	5	
NAGOYA	26.32	96.7	5	39	0	10	20	9			
TAKADA	26.42	91.8	5	40	0						
MORI	26.46	79.8	5	45	5	10	11	-2			
LAHORE	26.47	254.0	5	40	0						
NAGANO	26.56	92.7	5	40	-1	10	27	12	9	4	
MATUMOTO	26.56	93.7	5	41	0				9	44	
WAKKANAI	26.58	72.2	5	42	1	10	24	9			
MATUSIRO	26.62	92.9	5	40A	-2	10	24	8	16	43	SCS
HAKODATE	26.67	80.4	5	41	-1	10	29	12	11	13	
NIIGATA	26.68	89.5	5	45	3	10	8	-9			
MURORAN	26.70	79.2	5	42	0						
SAPPORO	26.79	77.4	5	41A	-2	10	15	-3			
AKITA	26.81	85.1	5	47	4				13	37	
SAKATA	26.89	87.0				10	52	32			
OIWAKE	26.95	93.1	5	56	11	10	36	15	8	50	
AOMORI	26.96	82.5	5	46	1	10	47	26			
TOMAKOMAI	27.06	78.3							6	2	
HAMAMATU	27.07	96.9	5	51	5						
Y.-SAKHLINSK	27.09	68.5	5	45	-1				6	30	PP
WARSAK DAM	27.16	261.4	5	47	0						
DUZHANBE	27.24	272.5				10	51	25	5	57	
KOHU	27.25	94.4	5	49	2				12	16	
MAEBASI	27.30	92.6	5	45	-3	10	45	18	16	34	
SHIZUOKA	27.45	95.9	5	50	1	10	40	11			
HUNATU	27.48	94.6	5	51	1				12	16	
OMAESAKI	27.49	96.7	5	48	-2	10	39	9			
TITIBU	27.49	93.4	5	57	7						
YAMAGATA	27.51	88.0	5	47	-3						
HATINOHE	27.59	82.7	5	49	-2	10	45	13			
MORIOKA	27.60	84.6	5	45	-6	10	36	4	6	42	
KUMAGAYA	27.64	92.8	6	0	9				10	2	
MIZUSAWA	27.76	85.8	5	51	-1	10	27	-7			
MISIMA	27.78	95.1	5	49	-3	10	40	5			
HUKUSIMA	27.78	88.9	5	54	2				10	6	
UTUNOMIYA	27.83	91.7	5	51	-2	10	45	10	9	28	
SHIRAKAWA	27.85	90.3	5	51	-2	10	43	7			
SENDAI	27.90	87.6	5	50	-3	10	37	1			
AJIRO	27.92	95.2	5	55	1				11	14	
URAKAWA	28.04	78.8	5	55	0	10	35	-4			
TOKYO C.M.O.	28.11	93.5	6	1	6	10	40	0	6	52	PP
HONGO	28.11	93.4	5	58K	3				10	55	
TUKUBASAN	28.13	92.2	5	49A	-7	10	33	-7	6 4	6	56 PP
OBIHIRO	28.14	77.1	6	11	15	10	56	16			
ISINOMAKI	28.15	87.1	5	52	-4	10	29	-11			
YOKOHAMA	28.15	94.0	5	49	-7	10	51	11	14	57	
SAMARKAND	28.17	275.8	5	56	0				10	46	
KAKIOKA	28.19	92.1	5	58	2	11	8	27	14	33	
MIYAKO	28.20	84.3	5	52	-4	10	39	-2	12	22	
OSIMA	28.26	95.5	5	54A	-3				10	7	
MITO	28.34	91.6	5	56	-1	10	50	7			
HIROO	28.39	78.3	5	54	-4						
ONAHAMA	28.41	90.2	5	58	0				11	58	
MERA	28.51	94.8	5	42	-17						
ABASHIRI	28.66	74.4	5	58	-2	10	49	0			
TYOSI	28.90	92.6	6	3	1	11	8	15			
KUSIRO	28.98	76.5	6	0	-3	10	42	-12	11	10	
HATIDYOZIMA	29.36	98.1							14	7	
NEMURO	29.73	75.4	6	8	-2	11	28	22			
BAGUIO CITY	30.01	147.8	6	12	0	11	27	17			
VIZIANAGRAM	30.66	222.0	6	20A	2	11	35	14			
MANILA	31.79	148.3	6	28	0	11	43	5			
QUETTA	32.49	259.0	6	34A	0	11	58	9	7	44	PP
PORT BLAIR	33.01	201.5	6	38	-1	11	57	0	13	11	PCS
HYDERABAD	33.84	228.7	6	41A	-5	12	18	8	7	56	PP
ASHKABAD	35.07	277.4	6	58A	1				8	17	PP
SEVERO-KUR.	35.43	59.4							8	26	
POONA	35.64	236.0	7	1	0	12	44	6	8	22	PP
KARACHI	35.65	251.3	7	3	2						

BOMBAY	35.99	237.7	7	2	-2	12	43	0		8	26 PP
KIZYL-ARVAT	36.09	280.5	7	6	1					8	12 PP
MADRAS	36.65	222.2	7	11A	1	12	56	3		8	48 PP
PETROPAVLOVK	36.69	55.1	7	10	0					11	51
KLYUCHI	37.65	49.4	7	21	3					13	23 PCS
KODAIKANAL	40.37	223.6	7	46K	5	14	6	16		18	6 SSS
KHEYS	40.94	349.6	7	46	0					9	21 PP
TEHERAN	41.06	278.1	7	48	1	13	44	-16			
COLOMBO	42.12	218.0	8	3	8	14	8	-8		17	25
GORIS	43.05	285.7	8	4	1					9	48 PP
TIFLIS	43.22	289.4	8	5	1	14	30	-2		9	46 PP
SHIRAZ	43.27	269.5	8	4K	-1	14	36	3		9	51 PP
MOSCOW	43.52	311.0	8	7	0	14	34	-2		9	51 PP
APATITY	43.87	328.4	8	10A	0	14	40	-1	8 16	9	53 PP
PULKOVO	46.43	317.8	8	31	1	15	19	1		10	20 PP
SODANKYLA	46.49	328.6	8	30	-1	15	11	-8		10	24 PP
KIRUNA	48.72	329.8	8	46	-2						
TROMSOE	48.80	332.4	8	51	2						
HELSINKI	48.91	319.3	8	49	0						
NURMIJARVI	48.96	319.8	8	49	-1	15	51	-3			
SIMFEROPOL	49.09	297.8	8	51A	0					10	45 PP
DJAKARTA	49.18	176.9	8	48K	-3	15	56	-1			
LEMBANG	49.86	175.9	8	56	-1	16	6	0			
NORD	51.77	350.8	9	10	-1						
IASI	52.27	302.9	9	14K	-1	18	33	113		13	25 PPP
UPPSALA	52.48	320.5	9	15	-2						
BACAU	52.96	302.4	9	23	3	18	15	86			
KSARA	53.12	284.3	9	20A	-1	16	37	-14		11	19 PP
LWOW	53.25	307.1	9	22	0					11	28 PP
SKALSTUGAN	53.32	326.1	9	21	-2						
WARSAW	53.91	310.9	9	28	1	17	3	1		11	33 PCP
ISTANBUL KA	54.14	295.5	9	26A	-3	17	10	5			
BUCHAREST	54.45	300.4	9	30	-1	18	29	80		11	28 PP
JERUSALEM	54.68	282.6	9	32	-1	17	4	-8			
CAMPULUNG	54.72	301.8	9	32	-1	18	21	68		13	0 PPP
KRAKOW	55.51	308.9	9	40	1						
SKALNATE PL.	55.74	307.8	9	40	-1					17	49 PS
CHORZOW	55.93	309.5	9	42	0				9 50	10	19
GOTEBORG	56.06	319.7	9	42	-1					13	30
RACIBORZ	56.48	309.5	9	47	1				9 53	11	55 PP
COPENHAGEN	56.81	317.4	9	47K	-1						
TIMISOARA	56.83	303.8	9	51	3					26	38
SOFIA	57.05	299.8	9	50	0	17	26	-18	10 14	11	58 PP
BUDAPEST	57.28	306.5	9	49	-3	18	0	13			
HURBANOVO	57.57	307.2	9	54	0					10	48 PCP
BERGEN	57.72	324.6								25	47
BELGRADE	57.77	303.2	9	55K	0	17	51	-2		13	21 PPP
BRATISLAVA	58.05	308.0	9	55K	-2	18	4	7		10	41 PCP
POTSDAM	58.14	313.8	9	58	0					13	17 PPP
VIENNA-H.	58.43	308.4	10	0A	0	18	6	4		12	14 PP
HELWAN	58.52	282.9	9	59	-1					18	11 PS
COLLEGE	58.57	28.5	9	59K	-2	17	42	-22			
PRUHONICE	58.57	310.8	10	0A	-1	18	9	5		12	6 PP
PRAGUE	58.59	311.0	10	2	1						
COLLMBERG	58.73	312.8	10	0	-2	18	10	4		12	10 PP
HALLE	59.19	313.4	10	5	0	18	6	-6	10 27	12	10 PP
ATHENS	59.28	294.9	10	5K	-1	18	11	-2		12	24 PP
PLAUEN	59.61	312.3	10	4	-4					10	31
JENA	59.69	312.9	10	7	-1	18	22	4		12	26 PP
CHEB	59.71	311.8	10	6	-3	18	17	-2		24	34 SSS
ZAGREB	59.94	306.1	10	7A	-3						
SONNEBERG	60.19	312.5	10	11	-1					12	30 PP
SCORESBY SD.	60.25	341.8	10	10A	-2						
THULE	60.59	358.0	10	13K	-2	18	22	-8		12	31 PP
LJUBLJANA	60.67	307.0	10	14	-1	18	20	-11		13	55 PPP
MUNSTER	61.19	315.5	10	20A	1						
WITTEVEEN	61.20	316.7	10	20K	1						
TRIESTE	61.34	306.9	10	19A	-1	18	35	-5		13	59 PPP
TOLMEZZO	61.35	308.0	10	20	0	18	46	6		14	4 PPP
RESOLUTE	61.72	5.7	10	21	-1	18	46	2		12	38 PP
BENSBERG	62.00	314.7	10	24	0					12	33 PP
HEIDELBERG	62.07	312.6	10	23	-2						
STUTTGART	62.12	311.8	10	23	-2	19	1	12		12	43 PP
DE BILT	62.36	316.6	10	28	1	19	16	24		14	23 PP
TUBINGEN	62.37	311.7	10	26	-1						
RAVENSBURG	62.50	310.7	10	26	-1					14	25 PPP
PADOVA	62.57	307.5	10	26A	-2	18	29	-26		12	24 PP
EBINGEN	62.63	311.4	10	26	-2					14	23 PPP

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ABERDEEN	62.72	324.0	10	33K	4	19	12	15	25	48	SSS
STRASBOURG	63.05	312.3	10	31A	0				14	29	PPP
CHUR	63.08	309.9	10	31	0				14	25	PPP
BOLOGNA	63.40	307.0	10	34	1	19	5	-1	27	2	
BASLE	63.77	311.4	10	36A	0				19	53	*SPPS
RABAUL	63.81	124.7	10	40	4						
PRATO	63.90	306.5	10	38	1	20	14	62			
DURHAM	63.98	321.7	10	39A	2	19	41	28	13	8	PP
ROME	64.23	304.1	10	16A	-23				13	51	PPP
PAVIA	64.26	308.6	10	41	2				20	4	PPS
NEUCHATEL	64.43	311.2	10	40	0				14	39	PPP
REGGIO CALA.	64.47	299.1	10	39A	-1				19	37	
MESSINA	64.48	299.2	10	38	-2	19	19	0	13	9	PP
CHIAVARI	64.68	307.7	11	11	29				14	15	PPP
BESANCON	64.81	311.9	10	42A	-1						
PORT MORESBY	65.17	132.5	10	44	-1	19	30	3	23	33	SS
KEW	65.46	318.3	10	46A	-1	19	35	4	14	55	PPP
PARIS	65.71	314.8	10	48	0				13	15	PP
ISOLA	66.07	308.7	10	51	0	19	49	11			
MONACO	66.12	308.1	11	0	9						
ADDIS ABABA	66.19	259.7	10	53	2	19	44	4			
FOLINIERE	67.26	316.1	10	57	-1						
CLERMONT-FD.	67.27	311.9	11	4K	6				13	29	PP
SITKA	68.29	30.5	11	2A	-3						
TORTOSA	71.94	309.2	11	32	5	20	52	4			
SETIF	72.07	302.9	11	25	-3	20	41	-8	39	8	PKPPKP
HONIARA	72.67	121.6	11	31	0						
ALGIERS	73.12	304.7	11	32A	-2	21	10	9	14	21	PP
CHARTERS TS.	73.76	139.3	11	36	-2	21	8	-1			
ALICANTE	74.15	307.8	11	41	1	21	12	-1	14	27	PP
TOLEDO	75.12	311.0	11	46A	0				14	38	PP
PERTH	75.49	170.0	11	48	0	21	8	-20	14	35	PP
MUNDARING	75.56	169.7	11	46	-2	21	27	-2			
ALMERIA	76.33	307.8	11	50	-2	21	35	-2	14	44	PP
SERRA PILAR	76.68	314.4	11	55K	1	21	39	-2	14	52	PP
GRANADA	76.75	308.7	11	53A	-2	21	56	14	14	38	PP
COIMBRA	77.26	313.7	11	57A	-1				14	54	PP
ALBERNI	78.31	30.5	12	5	2						
LISBON	78.72	313.0	12	6A	0						
VICTORIA	79.45	30.1	12	10A	0						
BANFF	79.81	24.3	12	11A	0						
TANANARIVE	80.89	233.4	12	19A	2	22	55	29	15	24	PP
HONOLULU	80.91	69.5	12	18A	1	23	16	50	27	58	SS
TAMANRASSET	80.93	292.6	12	17A	0	22	28	2	15	24	PP
LWIRO	81.12	258.5	12	19A	1	22	12	-16	15	12	PP
HUNGRY HORSE	82.76	24.7	12	27A	0	22	12	-33			
CORVALLIS	82.79	32.2	12	28A	1						
BRISBANE	83.08	138.0	12	30	1				22	36	PKS
ADELAIDE	83.83	152.3	12	31A	-1	22	53	-3	13	35	
BUTTE	85.29	24.9	12	41A	1						
ARCATA	85.57	34.7	12	43K	2						
BOZEMAN	86.06	24.1	12	45A	1						
SHASTA	86.41	33.8	12	47	2						
MINERAL	87.03	33.4	12	49A	1				15	57	PP
RIVERVIEW	87.72	142.7	12	52A	0	23	29	-4	16	18	PP
CANBERRA	88.06	145.0	12	54	1	23	33	-3	24	40	PS
RENO	88.43	32.7	12	57A	2						
MELBOURNE	88.63	149.0	12	56K	0	23	45	3	16	21	PP
CONCORD	88.85	35.0	12	59	2						
BERKELEY	88.86	35.2	12	59A	2	23	51	7	16	30	PP
SAN FRANCSCO	88.86	35.4	12	53	-4						
LICK	89.57	35.1	13	2A	2				16	28	PP
BROKEN HILL	89.86	250.0	13	4A	2						
EUREKA	89.95	30.1	13	4A	2				16	40	PP
SEVEN FALLS	89.99	356.8	13	4K	2						
VINEYARD	90.18	35.2	13	6	3						
SALT LAKE C.	90.24	26.7	13	4A	0	24	3	7	13	48	
RUTH	90.53	29.6	13	3A	-2				16	41	PP
SHAWINIGAN	90.62	358.1	13	6	1						
FRESNO	90.82	34.1	13	8	2						
FLAMING GRGE	90.88	25.0	13	6	-1	24	3	1	16	34	PP
SUVA	91.09	113.9				23	48	-16			
OTTAWA	91.80	0.1	13	12	1						
HALIFAX	91.93	351.5	13	13K	2						
BOULDER CITY	93.46	31.0	13	19A	1	24	4	-21			
PASADENA	93.74	34.3	13	21	1	23	54	-33	17	6	PP
GLEN CANYON	93.75	28.2	13	11A	-9				16	57	PP
BULAWAYO	93.75	245.9	13	20A	0						

WESTON	94.74	356.9	13	25	1	26	1	85	31	6	SS
AFIAMALU	94.92	104.3	13	56	31				18	1	PP
LCO. MARQUES	95.28	239.2	13	26	-1				16	4	PP
CLEVELAND	95.55	4.5	13	28A	0						
PALISADES	96.18	358.8	13	31	0	24	11	4	17	23	PP
PENNSYLVANIA	96.37	1.8	13	26	-6				17	26	PP
FLORISSANT	97.30	11.6	13	36A	0	24	57	44			
MORGANTOWN	97.47	3.4	13	37K	0				17	26	PP
ST. LOUIS 1	97.47	11.6	13	37	0	24	56	42			
TUCSON TELE.	98.23	29.5	13	42K	2						
TUCSON	98.27	29.6	13	43K	3				17	29	PP
FAYETTEVILLE	99.29	15.2	13	46K	1	25	23	60	17	45	PP
LITTLE ROCK	100.91	14.0	13	50	-2				18	5	PP
MBOUR	101.62	302.4	14	2	6				24	41	SKS
KIMBERLEY	102.19	242.1	13	58	0						
KARAPIRO	103.29	129.8	18	18	255						
TONGARIRO	104.17	130.7	18	29	262						
CHATEAU	104.18	130.7	18	30	263						
WELLINGTON	105.21	132.7	18	46	777				27	46	PS
ROXBURGH	105.42	138.6							27	58	PS
WILKES	109.29	177.4	14	35K	777	25	7	-2	19	0	PP
HERMANUS	109.47	240.9							19	5	PP
TACUBAYA	114.03	24.5							20	8	PP
MAWSON	114.84	196.3	18	33	-10						
MERIDA	114.88	14.5							29	1	
VERA CRUZ	115.10	21.5							20	22	
CAPE HALLETT	123.88	160.4	19	0K	0	25	52	-10	20	44	PP
TRINIDAD	124.89	343.0	19	6	4						
CARACAS	126.00	349.5	19	6K	2				20	59	PP
GALERAZAMBA	126.30	359.7									
SCOTT BASE	126.47	166.5	19	6A	1				22	19	SKP
FUQUENE	131.55	357.6	19	4	-11						
CHINCHINA	132.07	0.1	19	17	1				21	37	PP
BOGOTA	132.40	358.0	19	21	5				21	38	PP
									22	45	SKP
SOUTH POLE	132.99	180.0	19	18	0	25	57	-30			
BYRD STATION	139.75	169.2	19	21	-9				22	19	SKP
HUANCAYO	148.98	359.6	19	51K	5				23	23	PP
LA PAZ	152.66	344.4	19	54A	3	27	7	10	23	48	PP
ARGENTINE I.	157.00	192.2	19	57	0						
SANTA LUCIA	169.54	336.8	20	11A	2				25	14	PP

DECEMBER 3 7.H 7.M 59.S EPICENTRE 52.61-177.18 DEPTH= 216.KM

A=-0.60905 B=-0.03003 C= 0.79257 D=-0.0492 E= 0.9988
G=-0.7916 H=-0.0390 K=-0.6098 HT= -6.4

DEPTH OF FOCUS= 0.029R

SE= 1.89

	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	
PETROPAVLOVK	14.61	281.2	3	19K	1	5	55	0					
COLLEGE	19.33	39.2	4	9	-2						15	19	SCS
SITKA	24.22	62.7	4	57	-2	11	52	173	5	36	5	42	PP
TIKSI	30.07	329.2	4	59	-52								
ALBERNI	32.56	74.5	6	14	1								
VICTORIA	33.73	75.0	6	23A	0								
TUKUBASAN	34.05	258.5	6	25K	-1								
HONOLULU	34.55	147.5	6	30	0						8	59	
VLADIVOSTOK	34.79	275.0	6	32	0								
MATUSIRO	34.97	260.7	6	33K	-1						9	1	PCP
PENTICTON	35.57	71.7	6	38A	-1								
CORVALLIS	35.78	80.9	6	41A	1								
BANFF	37.05	66.9	6	49	-2								
ARCATA	37.41	86.5	6	55A	1								
ABUYAMA	37.68	261.0	6	57K	1								
RESOLUTE	38.20	25.2	7	1	0								
CHANGCHUN	38.37	280.5	7	1	-1								
SHASTA	38.54	85.5	7	5K	2								
MINERAL	39.23	85.4	7	9A	0						8	43	
HUNGRY HORSE	39.27	70.1	7	9	0				7	51	9	15	PCP
SAN FRANCSCO	40.32	89.2	7	18	0								
BERKELEY	40.37	88.9	7	19A	1						7	55	
CONCORD	40.42	88.7	7	20	1						7	56	
BRANNER	40.71	89.4	7	21A	0								
RENO	40.82	85.1	7	23A	1								

LICK	41.09	89.1	7 45A	1					8 3	
BUTTE	41.35	72.3	7 26	0			8 8			
VINEYARD	41.63	89.5	7 29	0						
BOZEMAN	42.43	71.9	7 34	-1	12 57	-43	8 13			
FRESNO	42.58	88.3	7 37K	1						
EUREKA	43.18	82.4	7 42	1	12 59	-52	8 20			
KHEYS	43.55	348.7	7 46	2	14 2	6				
THULE	43.66	18.9	7 45	0			8 5			
SALT LAKE C.	44.86	78.1	7 54	-1	13 7	-68	8 32			
PASADENA	45.31	89.8	7 58	0					8 36	
NORD	45.62	3.9	8 0	-1					8 47	
PEKING	46.11	282.0	8 4K	0						
BOULDER CITY	46.12	85.4	8 5	0	13 12	-81				
FLAMING GRGE	46.22	76.3	8 9	4	13 11	-83	8 41		17 39	SCS
GLEN CANYON	47.43	82.0	8 15	0	13 18	-93				
ZO-SE	49.02	269.3	8 27K	0						
NANKING	49.81	272.1	8 31K	-2						
TUCSON	51.08	86.0	8 41	-1	13 33	-129	9 21			
TUCSON TELE.	51.09	85.8	8 43	1			9 22			
SCORESBY SD.	55.92	9.8	10 4A	46						
APATITY	57.98	346.7	10 22K	50						
FAYETTEVILLE	58.32	70.8	9 32A	-3					10 22	PCP
FLORISSANT	58.59	66.1	9 34	-2			10 19			
ST. LOUIS 1	58.78	66.1	9 35A	-3			10 18			
SODANKYLA	59.01	349.5	9 39	0					10 29	PCP
KIRUNA	59.16	352.3	9 40	0					10 25	
CANTON	59.61	268.8	9 38K	-5						
CHENGTU	59.73	281.8	8 43K	-61						
LITTLE ROCK	60.31	70.7	9 45A	-3			10 30			
BAGUIO CITY	60.32	257.8	9 48	0					10 14	
MANILA	61.39	256.2	9 57	2					13 37	
OTTAWA	61.50	51.8	9 53	-3					10 40	
SHAWINIGAN	62.04	49.2	9 57	-3					10 43	
UMEA	63.11	351.4	10 3	-4					10 53	
MORGANTOWN	63.62	58.8	10 54K	44						
KUNMING	64.55	278.5	10 15K	-1						
PALISADES	65.66	53.9	10 28	5					11 7	PCP
WESTON	65.87	51.4	10 23	-2					11 9	
NURMIJARVI	65.88	348.4	10 24	-1					11 11	
FRUNSE	66.63	310.4	10 29K	0						
COLUMBIA	67.24	63.6	11 16	43						
UPPSALA	67.26	352.0	10 33	0					11 18	
TACUBAYA	67.57	87.2	10 36	1						
HALIFAX	67.63	45.1	11 15	39						
MOSCOW	68.26	339.7	10 46	6						
GOTEBORG	69.79	354.8	11 39	50						
SHILLONG	70.67	286.9	10 53A	-1						
CHATRA	72.41	291.1	11 6K	1						
CHITTAGONG	73.15	284.7	11 10	1	20 32	15	11 38		13 59	PP
WARSAK DAM	75.09	306.8	11 17	-3						
COLLMBERG	76.11	353.4	11 26A	0					12 15	
BENSBERG	76.74	357.2	11 30A	1					12 19	
STUTTGART	78.85	355.7	11 41	0					12 53	
BRATISLAVA	78.86	350.3							12 31	
FOLINIERE	78.96	2.2	11 42	1						
CHARTERS TS.	79.06	214.8	11 47	5					13 22	
STRASBOURG	79.10	356.7	11 47	5					12 33	
TIFLIS	79.28	329.4	11 44	1						
QUETTA	80.44	307.8	11 50K	1	21 42	6	12 7		14 54	PP
TEHERAN	82.38	322.0	12 1	2			12 51			
ISOLA	83.52	356.9	12 7	2	21 46	-21				
POONA	86.43	296.0	12 20	1						
LEMBANG	86.50	254.1	12 18K	-2					16 44	
SHIRAZ	87.32	318.3	12 23	-1	22 48	5	13 15		24 1	
SAN JUAN	87.69	62.5	12 26	1			13 14			
KARAPIRO	90.39	185.8	12 38	0					13 21	
RIVERVIEW	90.41	205.9	12 39K	1	23 20	9				
CHATEAU	91.66	185.7	12 41	-3						
CANBERRA	92.40	207.1	12 47A	0						
TAMANRASSET	104.89	357.4							18 7	PP
HUANCAYO	106.67	38.0							19 2	SPP
ADDIS ABABA	111.35	321.5							18 47	PP
LA PAZ	114.50	85.2	18 41	27						
CAPE HALLETT	124.94	184.7	18 35	0						
SCOTT BASE	130.58	184.4	18 47A	2					21 53	SKP
BYRD STATION	136.34	167.7	18 44	-12					22 10	SKP
BULAWAYO	141.92	318.5	19 3K	-4						
SOUTH POLE	142.43	180.0	19 4	-3			19 48		22 26	SKP

ARGENTINE I.	144.97	137.5	19 10	-2	19 55	22 28 PP
WINDHOEK	148.07	334.5	19 21K	4		
MAWSON	148.07	218.9	19 20	3		
KIMBERLEY	151.15	317.1	19 23K	2		

DECEMBER 3 20.H 20.M 59.S EPICENTRE 76.64 131.24 DEPTH= 0.KM

A=-0.15327 B= 0.17485 C= 0.97259 D= 0.7520 E= 0.6592
G=-0.6411 H= 0.7314 K=-0.2325 HT=-13.1

SE= 2.01

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
TIKSI	5.08	188.5	1 19	0	2 11	-8		
KHEYS	13.96	319.4	3 21	0				4 10
YAKUTSK	14.70	182.8	3 29	-2				6 23
NORD	21.08	347.5	4 48	0				
COLLEGE	26.48	71.0	5 41	1				6 40 PP
RESOLUTE	26.52	25.4	5 41	0				
IRKUTSK	26.53	218.5						5 48
THULE	26.71	10.1	5 42	0				
APATITY	27.64	304.9						6 20
SODANKYLA	29.06	309.6	6 3	-1				
KIRUNA	29.72	314.3	6 8	-2				
ULAN-BATOR	30.44	213.2	6 20	4				
SCORESBY SD.	32.20	343.5	6 32	1				
CHANGCHUN	33.01	187.9						16 38
VLADIVOSTOK	33.63	179.1	6 38	-6				13 10 PCS
SKALSTUGAN	34.97	316.9	6 45	-10				7 22
PEKING	37.30	199.2	7 14	-1				
MOSCOW	37.46	291.8	7 17	0				
MATUSIRO	40.32	171.3						11 46
PRZHEVALSK	40.68	244.7						9 19
FRUNSE	41.16	249.0	7 47	0				
RYBACHE	41.18	247.1						9 27
NARYN	42.20	246.9	7 57	!				
TCHIMKENT	42.77	254.0	8 2	2				9 43 PP
NAMANGAN	43.57	251.3	8 8	1				
ANDIJAN	43.64	250.5	8 7	0				18 4 SCS
FERGANA	44.12	250.9	8 13	2				14 47
KRAKOW	46.45	304.0	8 30	0				
DUZHANBE	46.52	253.3						8 50
HALLE	46.52	311.3	8 30	-1				10 19 PP
COLLMBERG	46.53	310.3	8 31K	0				10 4 PP
RACIBORZ	46.75	305.5	8 33	1				10 51
KHOROG	46.95	250.0						8 38
SKALNATE PL.	47.22	303.4	8 36	0				
PRUHONICE	47.52	308.5	8 38	0				10 35 PP
CHENGTU	47.80	212.2	8 59	18				
SIMFEROPOL	48.37	289.5	8 46	1				
HUNGRY HORSE	48.73	53.7	8 48	0				
BRATISLAVA	48.79	305.7	8 48	0				
TIFLIS	49.03	278.3	8 50	0				16 20
STUTTGART	49.62	312.5	8 55	0				
WARSAK DAM	50.29	248.8	8 57	-3				
CORVALLIS	50.50	63.2	9 3	2				
BUTTE	51.24	53.3	9 7	0				
BOZEMAN	51.86	52.1	9 13	1				
LAHORE	52.06	245.1	9 13	0				
DEHRA DUN	52.48	240.8	9 15	-1				16 43
SOFIA	52.81	298.3	9 25	6				
ISTANBUL KA.	53.17	292.6	9 19	-3				
KUNMING	53.43	212.6	9 23	0				
CHATRA	54.13	230.1	9 28K	-1				11 50
SHASTA	54.41	63.8	9 31K	0				
SHILLONG	54.56	224.7	9 31A	-1				12 28
MINERAL	54.91	63.2	9 34K	0				
QUETTA	54.98	252.3	9 34K	-1				
RENO	56.06	61.8	9 44K	1				
SHAWINIGAN	56.14	19.8	9 42	-1				
SALT LAKE C.	56.45	54.4	9 45	0				
FLAMING GRGE	56.75	52.1	9 47	-1				
EUREKA	56.89	58.4	9 50	1				
OTTAWA	57.03	22.4	9 48K	-2				
BERKELEY	57.16	64.6	9 50	-1				

LICK	57.80	64.2	9	56K	1						
KSARA	58.62	283.9	10	1	0						
FRESNO	58.73	62.7	10	4K	2						
SHIRAZ	58.78	266.6	10	1A	-1	10	50				
GLEN CANYON	60.18	55.2	10	12	0						
WESTON	60.39	19.1	10	12	-1			23	1	SS	
BOULDER CITY	60.50	58.4	10	14	0			23	22	SS	
PALISADES	61.55	21.5						19	31		
PASADENA	61.60	62.0	10	21	0						
ST. LOUIS 1	62.07	35.9	10	23	-1						
SETIF	62.50	312.3	10	27	0						
HELWAN	63.44	286.9	10	33	0						
FAYETTEVILLE	64.01	39.9	10	35K	-2						
POONA	64.78	242.1	10	40	-2						
TUCSON TELE.	64.83	55.6	10	42	-1						
TUCSON	64.90	55.8	10	42	-1			11	8	PCP	
LITTLE ROCK	65.57	38.6	10	46	-1						
TAMANRASSET	75.57	309.3	11	48K	0			14	35	PP	
ADDIS ABABA	81.85	274.5	12	26	4						
MAWSON	149.93	225.3	19	50	3						
BYRD STATION	166.18	136.4	20	58	52			24	41		
SOUTH POLE	166.55	180.0	20	3	-4						

DECEMBER 4 16.H 20.M 46.S EPICENTRE 32.77 141.37 DEPTH= 146.KM

A=-0.65818 B= 0.52592 C= 0.53870 D= 0.6242 E= 0.7812
G=-0.4209 H= 0.3363 K=-0.8425 HT= 0.9

DEPTH OF FOCUS= 0.018R

SE= 4.97

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
HATIDYOZIMA	1.37	284.3	0	16	-13	0	40	-11				
TORISIMA	2.46	202.1	0	39	-2						1	3
MERA	2.50	329.5	0	43	1	1	23	9				
OSIMA	2.59	320.8	0	27	-16	1	6	-10			3	20
AJIRO	2.96	320.9	0	32	-16	1	18	-6			2	15
YOKOHAMA	3.01	332.1	0	51	3						2	26
MISIMA	3.09	320.0	0	35	-14	1	23	-4			3	1
TOKYO C.M.O.	3.20	335.6	0	36	-15	1	28	-1				
OMAESAKI	3.20	305.6	0	33	-18	1	29	0			6	50
HONGO	3.22	336.1	0	41A	-10							
SHIZUOKA	3.31	312.4				1	37	6				
HUNATU	3.47	322.3	0	44	-10	1	34	-2				
KAKIOKA	3.59	344.4	0	39	-17	1	19	-19				
TUKUBASAN	3.60	343.4	0	40K	-16	1	20	-19				
HAMAMATU	3.61	303.6	1	1	5							
MITO	3.68	348.6	0	37	-20	1	19	-22				
KOHU	3.71	321.9	0	51	-6	1	37	-4			4	21
TITIBU	3.72	330.0	1	0	3							
KUMAGAYA	3.75	334.5	0	47	-11	1	42	0				
UTUNOMIYA	3.97	342.2	0	50	-11	1	35	-12			3	0
IIDA	4.02	314.0	1	3	2						6	30
MAEBASI	4.09	332.9	0	52	-10	1	41	-9				
ONAHAMA	4.19	354.8	0	57	-7	2	19	26			1	29
OIWAKE	4.25	327.5	0	57	-7							
NAGOYA	4.37	304.4	0	57	-9	2	3	6			1	32
SHIRAKAWA	4.44	348.0	0	51	-16	1	37	-22				
MATUMOTO	4.47	321.9	0	57	-10	1	42	-17				
MATUSIRO	4.58	326.1	0	55A	-14	1	59	-3			1	43
KAMEYAMA	4.58	298.3	0	59	-10	2	2	0			3	10
GIHU	4.63	305.7	1	1	-9							
NAGANO	4.69	327.0	1	2	-8	2	2	-2				
SIOMISAKI	4.75	279.7				2	11	5			3	17
HIKONE	4.93	301.8	1	14	1	2	16	6				
NARA	5.00	293.9	1	7	-7							
HUKUSIMA	5.02	351.8	0	58	-17	1	50	-22				
TAKADA	5.02	330.2	1	24	9							
KYOTO	5.20	297.1	1	18	1	2	18	1				
TOYAMA	5.21	319.9	1	13	-4	2	18	1				
OSAKA	5.22	292.6	1	27	10							
TSURUGA	5.25	304.6	1	27	9							
HUKUI	5.36	309.0	1	13	-6							
KANAZAWA	5.40	315.2	1	12	-8							
NIIGATA	5.48	340.4	1	23	2	2	38	15				

SENDAI	5.50	356.1	1	3	-18	1	59	-25	2	20	
KOBE	5.50	291.9	1	25	4				3	36	
YAMAGATA	5.53	351.6	1	5	-16						
SUMOTO	5.62	287.9	1	16K	-7	2	19	-8			
ISINOMAKI	5.65	359.6	1	7	-16	2	4	-23			
AIKAWA	5.82	334.9	1	8	-17						
TOKUSIMA	5.83	284.7	1	21	-4						
TOYOOKA	6.09	298.7							2	17	
SAKATA	6.24	348.9				2	8	-4			
TAKAMATU	6.31	286.2	1	26	-6				4	0	
MIZUSAWA	6.35	358.3	1	37	5	2	32	-12			
KOTI	6.62	278.9				3	7	17	4	59	
MIYAKO	6.88	3.8	1	40	0	3	25	28			
MORIOKA	6.92	358.7	1	26	-14	2	32	-26			
AKITA	7.01	351.9				3	12	12	2	41	
HIROSIMA	7.63	284.5	1	53	3						
HAMADA	8.03	287.9	1	32	-23				4	54	
AOMORI	8.05	356.8				3	4	-20			
OOITA	8.21	275.8							6	33	
KUMAMOTO	8.99	273.2							2	26	
HUKUOKA	9.25	278.0							2	59	
MORI	9.33	356.3				3	45	-10			
URAKAWA	9.43	6.4				3	36	-22	1	41	
HIROO	9.62	8.7				3	36	-25			
OBIHIRO	10.23	7.6							2	54	
SAPPORO	10.28	359.9							3	28	
KUSIRO	10.47	12.3				3	54	-28			
NEMURO	11.05	16.2				4	8	-28			
WAKKANAI	12.63	1.0							6	42	
VLADIVOSTOK	12.74	326.9	2	47	-10	4	57	-19			
CHANGCHUN	16.73	315.9	3	40	-7						
ZO-SE	17.22	269.9	3	57	4						
NANKING	19.09	274.0	4	2	-12						
GUAM	19.47	170.1	4	16	-2						
OKHA	20.80	2.6	4	27	-4						
SEVERO-KUR.	20.92	26.9				7	52	-20			
PEKING	21.50	296.8	4	54	16						
MAGADAN	27.51	10.4				9	55	-8			
ULAN-BATOR	30.03	310.5	5	54	-3						
YAKUTSK	30.21	349.1	5	57	-2	10	52	6			
LANCHOW	31.02	286.6	6	4	-2						
CHENGTU	31.75	276.4	6	10	-2						
KUNMING	34.51	267.4	6	38	2						
LHASA	42.84	279.8	7	45	0						
SHILLONG	43.50	273.8	7	50	0				10	30	
CHATRA	46.99	277.6	8	19K	1						
SEMIPALATNSK	47.60	310.6	8	20	-3						
LEMBANG	50.81	225.4	8	46	-1						
FRUNSE	52.45	301.5	8	59	-1						
COLLEGE	52.74	30.4	9	2	0						
CHARTERS TS.	52.77	174.2	9	2	0						
LAHORE	55.87	288.3	9	25	0						
TASHKENT	56.67	300.9	9	30	0				17	32	PS
KHEYS	56.81	348.8	9	29	-2				11	39	PP
WARSAK DAM	57.23	292.0	9	35	1						
DUZHANBE	57.86	297.9	9	38	-1				17	39	PS
POONA	61.59	274.6	10	5	1						
QUETTA	62.27	289.5	10	8A	-1	18	35	14	10	23	12 25 PP
BOMBAY	62.28	275.5							18	38	
RESOLUTE	66.74	13.9	10	34	-4						
SODANKYLA	68.88	337.9	10	49	-2						
KIRUNA	70.49	339.8	10	59	-2						
MOSCOW	70.67	324.4	11	2	0						
TEHERAN	71.73	301.1	11	10	2	20	32	18			
TIFLIS	73.44	309.1	11	18	0	20	47	13			
NURMIJARVI	73.69	332.6	11	23	4						
SHASTA	73.72	51.9	11	26K	6						
SHIRAZ	73.75	295.0	11	20K	0	20	50	13	14	29	PP
HUNGRY HORSE	74.95	42.0	11	25	-2						
LICK	75.90	54.7	11	33A	1						
RENO	76.01	52.0	11	32	-1						
SCORESBY SD.	76.35	354.3	11	35	0						
UPPSALA	76.77	334.5	11	36	-1						
BUTTE	77.06	43.4	11	37	-1						
FRESNO	77.45	54.4	11	40	-1						
BOZEMAN	78.13	43.1	11	44	0						
CHATEAU	78.31	153.5	11	48	3						
EUREKA	78.56	50.4	11	46	-1						

SALT LAKE C.	80.46	47.5	11 57	0			
FLAMING GRGE	81.88	46.3	13 3	59	13 20		
GLEN CANYON	82.83	50.5	12 8	-1	12 27		
RACIBORZ	83.40	327.1	12 11	-1		12 27	PCP
KSARA	83.62	306.2	11 54	-19			
COLLMBERG	84.78	330.4	12 20K	1	12 43	15 49	PP
PRUHONICE	85.10	328.8	12 21A	0			
JERUSALEM	85.26	304.8	12 23	2			
BRATISLAVA	85.26	326.3	12 21	0			
JENA	85.65	330.8	12 41	18		14 41	
SOFIA	85.87	319.3	12 17	-7			
TUCSON	86.11	54.0	12 25	-1			
TUCSON TELE.	86.13	53.8	12 25	-1			
STUTTGART	88.26	330.6	12 32	-4		13 4	
FAYETTEVILLE	94.01	42.0	13 4A	2		14 28	
TAMANRASSET	110.52	316.7				18 49	PP
SOUTH POLE	122.60	180.0	18 41	3			
BYRD STATION	123.62	168.1	18 42	2			
LA PAZ	148.81	65.8	19 35	9		20 11	

DECEMBER 4 23.H 55.M 41.S EPICENTRE -21.25-179.01 DEPTH= 599.KM

A=-0.93267 B=-0.01604 C=-0.36038 D=-0.0172 E= 0.9999
G= 0.3603 H= 0.0062 K=-0.9328 HT= 4.4

DEPTH OF FOCUS= 0.089R

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	
SUVA	3.92	321.6	1	27	2	1	48	-45			2	39	
AFIAMALU	10.04	44.5	2	17K	-2	4	6	-5					
NOUMEA	13.55	262.9	2	53	-1	5	16	3					
ONERAHI	15.58	200.4	3	18	5	5	58	9			6	31	
KARAPIRO	17.27	194.6	3	22A	-7						5	43	
TUAI	17.80	189.8				6	19	-8					
CHATEAU	18.49	193.4	3	36	-5								
TONGARIRO	18.49	193.5	3	40	-1	6	47	9					
WELLINGTON	20.65	193.4	4	0	-1	7	9	-5					
COBB RIVER	20.97	197.7	4	3	0	7	15	-4			7	46	
KAIMATA	22.67	198.6	4	26	7	7	40	-7			5	26	
GEBBIES PASS	23.44	195.3	4	24	-2	7	52	-7			9	56	
BRISBANE	26.38	251.0	4	51	-1								
CHARTERS TS.	32.47	265.7	5	44	0	10	15	-4					
MOORLANDS	35.30	225.4	6	8	1						11	10	SCP
FORT NELSON	35.41	224.6	6	9	1								
TARRALEAH	35.73	226.1	6	12	1						11	11	SCP
CAPE HALLETT	51.44	184.2	8	14K	1								
MUNDARING	58.15	244.9	8	58	-1								
BYRD STATION	64.06	170.4	9	35	-2				11	40			
MANILA	68.78	296.1	10	5	-1								
SOUTH POLE	68.88	180.0	10	10	3				12	12			
MATUSIRO	70.26	324.5	10	13	-2								
LEMBANG	72.08	269.5	10	26K	0								
HONG KONG	78.22	299.6	11	0	0								
BERKELEY	79.37	42.3	11	6A	0								
LICK	79.45	43.1	11	7K	1								
NANKING	79.69	310.2	11	8	1								
PASADENA	79.89	47.4	11	8	0								
FRESNO	80.30	44.4	11	11A	1								
ARGENTINE I.	80.65	157.2	12	12	60								
MINERAL	81.29	40.7	11	15K	0								
RENO	81.91	42.1	11	20	1								
CHANGCHUN	82.42	322.9	11	20	-1								
CORVALLIS	82.91	36.5	11	24	0								
TUCSON	84.13	52.3	11	50	20								
TUCSON TELE.	84.25	52.2	11	32	2								
EUREKA	84.32	43.9	11	31	0				13	42	18	54	SPP
VICTORIA	85.34	33.4	11	36	1								
PEKING	85.76	315.8	11	37	-1								
GLEN CANYON	85.93	47.9	11	40	2				13	52			
KUNMING	88.85	297.4	11	53	1								
COLLEGE	89.15	12.8	11	50	-3				14	12			
FLAMING GRGE	89.38	45.3	11	54	0				14	8			
CHENGTU	90.10	302.9	11	58	0								

HUNGRY HORSE	90.31	37.2	11 58	-1				
SHILLONG	98.15	294.2	12 35K	1				
RESOLUTE	108.78	16.2	17 20	777				
OTTAWA	114.01	48.6	17 31	0				
SHAWINIGAN	116.16	47.6	17 35	-1				
SHIRAZ	133.04	291.2	18 8K	0			20 38	PP
ADDIS ABABA	141.66	257.3	18 23	-2				
DURHAM	146.48	2.7	18 38K	6				
KSARA	146.78	299.6	18 34	1				
KRAKOW	147.59	337.0	18 37	3			18 41	PKP2
JERUSALEM	147.74	296.1	18 38	4			23 1	PP
RACIBORZ	148.18	338.8	18 39	4			18 45	PKP2
WITTEVEEN	148.19	353.5	18 47A	12				
COLLMBERG	148.57	345.5	18 35	0			18 46	PKP2
HALLE	148.62	346.8	18 39	4			21 22	PP
MUNSTER	148.91	352.0	18 40	4				
ISTANBUL KA.	149.10	316.1	18 40	4				
JENA	149.24	346.9	18 37	1			18 56	PKP2
PRUHONICE	149.39	342.7	18 42K	6	21 10			
SONNEBERG	149.84	346.9	18 42	5				
BRATISLAVA	150.18	338.1	18 38	0			18 53	PKP2
VIENNA-H.	150.36	339.0	18 45	7				
HEIDELBERG	151.25	349.5	18 46	7				
HELWAN	151.38	293.6	18 47K	8			19 15	
SOFIA	151.59	323.9	18 46	6				
STUTTGART	151.75	348.4	18 40	0	20 55			
TUBINGEN	152.02	348.5	18 48A	8				
STRASBOURG	152.20	350.3	18 48	7				
EBINGEN	152.38	348.4	18 48	7				
PARIS	152.48	357.8	18 49	8				
FOLINIERE	152.52	2.1	18 49	8				
RAVENSBURG	152.63	347.3	18 49	8				
LJUBLJANA	152.90	339.0	18 50	8			21 15	
BASLE	153.25	350.0	18 52	10				
ISOLA	156.59	349.0					19 20	PKP2
SETIF	164.62	346.4	18 56	1			19 55	PKP2
TAMANRASSET	175.53	290.7	19 2	1	21 28		24 36	PP

DECEMBER 5 8.H 38.M 47.S EPICENTRE 43.28 104.34 DEPTH= 20.KM

A=-0.18090 B= 0.70759 C= 0.68308 D= 0.9688 E= 0.2477
G=-0.1692 H= 0.6618 K=-0.7303 HT= -2.9

SE= 2.31

	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	
KYAKHTA	7.24	10.8	1	47	0						3	49	SG
KABANSK	8.91	9.2	2	10	-1	3	55	3			2	54	PG
IRKUTSK	9.00	359.9	2	12	0						4	33	
PEKING	9.43	106.1	2	16	-2	4	10	5					
SIAN	9.70	156.9	2	18	-3								
BAYANDAI	9.83	4.2	2	24	1						4	47	
CHENGTU	12.60	181.3	2	58	-3	5	25	3					
CHANGCHUN	15.22	80.7	3	32	-3	6	25	1					
NANKING	15.98	129.7	3	48A	3								
LHASA	17.28	222.4	4	0A	-2	7	17	5					
SEMIPALATNSK	17.91	301.8	4	8	-1								
ZO-SE	18.06	126.7	4	19	8	7	53	23					
KUNMING	18.16	184.7	4	8	-5	7	31	-1					
KURMENTY	19.00	278.1	4	20	-3								
ALMATA	19.92	279.4	4	35	2						8	21	
VLADIVOSTOK	20.06	80.9	4	35	0						8	24	
SHILLONG	20.40	214.0	4	36A	-2	8	24	3			4	58	PP
RYBACHE	20.62	277.4	4	39	-2								
NARYN	20.99	274.7	4	44	0								
CANTON	21.47	156.8	4	47	-2	8	46	4					
CHATRA	21.54	225.9	4	47A	-3	8	45	2			5	9	PP
FRUNSE	21.68	279.1	4	51	0						9	0	
CHITTAGONG	23.31	210.5	5	8A	1	9	26	11			5	48	PP
ANDIJAN	23.81	274.9	5	14	2						16	40	PSP
YAKUTSK	24.00	29.8	5	16	2						9	31	
NAMANGAN	24.26	275.8	5	18	1						10	37	SS
FERGANA	24.31	273.5	5	18	1						14	11	
CALCUTTA	24.57	217.7	5	21	1	9	44	7					
DEHRA DUN	24.59	247.0	5	18	-2	9	45	8			6	4	PP
BOKARO	24.70	224.2	5	22K	1	9	52	13					

TCHIMKENT	25.41	279.8	5	28	0					10	14	
KHOROG	25.55	268.1	5	30	1							
TASHKENT	25.90	277.8	5	31	-1					10	15	
MATUSIRO	26.71	93.0	5	37	-3							
WARSAK DAM	27.09	261.1	5	40	-3							
DUZHANBE	27.15	272.3	5	44	0					10	31	
TIKSI	30.85	14.9	6	9	-8	11	14	-5		12	54	SCP
QUETTA	32.42	258.7	6	30A	-1							
PORT BLAIR	33.06	201.2				12	0	7				
HYDERABAD	33.84	228.5				12	14	9				
ASHKABAD	34.97	277.2	6	55	2					18	0	
POONA	35.62	235.8	6	57	-1	12	35	2		13	51	PCS
BOMBAY	35.97	237.4	6	59	-2	12	41	3				
MADRAS	36.66	221.9	7	6	-1	12	50	1		8	35	PP
KODAIKANAL	40.38	223.4				13	55	11				
KHEYS	40.83	349.6	7	42	0	13	55	3		9	17	PP
GORIS	42.94	285.6	7	59	0							
TIFLIS	43.11	289.2	8	1	0					9	41	PP
SHIRAZ	43.18	269.3	8	1K	0	14	3	-23	8 31	9	51	PP
APATITY*	43.74	328.3	8	6	0					9	52	PP
PULKOVO	46.30	317.7	8	26	0							
SODANKYLA	46.37	328.5	8	26	-1							
KIRUNA	48.60	329.8	8	43	-1							
NURMIJARVI	48.83	319.7	8	45	-1							
NORD	51.66	350.8	9	6	-1							
UPPSALA	52.35	320.5	9	11	-2							
KSARA	53.01	284.2	9	7	-11				9 18			
JERUSALEM	54.57	282.4	9	29	0					16	16	
HELWAN	58.41	282.8	9	56	0							
PRUHONICE	58.44	310.7	9	56	-1							
COLLEGE	58.53	28.5	9	56	-1							
COLLMBERG	58.60	312.7	9	57	-1					13	28	PPP
JENA	59.56	312.8	10	4	0							
RESOLUTE	61.63	5.7	10	17	-2							
STUTTGART	61.99	311 7	10	21	0					10	57	
ISOLA	65.94	308.6	10	46	-1							
ADDIS ABARA	66.12	259.6	10	49	1							
FOLINIERE	67.13	316.0	10	54	0							
SETIF	71.95	302.8	11	23	-1							
ALGIERS UNI.	73.00	304.6	11	28	-2							
MUNDARING	75.67	169.6	11	44	-1							
TAMANRASSET	80.82	292.5	12	13	-1							
HUNGRY HORSE	82.71	24.7	12	23	-1							
CORVALLIS	82.75	32.2	12	25A	1							
BUTTE	85.24	24.8	12	36	0							
BOZEMAN	86.01	24.0	12	41	1							
MINERAL	87.00	33.4	12	44	-1							
BROKEN HILL	89.81	250.0	12	57A	-1							
EUREKA	89.91	30.0	13	0	1							
FLAMING GRGE	90.83	24.9	14	3	60							
GLEN CANYON	93.70	28.1	13	16	0							
BULAWAYO	93.71	245.9	13	16A	0							
PASADENA	93.72	34.2	13	17	1					25	39	PS
PALISADES	96.08	358.7				23	30	-31		32	2	SS
SOUTH POLE	133.08	180.0	19	13	-1							
BYRD STATION	139.86	169.2	19	17	-10					22	44	SKP
HUANCAYO	148.89	359.4	19	49A	7					20	13	PKP2
LA PAZ	152.55	344.2	19	51	3							

DECEMBER 5 18.H 7.M 36.S EPICENTRE 54.72 161.56 DEPTH= 79.KM

A=-0.55032 B= 0.18350 C= 0.81454 D= 0.3163 E= 0.9487
G=-0.7727 H= 0.2577 K=-0.5801 HT= -7.1

DEPTH OF FOCUS= 0.007R

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	
KLYUCHI	1.65	346.5	0	27	-1	0	49	0			0	40	SP
PETROPAVLOVK	2.43	226.4	0	38	-1	1	6	-2			0	52	SP
SEVERO-KUR.	5.24	221.5	1	16	-2	2	20	2					
MAGADAN	7.59	313.9	1	53	3						2	9	
OKHA	10.99	271.5	2	40	4								
KURILSK	12.93	228.3	3	0	-2								

Y.-SAKHLINSK	14.14	244.7	3	20	2	
YAKUTSK	18.07	306.7	4	5	-2	7 31 PCP
VLACIVOSTOK	22.50	251.2				9 36 SS
MATUSIRO	24.25	231.0	5	10A	-1	9 41
COLLEGE	26.66	47.4	5	33	0	
RESOLUTE	41.49	23.0	7	40A	-1	
NORD	43.91	359.6	8	0	-1	
THULE	45.32	14.7	8	12	0	9 22
PENTICTON	46.41	62.4	8	20	-1	
BANFF	47.31	58.2	8	28	0	
CORVALLIS	47.46	69.6	8	30K	1	
HUNGRY HORSE	49.87	60.3	8	47	0	
SHASTA	50.55	72.9	8	54	1	
MINERAL	51.23	72.7	8	57A	-1	
APATITY	52.09	337.5	9	2	-2	
RENO	52.78	72.2	9	10A	1	
BOZEMAN	53.18	61.0	9	13	1	
SODANKYLA	53.66	340.1	9	15	-1	10 20 PCP
KIRUNA	54.40	343.0	9	20	-1	
EUREKA	54.93	69.6	9	26	1	
FRUNSE	54.93	296.2	9	31	6	
SCORESBY SD.	55.07	1.4	9	26	0	
SALT LAKE C.	56.22	65.8	9	35	1	
FLAMING GRGE	57.39	64.1	9	43	0	
PASADENA	57.56	75.6	9	44	0	
SHILLONG	57.89	269.6	9	43K	-3	
BOULDER CITY	58.08	71.8	9	47	-1	
GLEN CANYON	59.12	68.7	9	55	0	11 24 PP
RABAUL	59.23	190.9	9	56	0	
CHATRA	59.66	274.3	9	57	-2	
NURMIJARVI	60.11	337.0	10	1	-1	
HELSINKI	60.35	336.7	10	3	0	
CHITTAGONG	60.39	267.3	10	2	-2	
DUZHANBE	61.08	296.6	10	8	0	
REYKJAVIK	61.45	1.7	10	11K	0	
SIDA	61.83	359.8	10	14K	1	
UPPSALA	62.20	340.4	10	15	-1	
WARSAK DAM	63.04	291.2	10	19	-2	
TUCSON TELE.	63.05	71.6	10	23	2	
TUCSON	63.06	71.7	10	33	12	
QUETTA	68.47	291.9	10	56	0	
ST. LOUIS I	68.62	53.0	10	56	-1	
FAYETTEVILLE	68.78	57.4	10	57A	-1	
SHAWINIGAN	69.15	36.9	10	59A	-1	
TIFLIS	69.85	314.6	11	6	2	20 34 PS
DURHAM	69.99	349.7	11	9A	4	
POTSDAM	70.10	340.1	11	5	-1	
LITTLE ROCK	70.72	56.9	11	9	-1	
KRAKOW	70.76	334.9	11	10	0	11 37 PCP
WITTEVEEN	70.82	344.2	11	12	2	
COLLMBERG	71.14	339.8	11	12A	0	12 27
RACIBORZ	71.15	336.0	11	13	1	11 32 PCP
HALLE	71.16	340.5	11	12	0	
MUNSTER	71.48	343.3	11	15	1	
JENA	71.77	340.5	11	16	0	13 38
TEHERAN	71.88	306.5	11	18	1	
PRUHONICE	72.07	338.3	11	18A	0	12 20
PLAUEN	72.08	340.0	11	13	-5	
MORGANTOWN	72.32	45.4	11	19K	0	
SONNEBERG	72.37	340.6	11	19	0	
CHEB	72.42	339.7	11	17	-3	
BENSBERG	72.53	343.3	11	15A	-5	
KEW	73.10	348.3	11	23	-1	
BRATISLAVA	73.19	336.0	11	26A	2	
VIENNA-H.	73.29	336.5	11	26	1	
HEIDELBERG	73.77	341.9	11	28	0	
STUTTGART	74.27	341.4	11	30	-1	
TUBINGEN	74.54	341.4	11	33	1	
STRASBOURG	74.73	342.3	11	34A	1	
EBINGEN	74.90	341.4	11	34	0	
RAVENSBURG	75.16	340.8	11	36	0	
PARIS	75.35	345.9	11	35	-2	
BASLE	75.78	342.1	11	42A	3	
FOLINIERE	75.78	347.9	11	41	2	
TOLMEZZO	75.79	338.1	11	39	0	
BESANCON	76.32	343.1	11	43A	1	
SHIRAZ	76.34	302.1	11	41K	-1	21 51 32
NEUCHATEL	76.40	342.4	11	43	0	
SOFIA	76.62	329.7	11	44	0	

ISOLA	79.11	341.6	11 59	1			12 24
ATHENS	80.84	327.5	12 7K	0			
JERUSALEM	82.29	316.2	12 15	1			
SERRA PILAR	84.15	352.5	12 24K	0			15 41 PP
TOLEDO	84.96	348.9	12 29	1			
HELWAN	85.52	318.3	12 31A	0			13 9
SETIF	87.15	340.9	12 39	0			
TAMANRASSET	100.12	337.6	13 38	0			17 39 PP
KIMBERLEY	139.55	292.1	19 36K	17			
BYRD STATION	141.50	164.0	19 17	-5	19 27		22 58 SKP
MAWSON	141.80	217.8	19 8	-15			
SOUTH POLE	144.54	180.0	19 27	-1	19 37		

DECEMBER 5 21.H 21.M 47.S EPICENTRE 35.58 -6.54 DEPTH= 34.KM

A= 0.80981 B=-0.09281 C= 0.57930 D=-0.1139 E=-0.9935
G= 0.5755 H=-0.0660 K=-0.8151 HT= -0.1

DEPTH OF FOCUS= 0.000R

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	
GRANADA	2.86	55.2	0	48	4						1	22	SG
ALMERIA	3.52	67.8	0	56A	2	1	35	0			1	55	SG
LISBON	3.76	327.1	0	54	-3	1	35	-6			1	53	SG
TOLEDO	4.72	24.0	1	10K	-1						2	0	SG
COIMBRA	4.84	342.6	1	13	0	2	3	-5					
ALICANTE	5.58	58.6	1	22	-1	2	28	1					
SERRA PILAR	5.77	344.3	1	23A	-3	2	23	-9					
TORTOSA	7.62	44.6	1	50	-1	3	6	-12					
ALGIERS UNI.	7.84	78.5	1	53	-2	3	19	-4					
BARCELONA	8.95	46.8	2	9	-1	3	43	-8					
SETIF	9.71	82.9	2	20	0	4	0	-9					
CLERMONT-FD.	12.53	32.8	2	8	-51	5	40	22					
MONACO	13.48	48.7	3	12	1	5	39	-2					
ISOLA	13.50	46.4	3	13	1								
GARCHY	13.71	28.6	3	13	-1	5	33	-14					
FOLINIERE	13.91	16.9	3	15	-2								
JERSEY	13.97	12.1				5	38	-14			4	23	
PARIS	14.80	24.0	3	28	-1	6	0	-12					
BESANCON	14.94	34.9	3	26	-5								
CHIAVARI	14.95	49.5	3	7	-24								
NEUCHATEL	15.23	37.4	3	34	0						7	58	
PONTA DELGDA	15.51	283.6	3	44K	6				3	58			
BASLE	15.91	37.1	3	47K	4						7	39	
ROME	16.11	61.3	3	59	13	6	29	-14					
CHUR	16.48	42.0	3	53K	3								
KEW	16.50	13.8	3	50K	0	6	42	-10					
TAMANRASSET	16.52	137.3	3	48K	-3	6	46	-6			4	1	PP
STRASBOURG	16.74	34.7	3	58	5	7	19	22			5	12	
EBINGEN	17.04	37.6	3	58	1								
PADOVA	17.06	49.3	4	23	25								
RAVENSBURG	17.11	39.6	3	59	1						4	38	
TUBINGEN	17.32	36.9	4	3	2								
KARLSRUHE	17.34	34.7	3	58	-3	7	19	8					
STUTTGART	17.59	36.6	4	5	1	7	30	13			4	53	
HEIDELBERG	17.76	34.3	4	9	3	7	46	25					
MESSINA	17.86	75.1	4	8	1	7	29	6			4	25	PP
REGGIO CALA.	17.93	75.4	4	8	0								
TOLMEZZO	18.25	47.7	4	11	-1	7	39	7			5	40	
BENSBERG	18.28	28.5	4	13A	0	7	37	5					
TRIESTE	18.35	50.6	4	27	13								
LJUBLJANA	19.01	50.2	4	21A	-1						4	48	PP
MUNSTER	19.25	27.3	4	34	10						7	40	
DURHAM	19.49	8.6	4	28K	1						4	50	
SONNEBERG	19.60	35.6	4	30	2	8	16	14	4	44			
WITTEVEEN	19.61	24.4	4	31	3								
CHEB	19.98	37.7	4	30	-2								
PLAUEN	20.13	36.5	4	32	-2								
JENA	20.15	34.8	4	35	1	8	22	8			4	49	PP
HALLE	20.71	34.1	4	41	1						4	55	PP
PRUHONICE	21.03	40.3	4	43A	0	8	35	4					
COLLMBERG	21.06	35.7	4	45K	1	8	33	2	4	58	5	13	PP
VIENNA-H.	21.13	46.2	4	43	-1	8	44	11					

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BRATISLAVA	21.53	47.0	4	48A	0	8	43	3				
POTSDAM	21.82	33.6	4	52	1						5	27
HURBANOVO	22.06	48.6	4	48	-6							
BELGRADE	22.50	57.6	4	59K	1						5	29 PP
RACIBORZ	23.07	43.5	5	4	0	9	17	9	5	16	5	38 PPP
MBOUR	23.10	206.6	5	8	4	8	11	-58				
KRAKOW	24.04	44.9	5	13	0				5	25		
SOFIA	24.15	63.8	5	15	1	10	5	38			6	6 PP
ATHENS	24.30	75.4	4	56A	-20						5	26 PP
GOTEBORG	25.35	23.5	5	25	-1							
LWOW	26.37	47.9	5	36	1							
ISTANBUL KA.	28.33	68.1	5	51	-2				6	5		
UPPSALA	28.90	25.3	5	59	1							
LOME	30.18	164.5	6	26	17							
HELSINKI	31.88	29.7	6	25	1							
NURMIJARVI	31.96	29.0	6	26	1							
HELWAN	32.22	89.3	6	28	1						8	41
KSARA	34.72	80.5	7	1	12							
JERUSALEM	34.77	84.0	7	4	15							
KIRUNA	35.74	17.1	6	58	0							
SCORESBY SD.	35.93	351.2	7	19A	20							
MOSCOW	36.06	42.0	6	59	-1							
SODANKYLA	37.04	20.6	7	10	1							
APATITY	39.21	23.0	7	31	4							
TIFLIS	40.07	65.3	7	34	0							
NORD	46.29	357.9	8	25	1							
TEHERAN	46.45	72.0	8	26	0							
SEVEN FALLS	48.35	304.6	8	40	0							
ADDIS ABABA	48.96	111.4	8	48	3							
SHIRAZ	49.46	79.2	8	48	-1	15	53	0	9	3	10	52 PP
SHAWINIGAN	49.76	304.2	8	51A	0							
LWIRO	50.07	131.1	8	55K	1						16	51
PALISADES	51.97	297.5				16	22	-6				
OTTAWA	52.03	303.3	9	8	-1							
SAN JUAN	55.01	268.4	9	31	0							
RESOLUTE	55.62	341.2	9	34	-1							
MORGANTOWN	56.79	297.8	9	43K	0							
COLUMBIA	59.77	292.1	10	1	-3							
BROKEN HILL	59.79	140.0	10	4K	0							
QUETTA	60.64	72.3	10	10	0	18	20	-2	10	22		
WARSAK DAM	62.47	66.4	10	22	0							
KARACHI	63.17	77.6	10	25	-2				10	40		
ST. LOUIS 1	64.51	300.4	10	34	-2							
BULAWAYO	64.66	143.2	10	41	4							
LAHORE	65.66	67.7	10	42	-1				10	54		
LITTLE ROCK	67.79	297.5	10	55K	-2							
FAYETTEVILLE	68.48	299.5	11	0A	-1				11	14		
TIKSI	68.57	13.8	10	44	-17							
POONA	71.81	80.0	11	35	14							
BOZEMAN	74.35	315.2	11	34	-2							
HUNGRY HORSE	74.45	318.7	11	36	-1						11	53 PCP
COLLEGE	75.39	344.0	11	44	2							
FLAMING GRGE	76.07	310.4	11	46	0						12	23 SP
SALT LAKE C.	77.68	311.4	11	55	0							
CHATRA	77.70	65.9	11	54	-1							
LA PAZ	77.97	239.6									14	59
GLEN CANYON	79.78	308.2	12	7	1							
HUANCAYO	80.31	247.7	12	13	4							
EUREKA	80.97	312.4	12	14	1							
CORVALLIS	81.78	319.9	12	19K	2							
SHILLONG	81.89	64.5	12	17A	-1							
TUCSON TELE.	81.99	304.0	12	20	2							
RENO	83.21	314.3	12	28	4						12	52
MINERAL	83.70	315.9	12	27A	0							
FRESNO	85.02	312.2	12	34	1							
LICK	85.74	313.6	12	39K	2							
SOUTH POLE	125.40	180.0	18	59	1						19	15
BYRD STATION	128.75	191.9	19	7	3						19	27
CAPE HALLETT	143.17	178.3	19	28	-3							
AFIAMALU	154.66	324.7	19	54	5							

DECEMBER 6 8.H 56.M 9.S EPICENTRE 8.69 -82.77 DEPTH= 0.KM

A= 0.12438 B=-0.98083 C= 0.15003 D=-0.9921 E=-0.1258
G= 0.0189 H=-0.1488 K=-0.9887 HT= 6.7

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.

SE= 1.75

	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.	3.19	84.9	0	52	-1	1	42	10					
SANTIAGO MA.	7.35	311.0	1	52	1	3	18	1					
CHINCHINA	8.00	117.0	2	0	-1	3	35	2					
SAN SALVADOR	8.02	308.8	2	2	1	3	29	-4					
FUQUENE	9.53	109.0	2	23A	1	4	17	6					
BOGOTA	9.54	114.5	2	22	0	4	10	-1					
COMITAN	11.83	310.4	2	50	-3						6	35	
MERIDA	13.87	332.3	3	24	4	6	9	13			7	11	
CARACAS	15.73	82.1	3	46K	1	6	45	5					
OAXACA	15.95	302.7	3	51	3	6	56	10			8	43	
VERA CRUZ	16.64	310.3	4	9	13						8	47	
SAN JUAN	18.82	57.5	4	24	0								
TACUBAYA	19.15	305.5	4	29A	2	8	11	13			8	33	
TRINIDAD	21.16	83.0	4	47	-2								
ST. VINCENT	21.57	76.2	4	53	0								
FORT FRANCE	22.00	72.1	4	59	1						7	23	
ANTIGUA	22.05	65.5	4	57	-1								
COLUMBIA	25.24	3.4	5	31	2								
LITTLE ROCK	27.42	342.7	5	48	-1								
FAYETTEVILLE	29.20	340.8	6	5A	0				6	30	7	4	PP
CHIHUAHUA	29.57	315.2									10	18	
WASHINGTON	30.52	8.8	6	15	-2								
ST. LOUIS 1	30.57	348.5	6	18K	0	11	22	3					
FLORISSANT	30.75	348.3	6	19	0	11	22	0					
MORGANTOWN	30.92	4.2	6	21A	0								
PENNSYLVANIA	32.28	7.0	6	33	0								
CLEVELAND	32.68	1.7	6	37	1								
PALISADES	33.14	12.3	6	39	-1	11	20	-40	6	49	14	40	SS
TUCSON TELE.	35.00	316.2	6	56	0								
TUCSON	35.02	316.0	6	58	2								
WESTON	35.04	14.8	6	57	0								
OTTAWA	37.08	8.2	7	13	-1								
GLEN CANYON	38.41	321.6	7	26	1						8	57	
SHAWINIGAN	38.69	11.1	7	28	1								
HALIFAX	39.47	21.6	7	37	3								
SEVEN FALLS	39.63	12.8	7	36	1								
FLAMING GRGE	39.86	328.0	8	36	59						9	22	
BOULDER CITY	39.88	317.8	7	37	0								
SALT LAKE C.	41.07	325.8	7	46	-1								
PASADENA	41.22	313.2	7	49	1	14	15	12					
EUREKA	42.67	321.3	7	59	-1								
FRESNO	43.68	315.6	8	6	-2								
BOZEMAN	44.15	331.5	8	12	0								
VINEYARD	44.77	314.6	8	18	1								
BUTTE	45.13	330.8	8	19	-1								
RENO	45.14	318.9	8	21K	1								
LICK	45.24	315.2	8	22A	1								
CONCORD	45.84	315.8	8	27K	1								
BERKELEY	45.93	315.5	8	27K	1								
MINERAL	46.73	318.8	8	30A	-3								
SHASTA	47.43	318.8	8	37K	-1								
HUNGRY HORSE	47.50	332.0	8	37	-2								
ARCATA	48.63	318.2	8	48K	0								
CORVALLIS	50.06	322.7	8	59	0								
PENTICTON	50.86	329.6	9	3	-2								
VICTORIA	52.35	326.8	9	15	-1								
MBOUR	64.55	78.2	10	42A	1	18	52	-28					
RESOLUTE	66.32	356.5	10	49K	-4	19	38	-4			13	35	PP
THULE	68.16	3.6	11	1	-3								
COLLEGE	71.71	335.9	11	23	-3						13	43	PP
NORD	78.04	7.9	11	59	-3						12	11	PCP
STUTTGART	84.89	41.6	12	33	-5	13	3						
JENA	86.06	39.2	12	56	12						16	28	PP
HALLE	86.20	38.6	13	4	19	13	55				18	17	*PPP
POTSDAM	86.74	37.6	13	5	18								
COLLMBERG	86.88	38.7	12	46	-2						16	13	PP
KIRUNA	86.96	21.7	12	47	-1								
UPPSALA	87.74	29.8	12	21	-31								
PRUHONICE	88.10	39.8	13	6	12						16	38	
ADDIS ABABA	119.18	74.6									19	45	
TANANARIVE	130.84	107.4	19	5A	-9						20	22	
QUETTA	131.63	35.7	19	15	0								

DECEMBER 6 8.H 56.M 8.S EPICENTRE -21.43 -69.83 DEPTH= 0.KM

A= 0.32131 B=-0.87451 C=-0.36330 D=-0.9386 E=-0.3449
G=-0.1253 H= 0.3410 K=-0.9317 HT= 4.3

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	
LA PAZ	5.16	18.4									2	21	PS
HUANCAYO	10.71	329.7	2	40K	2	5	10	30					
SANTA LUCIA	11.98	183.3	2	53	-2	4	55	-16			3	10	PP
BOGOTA	26.22	350.4	5	40	2								
CHINCHINA	26.85	347.1	5	46	2	10	18	-2					
PORT STANLEY	31.61	165.8	6	26	-1								
CARACAS	31.86	5.4	6	29	0	11	58	19					
TRINIDAD	32.94	15.4	6	38	0						9	23	PCP
ST. VINCENT	35.40	14.5	6	57	-2						7	17	
ANTIGUA	39.13	12.2	7	40	9								
SAN JUAN	39.73	5.5	7	32	-4	13	51	11			9	10	PP
SAN SALVADOR	39.74	329.7	7	38	2						9	42	
COMITAN	43.37	327.9	8	4	-2								
ARGENTINE I.	43.95	176.6	8	11	1								
MERIDA	46.35	334.1	8	28	-2						17	13	
OAXACA	46.45	323.3	8	32	2								
VERA CRUZ	47.89	325.6	8	40	-2								
TACUBAYA	49.73	322.6	8	57A	1	16	17	12			11	0	PP
COLUMBIA	56.15	348.8	9	42	-2	17	22	-10					
LITTLE ROCK	59.86	338.6	10	8	-2								
WASHINGTON	60.40	353.5	10	12	-1						13	32	PP
CHIHUAHUA	60.84	323.5	10	19	3						10	43	
MORGANTOWN	61.48	351.1	10	19A	-2	18	32	-9					
FAYETTEVILLE	61.68	337.7	10	22A	0	18	41	-3			12	39	PP
PALISADES	62.24	356.5	10	23	-3				10	37	14	29	PPP
PITTSBURGH	62.27	351.3	10	27	1						19	13	
PENNSYLVANIA	62.36	353.1	10	26	-1	18	51	-2			39	37	PKPPKP
BYRD STATION	62.43	188.6	10	27	0	18	54	1			12	39	PP
ST. LOUIS 1	62.75	342.1	10	28A	-1	18	32	-26					
MBOUR	62.90	60.2	10	27	-3	19	16	17					
FLORISSANT	62.94	342.1	10	28A	-2								
WESTON	63.51	358.8	10	33A	-1				10	45			
CLEVELAND	63.53	350.2	10	34A	0	19	2	-5	10	46			
HALIFAX	65.98	4.9	10	49A	-1								
TUCSON	66.24	322.6	10	53	1								
TUCSON TELE.	66.25	322.7	10	53	1						13	25	PP
OTTAWA	66.73	355.5	10	53	-2								
SHAWINIGAN	67.71	357.8	11	1	0								
SEVEN FALLS	68.24	359.3	11	4A	-1								
SOUTH POLE	68.70	180.0	11	7	0	19	37	-33			13	8	PP
GLEN CANYON	70.18	325.5	11	17	0	20	29	1			39	17	PKPPKP
BOULDER CITY	71.23	322.7	11	23	0	20	40	0					
PASADENA	71.91	319.3	11	27	0	20	48	0			14	6	PP
PONTA DELGDA	72.02	35.5	11	28K	0				11	41	14	13	PP
FLAMING GRGE	72.11	329.5	11	27	-1								
SALT LAKE C.	73.18	327.9	11	34	0	21	1	-1			12	20	
RUTH	73.65	325.0	11	35A	-2								
EUREKA	74.36	324.6	11	42	1						39	11	PKPPKP
FRESNO	74.66	320.4	11	42K	-1								
LOME	74.78	77.1	11	48	4						12	6	PCP
VINEYARD	75.59	319.5	11	36	-12								
SCOTT BASE	75.74	190.5	11	50K	1				12	5	39	10	PKPPKP
LICK	76.13	319.8	11	52A	1				12	6			
BRANNER	76.51	319.6	11	54A	0								
RENO	76.53	322.5	11	54A	0				12	9			
BOZEMAN	76.56	331.6	11	54	0	21	17	-23			12	9	PCP
CONCORD	76.80	320.1	11	56A	1				12	9			
BERKELEY	76.85	319.9	11	56A	1						15	24	
HERMANUS	77.46	122.1	11	59	0	22	12	23			12	14	PCP
BUTTE	77.51	331.0	11	59	0						17	21	
MINERAL	78.10	322.2	12	1A	-1				12	15			
CAPE HALLETT	78.25	195.7	12	2K	-1	21	57	-1	12	16	26	52	SS
SHASTA	78.78	322.0	12	6A	0								
WINDHOEK	79.35	110.1	12	9K	0								
ARCATA	79.87	321.3	12	12A	0								
HUNGRY HORSE	79.93	331.8	12	12	0						15	14	PP
LUANDA	80.40	95.8	12	8A	-7						12	23	PP
CORVALLIS	81.83	324.5	12	23A	1				12	37			
LISBON	82.49	43.5	12	27A	1				12	40	14	39	PP

PENTICTON	83.18	329.8	12	29A	0						
KIMBERLEY	83.79	118.3	12	33K	1						
COIMBRA	83.80	42.6	12	34A	2						
SERRA PILAR	84.22	41.7	12	27A	-8			12	36	15 41	PP
VICTORIA	84.48	327.5	12	35A	-1						
MAWSON	84.64	163.6	12	35	-2	22	54 -10				
GRANADA	85.33	47.2	13	38K	58	23	5 -6			16 21	PP
TAMANRASSET	85.55	63.6	12	39K	-2	23	6 -7			15 55	PP
ALBERNI	85.67	327.4	12	42	0						
ALMERIA	85.94	47.9	12	49A	6	23	22 6			16 19	PP
ALICANTE	88.06	47.4	12	51	-2	23	17 -20			16 19	PP
ALGIERS UNI.	89.79	50.1	13	1A	-1	23	53 0			16 34	PP
TORTOSA	89.91	45.6	13	13	11						
SETIF	91.23	51.5	13	9	1	23	43 -22			17 4	PP
LCO. MARQUES	91.27	118.4	13	12	3			13	24	24 10	SP
MIRNY	91.34	173.2	13	8	-1						
WILKES	92.50	180.1	13	16A	2	23	42 -35	13	29	25 23	PS
REYKJAVIK	93.01	19.0	13	17A	0						
CHATEAU	94.19	225.1	13	37	15						
TONGARIRO	94.20	225.1	13	23	1						
ROXBURGH	94.47	217.3				24	40 6			31 10	SS
KEW	94.56	36.0	13	21A	-3						
KARAPIRO	94.86	226.2	13	27	2						
COBB RIVER	94.98	222.3	13	28	2						
DURHAM	95.51	32.7	13	26	-2						
AFIAMALU	95.77	252.7	13	32	3						
BESANCON	96.33	41.6	13	31	-1						
BASLE	97.44	41.8	13	53	16					19 7	
PAVIA	97.53	44.5								17 35	PP
THULE	97.64	0.4	13	38	0					18 39	PP
DE BILT	97.89	37.0								17 52	PP
STRASBOURG	97.97	40.9	13	38	-1					17 32	PP
ROME	98.55	48.4	13	58K	16	24	48 28			17 36	PP
BENSBERG	98.56	38.5	13	42	0					17 53	PP
TUBINGEN	98.75	41.3	13	41	-2					17 59	
RAVENSBURG	98.81	42.1	13	41	-2					18 0	
HEIDELBERG	98.87	40.4	13	42	-1					18 0	
STUTTGART	98.97	41.1	13	42	-2					17 50	PP
WITTEVEEN	99.02	36.7	13	40A	-4						
MESSINA	99.47	52.8	13	14	-32					18 2	
TRIESTE	100.71	45.2				24	49 19			18 16	PP
SONNEBERG	100.72	40.1	13	52	0					17 57	PP
JENA	101.14	39.6	13	53	-1	24	22 -11			18 13	PP
LJUBLJANA	101.35	45.0	13	56	2	25	3 29			18 22	PP
COLLMBERG	102.11	39.6	13	57	-1					18 6	PP
ZAGREB	102.24	45.5								18 8	PP
POTSDAM	102.50	38.5	14	0	0					18 27	PP
PRUHONICE	102.62	41.2	13	59	-1					18 10	PP
VIENNA-H.	103.23	43.2								18 33	
BRATISLAVA	103.68	43.5								18 11	PP
BELGRADE	104.98	47.5	14	12A	2					18 32	
ATHENS	105.55	55.0	14	14	777						
SOFIA	106.46	50.1	14	19	777	24	58 1			18 49	PP
UPPSALA	107.02	31.8	19	2	777						
LWOW	108.50	43.0								18 56	PP
BUCHAREST	108.80	48.8								18 58	PP
HELWAN	109.67	64.8	14	34	777					29 28	
KIRUNA	109.74	23.8	18	43	777						
ISTANBUL KA.	110.29	52.8								18 12	
IASI	110.34	46.2								19 12	
ADDIS ABABA	110.49	88.1								19 32	PP
SODANKYLA	112.06	24.5	18	33	-4					19 18	PP
RIVERVIEW	112.59	216.2								29 2	PS
CANBERRA	112.61	213.7								29 30	
JERUSALEM	113.35	63.6	14	55	-225					19 30	PP
PULKOVO	113.35	32.9								19 29	PP
KSARA	114.28	61.5	18	53	11	25	59 30			19 36	PP
SIMFEROPOL	114.53	49.3								19 43	PP
BRISBANE	116.33	222.2								17 40	
KHEYS	116.89	8.3	18	47	0						
MOSCOW	117.24	37.4	18	47	0					19 57	PP
TIFLIS	122.11	53.5	18	56	-1					20 31	PP
GORIS	123.22	56.1	18	59	0	25	52 -8			20 43	PP
MUNDARING	126.59	186.4	19	6	1						
PERTH	126.64	186.0								21 4	
TEHERAN	127.16	60.8	19	7	0					19 20	PKP2
SHIRAZ	127.79	68.5	19	9K	1	25	59 -15	19	23	21 10	PP
TIKSI	128.64	352.5	19	7	-2					21 10	PP

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SVERDLOVSK	129.48	32.8	19 11	0					22 38	
RABAUL	131.62	243.2	19 12	-3						
PORT MORESBY	132.49	233.6	19 19	2	26 25	-1	19 33		22 48	PKS
ASHKABAD	132.67	57.7	19 19	2					21 41	PP
TASHKENT	140.30	50.5	19 26	-5					22 32	PP
KARACHI	140.31	76.6	19 31	0					22 39	PP
QUETTA	140.32	68.2	19 31A	0					22 49	PP
SEMIPALATNSK	142.74	31.8	19 31	-4					22 43	PP
FRUNSE	143.48	46.0	19 36	-1						
WARSAK DAM	143.80	61.4	19 35	-2						
BOMBAY	144.90	87.4	19 40	1					23 15	PP
POONA	145.79	88.3	19 42	1						
LAHORE	146.51	64.9	19 43A	1					23 8	PKS
COLOMBO	147.35	111.8	19 51	8						
IRKUTSK	148.89	7.0	19 47	1					23 20	PP
HYDERABAD	149.85	92.0	19 53	6						
DEHRA DUN	149.85	66.3	19 53	6						
TUKUBASAN	150.07	306.0	18 54A	-54						
MADRAS	150.19	101.4	19 55A	7						
LEMBANG	151.80	174.6	19 52A	2					23 52	PP
DJAKARTA	152.36	172.8	19 58	7					21 19	
CHANGCHUN	154.37	334.1	19 54	0			20 9		23 51	PP
BOKARO	157.38	79.3	19 54	-4						
CHATRA	158.34	71.1	19 34	-25						
CALCUTTA	159.75	82.9	20 2	1						
PORT BLAIR	160.67	117.4	20 6	5					24 34	
PEKING	160.77	345.9	20 3A	1			20 17		23 24	PP
LHASA	160.92	60.8	20 5	3			20 19		24 28	PP
SHILLONG	162.72	72.7	19 38K	-26	26 23	-44			31 56	PPP
CHITTAGONG	162.94	83.5	19 46	-18						
ZO-SE	166.22	316.6	20 8	1			20 22		24 56	PP
NANKING	166.93	325.8	20 9	2			20 23		24 59	PP
SIAN	167.18	4.7	20 10	2						
CHENGTU	169.27	29.8	20 11A	2			20 25		25 9	PP
KUNMING	172.24	60.4	20 12	1			20 27		25 28	PP
HONG KONG	176.19	283.8	21 55	103					25 27	PP
CANTON	176.64	299.9	20 25	13			20 29		25 48	PP

DECEMBER 6 21.H 34.M 4.S EPICENTRE -3.39 100.85 DEPTH= 0.KM

A=-0.18786 B= 0.98043 C=-0.05881 D= 0.9821 E= 0.1882
G= 0.0111 H=-0.0578 K=-0.9983 HT= 7.1

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
LEMBANG	7.56	117.1	1	51K	-3	3	27	5				
PORT BLAIR	17.01	331.7				7	30	20				
COLOMBO	23.30	296.0				9	29	9				
CHITTAGONG	27.07	341.4	4	50	-56							
KUNMING	28.40	3.6	5	58	0	10	58	13				
HONG KONG	28.67	26.4	6	2	2	11	13	24				
SHILLONG	30.08	343.7	8	10A	117							
MUNDARING	31.88	154.8	6	33	4							
CHENGTU	34.00	4.9	6	49	2							
LHASA	34.16	344.7	6	49	0							
BOMBAY	35.38	309.8	6	56	-3	12	37	3				
SIAN	38.21	10.8	7	23	0							
NANKING	39.16	24.5	7	33	2							
LANCHOW	39.34	3.8	7	32A	-1							
ZO-SE	39.40	28.0	7	36	3	13	55	20				
DEHRA DUN	39.98	328.6	7	38	0	13	46	2				
LAHORE	42.95	326.0	8	1	-1							
PEKING	45.45	16.5	8	22	0	15	19	15				
WARSAK DAM	46.33	325.8	8	29	0							
PORT MORESBY	46.37	99.7	8	25	-5	15	11	-6				
QUETTA	46.52	318.3	8	30	-1	15	16	-4			10	20 PP
ADELAIDE	47.10	136.5	8	31	-4							
ANDIJAN	51.07	332.2	9	5	-1							
ULAN-BATOR	51.37	5.2	9	8	0							
NAMANGAN	51.57	331.9	9	9	-1							
FRUNSE	51.76	335.5	9	11	0							
CHANGCHUN	51.90	22.4	9	13	1							
MATUSIRO	52.83	37.8	9	17	-2							
MELBOURNE	52.89	136.3	9	26	6				9	36	20	57
VLADIVOSTOK	54.12	27.8	9	26	-3							

CANBERRA	54.66	131.7	9	35	2				9	52	
BRISBANE	54.96	121.2	9	34	-1						17 21
RIVERVIEW	55.71	129.2				17	24	-2			
SHIRAZ	56.71	308.9	9	45K	-3						11 27
TIFLIS	67.76	317.9	11	0	-2						
SVERDLOVSK	68.29	337.5	11	3	-2						
YAKUTSK	68.87	14.1	11	9	1						
JERUSALEM	71.33	305.0	11	25	2						
KSARA	71.39	307.3	11	26	2						
BROKEN HILL	72.10	256.0	11	22	-6						
MOSCOW	78.11	328.9	12	1	-1						
ISTANBUL KA.	78.61	312.9	12	2	-3				12	10	
PULKOVO	83.24	331.3	11	42	-48						
NURMI JARVI	86.17	331.2	12	43	-1						
AFIAMALU	86.65	103.7	12	47	0						
SODANKYLA	87.08	338.1	12	47	-2						
KIRUNA	89.50	338.0	13	1	1						
COLLMBERG	91.27	321.1	13	10	2						
BYRD STATION	94.29	173.5	13	26	4						
NORD	97.24	352.4									25 17
HUNGRY HORSE	126.17	28.2	19	3	-2						
EUREKA	130.98	37.9	19	14	0						22 54 PP
FLAMING GRGE	133.78	31.9	19	15	-4						
PALISADES	142.26	353.5									41 15 SS
FAYETTEVILLE	144.62	21.3	19	36A	-2				19	53	20 12 *SP
LA PAZ	157.43	208.5	20	6	8						

DECEMBER 8 1.H 24.M 15.S EPICENTRE -21.91-179.25 DEPTH= 589.KM

A=-0.92856 B=-0.01219 C=-0.37098 D=-0.0131 E= 0.9999
G= 0.3709 H= 0.0049 K=-0.9286 HT= 4.2

DEPTH OF FOCUS= 0.088R

SE= 1.40

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	4.33	329.3	1	30	2						2	35	
AFIAMALU	10.67	43.0	2	22A	-4	4	15	-7					
NOUMEA	13.26	265.6	2	52	1	5	10	1					
ONERAHI	14.89	200.6	3	12	5	5	50	12			3	32	
KARAPIRO	16.59	194.6	3	25A	1	6	18	10					
TUAI	17.12	189.6	3	28	-1	6	19	2					
CHATEAU	17.80	193.3	3	34A	-1						3	54	
TONGARIRO	17.80	193.4	3	34	-1	6	35	7					
WELLINGTON	19.96	193.3	3	55	0	7	11	7					
COBB RIVER	20.28	197.7	3	58	0	7	7	-2			12	18	
KAIMATA	21.99	198.7	4	14	0	7	39	2					
GEBBIES PASS	22.75	195.3	4	19	-2	7	44	-5			8	1	
HONIARA	23.52	298.6	4	25	-2								
BRISBANE	25.97	252.2	4	48	-1	8	37	-3					
RIVERVIEW	28.63	239.1	5	12A	0	9	21	0			8	7	PCP
CANBERRA	30.77	237.3	5	31A	1	9	55	1			10	57	SCP
CHARTERS TS.	32.21	266.8	5	42	-1	10	13	-3					
PORT MORESBY	34.57	285.8	6	2	0	11	11	19					
MELBOURNE	34.60	234.6	6	3K	1								
MOORLANDS	34.69	226.0	6	3	0								
FORT NELSON	34.80	225.1	6	3A	-1								
TARRALEAH	35.12	226.6	6	6	-1								
ADELAIDE	38.91	241.1	6	37	-1	11	53	-3	8	0	15	42	
CAPE HALLETT	50.78	184.1	8	10K	1								
MUNDARING	57.67	245.3	8	56	-1								
BYRD STATION	63.45	170.3	9	35	0				11	37	38	11	PKPPKP
SOUTH POLE	68.22	180.0	10	5	1	18	20	1	12	7			
MIRNY	69.23	205.3	10	9	-1	18	29	-2					
MATUSIRO	70.66	324.8	10	17K	-2								
LEMBANG	71.86	269.8	10	26K	0	19	0	0					
HONG KONG	78.36	299.8	11	3	1	20	10	0					
VLADIVOSTOK	78.77	325.8									20	16	
MAWSON	79.85	200.1	11	9	0								
VINEYARD	79.88	43.7	11	12	2								
NANKING	79.95	310.4	11	10K	0						20	31	
BERKELEY	80.00	42.4	11	10	0								
LICK	80.07	43.1	11	11K	0								
ARGENTINE I.	80.13	157.2	11	10	-1								

PASADENA	80.49	47.4	11 12	-1					
MINERAL	81.92	40.7	11 19A	-1					
RENO	82.54	42.2	11 24A	1					
CHANGCHUN	82.81	323.1	11 24K	0				20 46	
CORVALLIS	83.56	36.6	11 30	2					
TUCSON	84.70	52.3	11 35	1			13 46		
TUCSON TELE.	84.82	52.3	11 36	2					
EUREKA	84.94	43.9	11 35	0			13 49		
PEKING	86.08	316.0	11 41K	1				21 7	
GLEN CANYON	86.53	47.9	11 42	-1			13 52		
KUNMING	88.96	297.5	11 56K	2					
CHENGTU	90.27	303.0	12 2K	2	21 34	-29			
HUNGRY HORSE	90.96	37.3	12 1	-2					
ULAN-BATOR	95.78	319.5						14 13	
SHILLONG	98.21	294.2	12 35K	-1					
KHEYS	116.63	351.1						16 44	
QUETTA	120.67	292.9	17 47	1					
APATITY	130.00	344.3						20 31	
SODANKYLA	131.71	346.9	18 5	-2				20 38	SKP
KIRUNA	132.46	350.0	18 7	-1					
WINDHOEK	133.01	200.8						20 44	
SHIRAZ	133.07	290.6	17 59	-11					
BROKEN HILL	134.78	219.4						20 50	
SKALSTUGAN	137.63	352.4	18 7	-11					
NURMIJARVI	137.94	342.6	18 10	-9				20 59	SKP
HELSINKI	138.13	342.1	18 11	-8				20 59	SKP
UPPSALA	140.25	346.8	18 14	-9					
ADDIS ABABA	141.31	256.7	18 25	-1					
GOTEBORG	143.33	349.9	18 25	-4					
LWIRO	143.56	232.3	18 30A	1					
LWOW	146.63	332.3	18 37	3				21 5	
KSARA	146.91	298.7	18 37	3				22 11	PP
DURHAM	147.14	2.5	18 37K	2					
JERUSALEM	147.83	295.1	18 36	0			21 3		
KRAKOW	148.11	336.4	18 40	4				19 2	
POTSDAM	148.13	345.7	18 40	4					
RACIBORZ	148.70	338.2	18 42	5				19 33	
WITTEVEEN	148.81	353.1	18 43A	6				21 3	PP
COLLMBERG	149.15	344.9	18 43K	5			21 2	22 19	PP
HALLE	149.20	346.3	18 44	6					
ISTANBUL KA.	149.42	315.2	18 43	5				19 28	PKP2
MUNSTER	149.52	351.6	18 34	-4					
JENA	149.82	346.3	18 39	0				22 23	PP
PRUHONICE	149.94	342.1	18 45K	6			21 7		
SONNEBERG	150.42	346.4	18 47	8					
KEW	150.48	1.4	18 45	5					
BENSBERG	150.57	351.7	18 47	7				18 56	PKP2
BRATISLAVA	150.70	337.4	18 47	7					
VIENNA-H.	150.89	338.3	18 47	7					
HELWAN	151.43	292.5	18 49	8					
HEIDELBERG	151.85	348.9	19 0	18					
SOFIA	151.98	323.0	18 13	-29				19 3	PKP2
STUTTGART	152.35	347.8	18 43	1					
STRASBOURG	152.80	349.8	18 51	8					
FOLINIERE	153.18	1.8	18 51	8					
LJUBLJANA	153.43	338.2	18 53	9					
BESANCON	154.37	351.7	18 53	8				19 8	PKP2
TAMANRASSET	175.50	282.0	19 5	2			21 25	24 39	PP

DECEMBER 8 11.H 20.M 15.S EPICENTRE -32.06 -68.98 DEPTH= 180.KM

A= 0.30454 B=-0.79265 C=-0.52817 D=-0.9335 E=-0.3586
G=-0.1894 H= 0.4930 K=-0.8491 HT= 1.1

DEPTH OF FOCUS= 0.023R

SE= 1.29

	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	
LA PAZ	15.51	3.1	3	31K	0	6	26	9			3	47	PP
HUANCAYO	20.75	342.2	4	29A	1	8	20	16					
ARGENTINE I.	33.35	176.4	6	22	-1								
TRINIDAD	43.08	10.9	7	44	0						9	34	PP
SAN JUAN	50.22	3.5	8	38	-2				9	8	9	56	PCP
BYRD STATION	52.11	189.8	8	54	0				9	25	39	4	PKPPKP

	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	
SOUTH POLE	58.12	180.0	9	37	0						39	25	PKPPKP
TACUBAYA	58.79	326.3	9	40	-2						10	21	
SCOTT BASE	65.49	191.1	10	27	1								
COLUMBIA	66.68	349.1	10	33	-1								
CAPE HALLETT	68.29	196.4	10	43A	-1				11	15			
LITTLE ROCK	70.02	339.7	10	55K	1				11	29			
FAYETTEVILLE	71.79	338.7	11	4K	-1				11	35			
MORGANTOWN	72.04	351.1	11	6A	-1								
ST. LOUIS 1	73.06	342.7	11	12K	-1	20	28	4	11	43			
FLORISSANT	73.25	342.7	11	13	-1								
MAWSON	74.30	162.8	11	20	0								
TUCSON TELE.	75.21	324.4	11	25	0								
HALIFAX	76.47	4.0	11	33K	1								
OTTAWA	77.33	355.1	11	37K	0								
SHAWINIGAN	78.31	357.3	11	43K	1								
SEVEN FALLS	78.83	358.7	11	46	1								
GLEN CANYON	79.38	326.5	11	49	1				12	20			
PASADENA	80.49	320.5	11	54	0						12	25	
MIRNY	80.74	172.8	11	55	0								
EUREKA	83.46	325.3	12	10	1				12	40	28	52	*SSS
VINEYARD	84.17	320.2	12	13	0								
LICK	84.75	320.5	12	17A	2								
RENO	85.42	323.0	12	20A	1								
BERKELEY	85.47	320.5	12	20	1								
BULAWAYO	85.68	110.9	12	22K	2								
BOZEMAN	86.25	331.9	12	23	0								
MINERAL	86.94	322.5	12	25A	-1								
BUTTE	87.15	331.2	12	27	0				12	59			
CHATEAU	87.21	224.6	12	28	1				13	0			
TONGARIRO	87.22	224.6	12	28	1				13	0			
SHASTA	87.61	322.3	12	28	-1								
KARAPIRO	88.02	225.6	12	31	0				13	4			
HUNGRY HORSE	89.61	331.8	12	39	0				13	10	30	13	PKKP
TAMANRASSET	89.65	62.8	12	42K	3				13	13	16	20	PP
CORVALLIS	90.89	324.5	12	45A	0								
SERRA PILAR	91.67	41.1	12	43A	-5								
LWIRO	95.41	96.0	13	12	7								
NURMIJARVI	119.06	34.4	18	29	1								
HELSINKI	119.12	34.8	18	30	2								
SODANKYLA	121.28	26.8	18	34	2								
SHIRAZ	130.26	76.5	18	53A	4						22	17	
LEMBANG	141.20	174.6	19	8A	-2								
QUETTA	142.42	80.9	19	13	1								
POONA	143.98	102.9	19	18	3								
STALINABAD	145.15	67.3	19	20	3								
WARSAK DAM	146.99	75.8									19	24	PKP2
NAMANGAN	147.37	62.9	19	26	6								
YAKUTSK	147.68	343.6									20	21	
LAHORE	148.91	81.0									19	31	PKP2
MATUSIRO	157.13	288.8	19	54	20								
SHILLONG	162.03	106.2	19	44A	4								

DECEMBER 10 13.H 55.M 18.S EPICENTRE 1.54 124.44 DEPTH= 284.KM

A=-0.56532 B= 0.82444 C= 0.02661 D= 0.8247 E= 0.5655
G=-0.0151 H= 0.0219 K=-0.9996 HT= 7.2

DEPTH OF FOCUS= 0.040R

SE= 1.49

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MANILA	13.47	345.9	3	3	1	5	35	9					
BAGUIO CITY	15.27	345.8	4	21	58	6	11	6					
LEMBANG	18.73	243.5	3	57A	-3	7	11	-2					
HONG KONG	22.93	334.9	4	42A	1	8	34	7			5	56	*SP
CANTON	23.98	334.1	4	51A	0	8	52	7	5	33	6	1	*SP
RABAUL	28.29	101.7	5	26	-4								
ZO-SE	29.57	354.3	5	41	0						12	11	
NANKING	30.83	350.6	5	54	2				6	38	7	6	*SP
KUNMING	31.44	320.0	5	59A	2	10	48	5	6	51	7	9	*SP
PORT BLAIR	33.03	289.1									7	31	
MUNDARING	34.22	192.5	6	20K	-1								
ABUYAMA	34.75	16.2	6	25A	-1								
CHENGTU	34.84	328.2	6	26A	0	11	37	1					
SIAN	35.63	337.6	6	33	0								

HONIARA	37.01	107.8	6	43	-2				7	30	
MATUSIRO	37.09	18.5	6	45A	0	12	10	0	12	24	SCP
CHITTAGONG	37.86	305.6	6	53	1	12	28	7	8	33	PP
ADELAIDE	38.70	161.1	6	58K	-1						
PEKING	39.05	349.9	7	0	-1	12	41	2			
LANCHOW	39.30	333.2	7	5	2						
SHILLONG	39.44	310.1	7	5A	0	13	51	66	8	35	PP
BRISBANE	39.64	138.6	7	7	1	12	51	3			
VLADIVOSTOK	41.94	8.2				13	25	3			
CHANGCHUN	42.12	0.9	7	26	0				17	4	
LHASA	42.30	314.6	7	30A	2						
RIVERVIEW	43.23	146.9	7	36K	1				9	20	
CANBERRA	43.26	150.3	7	36K	0						
MELBOURNE	43.53	156.2	7	38K	0						
CHATRA	43.71	308.5	7	39A	0						
NOUMEA	47.33	122.5	8	6	-1						
TARRALEAH	47.96	158.0	8	13A	1				9	12	
ULAN-BATOR	48.64	344.3	8	16	-2						
POONA	52.37	292.2	8	45	0						
BOMBAY	53.40	292.4	8	51	-2						
LAHORE	55.86	307.7	9	9	-1				12	21	
WARSAK DAM	58.94	309.3	9	33	1						
ALMATA	59.23	321.2	9	34	0						
ONERAHI	59.48	133.7	9	37	1						
YAKUTSK	60.47	2.9	9	42	0						
FRUNSE	60.49	319.8	9	43A	1						
KAIMATA	60.90	141.8	9	50	5						
COBB RIVER	60.96	139.8	9	46	0						
ANDIJAN	61.04	316.8	9	47	1						
KARAPIRO	61.31	135.4	9	48	0						
QUETTA	61.41	303.7	9	47A	-2	17	51	5	10	48	10 29
TONGARIRO	61.89	136.7	9	50	-2						
GEBBIES PASS	62.30	142.4	9	54	0						
WELLINGTON	62.39	139.1	9	54	-1						
STALINABAD	62.71	313.2	9	57	0						
AFIAMALU	65.01	106.0	10	15K	3						
TIKSI	70.05	1.5	10	42K	-1						
SHIRAZ	73.55	300.4	11	3K	-1	20	18	9			
SVERDLOVSK	74.65	329.2	11	9	-1						
TEHERAN	75.37	306.5	11	15	1						
TANANARIVE	78.11	250.4	11	31A	2						11 45
CAPE HALLETT	79.18	167.1	11	35	0						
TIFLIS	81.24	311.8	11	46A	0						
SCOTT BASE	82.50	171.7	11	54	2						
KHEYS	84.72	351.3	12	4	0						
ADDIS ABABA	85.48	278.9	12	10	3						
MOSCOW	86.94	325.6	12	14	0						
COLLEGE	87.66	25.3	12	19	1						
KSARA	87.96	303.6	12	15	-4						15 47 PP
JERUSALEM	88.54	301.6	12	23	1	13	26				
APATITY	88.98	337.4	12	23	-1						
PULKOVO	90.77	329.7	12	32	0						
SOUTH POLE	91.53	180.0	12	36	0						13 46
SODANKYLA	91.61	337.4	12	36	0						
ISTANBUL KA.	93.06	311.1	12	41	-2	13	43				
NURMIJARVI	93.49	330.8	12	43	-2						
KIRUNA	93.85	338.3	12	45	-1						
NORD	95.05	354.7	12	52	0						
LWOW	95.55	320.2	11	48	-66						17 6
BYRD STATION	95.90	170.9	12	57	1	13	47		14	19	*SP
BULAWAYO	96.00	250.0	12	57A	1						
UPPSALA	97.06	330.9	12	59	-2						
SKALSTUGAN	98.33	335.2	13	5	-2						
BRATISLAVA	100.35	319.5									17 30 PP
RESOLUTE	100.36	9.9	13	17	1						
PRUHONICE	101.49	321.7									17 40 PP
COLLMBERG	102.04	323.3	13	24	0						17 40 PP
STUTTGART	105.14	321.7	13	42	777						18 1 PP
TAMANRASSET	115.84	296.2									19 18 PP

DECEMBER 11 0.H 1.M 7.S EPICENTRE -22.27 171.47 DEPTH= 76.KM

A=-0.91602 B= 0.13738 C=-0.37687 D= 0.1483 E= 0.9889
G= 0.3727 H=-0.0559 K=-0.9263 HT= 4.1

DEPTH OF FOCUS= 0.007R

SE= 1.99

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
NOUMEA	4.65	268.7	1 9	0				5 36
SUVA	7.72	59.1	1 48	-3	3 23	5		
ONERAHI	13.68	170.0	3 14	2	5 36	-6		
KARAPIRO	15.99	168.2	3 41	0				5 20
TUAI	17.18	164.8	3 56	0	7 12	9		
CHATEAU	17.23	169.3	3 58	1				
BRISBANE	17.71	249.5	4 4	1	7 18	3		
AFIAMALU	17.95	65.2	4 8	2				
COBB RIVER	18.78	177.0	4 16	1				
WELLINGTON	19.15	172.4	4 17	-2	7 58	12		7 44
KAIMATA	20.19	180.1	4 30	0	8 50	42		
RIVERVIEW	21.27	232.8	4 43K	2	8 35	7	4 59	5 11 PP
GEBBIES PASS	21.39	177.7	4 41	-2	8 36	6		
ROXBURGH	23.21	183.8	5 1	1	9 9	6		5 55
CANBERRA	23.53	231.5	5 5	2	9 14	6		16 7 SCS
RABAUL	25.93	311.1	5 25	-1				
PORT MORESBY	26.62	294.9	5 32	-1	10 43	43		12 28 SCP
MELBOURNE	27.56	229.8	5 41A	0	10 9	-6		16 19 SCS
FORT NELSON	28.76	218.6	5 52	0			6 26	
TARRALEAH	28.90	220.5	5 55	2			6 29	
ADELAIDE	31.26	238.9	6 13A	-1				12 53
MUNDARING	49.67	246.4	9 44A	58	15 42	-5		
PERTH	49.99	246.4	9 23	35				25 14
CAPE HALLETT	50.06	180.5	8 48	-1	15 54	1		16 31 *SS
SCOTT BASE	55.68	181.2	9 30A	0				
WILKES	58.24	204.5	9 46	-2	17 40	-3		21 36 SS
BYRD STATION	64.60	169.6	10 28	-3	20 14	71	10 50	39 17 PKPPKP
MIRNY	65.20	205.6	10 34	-1				
ABUYAMA	66.27	328.2	10 41A	-1				
MATUSIRO	66.40	331.2	10 41A	-2	19 24	-1		13 18 PP
SOUTH POLE	67.86	180.0	10 50	-2	19 32	-11	11 11	39 7 PKPPKP
HONG KONG	71.26	304.6	11 13	0	21 14	51		
ZO-SE	71.70	316.0	11 14A	-1				
CANTON	72.34	304.8	11 19A	0				
NANKING	73.88	315.3	11 27A	-1				
MAWSON	76.41	201.9	11 41	-1				
CHANGCHUN	78.21	327.8	11 53A	1	21 41	1		
PEKING	80.59	320.2	12 6A	1	22 8	3		
KUNMING	81.63	301.4	12 13A	2	22 18	3		
SIAN	81.80	312.0	12 12	0				
ARGENTINE I.	82.97	159.5	12 17	-1				
CHENGTU	83.41	306.8			22 26	-7		
LANCHOW	86.29	311.3	12 35	1				
BERKELEY	86.29	46.6	12 58	24				
LICK	86.44	47.3	12 36A	1				13 13
PASADENA	87.27	51.4	12 40	1	23 24	13		23 53 PS
SHASTA	87.70	44.1	12 42A	1				
RENO	88.80	46.1	12 48K	2				
CORVALLIS	89.21	40.5	12 49	1				
YAKUTSK	90.37	341.7	12 51	-3				
BOULDER CITY	90.55	51.1	12 55	1				18 4 *SPP
ULAN-BATOR	90.65	322.6	12 55	0	23 17	-25		
EUREKA	91.36	47.6	12 59	1			13 23	17 3 PP
TUCSON	91.89	55.9	13 2	1			13 27	17 1 PP
TUCSON TELE.	92.01	55.9	13 2	1				
COLLEGE	92.35	16.2	13 0	-3			13 24	
LHASA	92.94	300.7	13 7A	2				23 32
GLEN CANYON	93.33	51.4	13 8	1				19 20
IRKUTSK	94.37	325.4	13 10	-2				
CHATRA	94.99	296.8	13 25	10				
FLAMING GRGE	96.53	48.5	13 21	-1				17 31 PP
HUNGRY HORSE	96.64	40.3	13 22	0				14 11
RESOLUTE	112.27	16.7	18 24	-2				
QUETTA	112.93	294.5	18 29	1				
PALISADES	122.57	54.7						31 2 PS
BULAWAYO	124.39	223.4	18 50K	0				
SHIRAZ	125.15	291.3	18 51K	0			20 45	21 26 PP
BROKEN HILL	128.55	228.2	19 1K	3				
KIRUNA	131.02	345.9	19 2	-1				
SCORESBY SD.	131.13	5.9						24 15
TIFLIS	131.60	306.6	19 6	2				22 24 PKS
MOSCOW	132.35	326.5	19 5	0				22 20 PKS
ADDIS ABABA	132.78	261.5	19 11	5				21 34 PP
LWIRO	136.16	241.0						22 41 PP

SIMFEROPOL	138.51	313.4	19 17	0			22 43 PKS
KSARA	139.43	296.4	19 19	1			
JERUSALEM	140.12	293.3	19 21	1			22 50 PP
LWOW	142.45	325.1	19 21K	-3			22 32
ISTANBUL KA.	143.28	309.5	19 22K	-3			22 37 PP
HELWAN	143.55	290.5	19 23A	-3			22 35
BUCHAREST	144.00	316.1	19 25A	-1			
KRAKOW	144.40	328.2	19 26	-1			19 30 PKP
RACIBORZ	145.21	329.5	19 29	1	19 38		
POTSDAM	145.66	336.4	19 29	0	20 6		
COLLMBERG	146.54	335.3	19 33A	2	19 55		22 57 PP
SOFIA	146.57	315.1	19 31	0			22 56 PP
HALLE	146.78	336.5	19 32	1			20 11 PKP2
PRUHONICE	146.92	332.4	19 33A	2	20 12		
BRATISLAVA	147.04	327.8	19 35A	3			
DURHAM	147.13	352.6	19 32K	0			
VIENNA-H.	147.34	328.6	19 32	0			19 58
JENA	147.38	336.2	19 32	0	19 59		
MUNSTER	147.83	341.1	19 36	3			
SONNEBERG	147.96	336.0	19 35	2			
ATHENS	148.21	306.8	19 37A	4	19 52		
BENSBERG	148.86	340.7	19 38A	3			
HEIDELBERG	149.68	337.4	19 40	4			
LJUBLJANA	149.77	327.2	19 41	5			20 4
STUTTGART	150.00	336.1	19 35	-1	20 5		20 39
TUBINGEN	150.28	336.1	19 42	5			
EBINGEN	150.61	335.8	19 43	6			
RAVENSBURG	150.68	334.6	19 43	6			
STRASBOURG	150.71	337.6	19 44	7			20 22
CHUR	151.46	333.6	19 44A	6			
FOLINIERE	152.79	348.3	19 47	7			
SETIF	161.58	322.0	20 39	48			
TAMANRASSET	167.00	274.9	19 57	1	20 20		24 51 PP
MBOUR	168.78	133.0					21 11 *PPKP2

DECEMBER 11 1.H 7.M 42.S EPICENTRE 36.17 84.44 DEPTH= 0.KM

A= 0.07847 B= 0.80537 C= 0.58755 D= 0.9953 E=-0.0970
G= 0.0570 H= 0.5848 K=-0.8092 HT= -0.3

SE= 2.97

	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	
DEHRA DUN	7.91	224.3	2	2	3	3	40	12			4	22	
LHASA	8.55	137.7	2	10	2						3	56	
LAHORE	9.58	244.2	2	22	0								
CHATRA	9.60	165.2	2	44	22	5	15	63					
WARSAK DAM	10.78	262.2	2	38	-1								
BOKARO	12.35	174.1	2	59	-1						6	43	
TASHKENT	12.90	298.1	3	2	-5	5	27	-6			4	58	
CALCUTTA	14.01	164.8									6	10	
QUETTA	15.80	252.8	3	43A	-2	6	37	-5			3	58	PP
CHENGTU	17.23	103.0	4	2	-2	7	13	-2					
KUNMING	19.18	120.0	4	26A	-2	7	57	-2					
HYDERABAD	19.40	197.4									8	11	
POONA	19.90	210.8	4	32	-4	8	2	-13			8	32	SS
BOMBAY	20.02	213.8	4	38A	1	8	22	5					
SIAN	20.09	88.3	4	36K	-2						8	25	
ULAN-BATOR	20.32	47.7	4	40	0	8	30	6					
ASHKABAD	20.88	282.7	4	44	-2								
IRKUTSK	21.39	35.0	4	50	-1								
MADRAS	23.38	190.5									9	37	
PEKING	25.20	71.6	5	27	-2	10	3	11					
PORT BLAIR	25.51	160.9									10	8	
SVERDLOVSK	26.13	329.7	5	35	-2								
KODAIKANAL	26.58	195.5									13	44	
TEHERAN	26.69	279.0	5	47	5	10	29	12					
SHIRAZ	27.49	265.5	5	54	4	11	2	32			6	54	
CANTON	28.19	109.6									11	9	
HONG KONG	29.26	110.0				11	33	35					
ZO-SE	30.89	88.7									11	29	
TIFLIS	31.12	292.5	6	23	1								
MOSCOW	37.08	316.8	7	15	1						8	29	PP
SIMFEROPOL	38.68	299.0	7	29	2						9	1	PP
PULKOVO	41.69	321.9	7	50	-2								

TIKSI	42.23	19.3	7	53	-3				9	35	PP
APATITY	42.43	333.7	8	4	6						
MATUSIRO	42.83	72.9							16	52	
NURMIJARVI	44.59	322.5	8	16	1						
SODANKYLA	44.88	332.3	8	18	0						
LWOW	45.05	307.3	8	18	-1				10	9	PP
KHEYS	45.69	354.2	8	26	2						
KIRUNA	47.30	332.3	8	33	-4						
UPPSALA	48.08	321.4	8	44	1						
SKALSTUGAN	50.48	326.5	8	58	-4						
PRUHONICE	51.07	308.8	9	8	2				11	44	
GOTEBORG	51.20	318.9	9	17	10						
POTSDAM	51.49	312.1	9	10	1						
COLLMBERG	51.75	310.7	9	11	0				11	45	
JENA	52.71	310.5	9	20	2						
STUTTGART	54.71	308.4	9	30	-3						
TAMANRASSET	68.30	282.9	11	3	-2						
COLLEGE	71.35	20.9	11	20	-4						
ST. LOUIS 1	105.40	355.7							19	24	PP
SOUTH POLE	125.98	180.0	19	0	-4						
HUANCAYO	149.84	317.7	19	53	6						

DECEMBER 11 3.H 18.M 18.S EPICENTRE 1.72 126.51 DEPTH= 67.KM

A=-0.59473 B= 0.80337 C= 0.02989 D= 0.8037 E= 0.5950
G=-0.0178 H= 0.0240 K=-0.9996 HT= 7.2

DEPTH OF FOCUS= 0.005R

SE= 4.24

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
BAGUIO CITY	15.73	338.5	3	39	1	6	44	14					
LEMBANG	20.68	245.6	4	32	-4	8	22	4					
DJAKARTA	21.16	248.1									4	58	
PORT MORESBY	23.34	118.6	5	2	0	9	8	1					
HONG KONG	23.71	330.5	5	5	-1	9	22	9					
CANTON	24.79	330.0	5	17A	1	9	15	-16			5	38	*SP
RABAUL	26.31	103.0	5	42	11								
ZO-SE	29.65	350.7	5	56	-5	10	39	-11			6	19	*SP
NANKING	31.04	347.2	6	15	2	11	15	3			6	34	*SP
KUNMING	32.66	317.4	6	27	0	11	34	-3			7	37	PP
ABUYAMA	34.04	13.4	6	37K	-2								
MUNDARING	34.91	195.4	6	41	-6								
PORT BLAIR	34.94	288.0									8	16	
PERTH	34.99	196.0	6	54	7						17	34	
CHENGTU	35.81	325.7	6	54	0	12	13	-13			7	15	*SP
SIAN	36.29	335.0	6	58A	0								
MATUSIRO	36.29	16.0	6	55A	-3	12	34	0			7	41	
ADELAIDE	38.25	163.7	7	9A	-6						8	42	PP
BRISBANE	38.44	140.7	7	16	0	13	4	-2					
SHILLONG	40.93	308.4	7	35A	-2	13	31	-12			9	11	PP
CHANGCHUN	41.94	358.7	7	49	4						9	30	PP
RIVERVIEW	42.29	149.0	7	56K	8	14	6	2			17	8	SS
CANBERRA	42.43	152.4	7	44K	-5						8	12	*SP
MELBOURNE	42.90	158.4	8	0A	7						9	44	PCP
LHASA	43.67	313.0	7	57	-2						14	24	*SP
CHATRA	45.24	307.1	7	57	-15								
TARRALEAH	47.39	159.9	8	28	-1				8	39			
ULAN-BATOR	49.04	342.6	8	41	-1								
IRKUTSK	53.68	343.3	9	19K	2	16	49	5					
DEHRA DUN	53.97	306.8	9	22	3								
POONA	54.22	291.6	9	25	4								
BOMBAY	55.25	291.8	9	28	0	17	5	0					
LAHORE	57.40	306.8	9	42	-1								
KARAPIRO	60.00	136.4	9	57	-5								
YAKUTSK	60.20	1.7	9	59	-4	18	9	-1					
ROXBURGH	60.35	146.6									25	20	
ALMATA	60.40	320.3	10	4	0								
WELLINGTON	61.19	140.1									10	40	
GEBBIES PASS	61.20	143.4	10	6	-4								
FRUNSE	61.70	318.9	10	12	-1								
KARACHI	61.72	297.3	10	10	-3								
ANDIJAN	62.34	316.0	10	17	0	18	51	14					
QUETTA	63.04	303.1	10	20	-2								
AFIAMALU	63.07	106.5	10	27	5								

STALINABAD	64.10	312.5	10 27	-2				20 14	
TIKSI	69.82	0.8	11 1	-4	21 12	64			
MIRNY	72.17	193.4	11 16	-3					
SHIRAZ	75.25	300.1	11 36	-1	21 38	29	11 58	14 52	PP
SVERDLOVSK	75.55	328.8	12 17	38	22 35	82			
TEHERAN	76.93	306.2	11 56	10					
CAPE HALLETT	78.90	167.6	11 55	-2	22 6	17			
SCOTT BASE	82.39	172.1	12 12	-4					
TIFLIS	82.66	311.7	12 27	10					
KHEYS	84.85	351.2						13 36	
COLLEGE	86.60	25.2	12 32	-5					
ADDIS ABABA	87.50	278.9	12 46	5	23 14	-1			
MOSCOW	87.96	325.5	12 42	-1	23 6	-13			
APATITY	89.60	337.4	12 54	3					
SIMFEROPOL	90.49	314.8	12 57	2				23 22	PKS
PULKOVO	91.65	329.8	12 52	-9					
SOUTH POLE	91.71	180.0	12 58	-3					
SODANKYLA	92.23	337.6	13 0	-3					
KIRUNA	94.44	338.5	13 11	-2					
ISTANBUL KA.	94.49	311.2	13 7	-7					
NORD	95.05	354.9	13 13	-3					
BYRD STATION	95.75	170.8	13 17	-2				16 29	
UPPSALA	97.90	331.2	13 39	10					
RESOLUTE	99.82	10.3	13 35	-3				17 42	
COLLMBERG	103.13	323.8	13 52	0				18 11	PP
HUNGRY HORSE	107.80	37.6	18 15	777					
EUREKA	109.79	46.8	18 23	777				14 23	P
FLAMING GRGE	113.90	43.3	19 31	60					
TAMANRASSET	117.61	296.8	18 38	0				19 48	PP
FAYETTEVILLE	126.60	41.1	18 56	1					
ST. LOUIS 1	127.49	36.2	19 1	4					
PALISADES	133.58	21.4						40 21	SS
SAN JUAN	156.47	31.3	19 50	4				20 21	
AREQUIPA	157.01	130.6	19 48	1					
BOGOTA	158.49	72.9	20 1	12				20 36	PKP2
FUQUENE	158.56	70.4	19 57	8					
LA PAZ	159.42	136.4	19 52	2					

DECEMBER 11 18.H 53.M 5.S EPICENTRE -15.66 166.96 DEPTH= 54.KM

A=-0.93853 B= 0.21730 C=-0.26823 D= 0.2256 E= 0.9742
G= 0.2613 H=-0.0605 K=-0.9634 HT= 5.6

DEPTH OF FOCUS= 0.003R

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	
NOUMEA	6.62	184.1	1	34	-3	2	39	-13					
HONIARA	9.23	311.3	2	12	-1	3	58	1					
SUVA	11.25	104.3	2	45	4	4	49	3					
BRISBANE	17.60	226.1	4	1	-2	7	18	3					
RABAUL	18.47	306.5	4	15	1								
PORT MORESBY	20.31	285.5	4	54	20	8	27	13					
ONERAHI	21.09	163.1	4	47	5	8	41	12					
RIVERVIEW	23.04	215.4	5	10A	9	9	14	10	5	20	10	3	SS
KARAPIRO	23.44	162.8	5	5A	0								
TONGARIRO	24.63	163.9	5	14	-3								
CHATEAU	24.63	163.9	5	17	0								
TUAI	24.73	160.7	5	16	-2						5	56	
CANBERRA	25.34	216.1	5	24	1	9	49	6	5	33	10	10	*SS
COBB RIVER	25.82	170.0	5	29	1	10	12	21					
WELLINGTON	26.41	166.7	5	31	-2	10	34	33					
KAIMATA	27.04	172.7	5	43	4								
GEBBIES PASS	28.37	171.3	5	49	-2								
MELBOURNE	29.41	217.1	6	1A	0	10	47	-2			12	39	SS
ROXBURGH	29.79	176.7	6	2	-2	10	57	2			7	3	
ADELAIDE	31.79	227.5	6	21	-1	11	35	8					
TARRALEAH	31.87	209.5	6	24	2						7	17	
FORT NELSON	31.95	207.8	6	23	0	11	37	8					
MUNDARING	48.75	241.1	8	42	1	15	44	5					
PERTH	49.07	241.2	8	48	4	15	59	16			10	48	PP
MANILA	54.44	301.3	9	27	3	16	57	0					
BAGUIO CITY	55.78	302.8	9	33	-1	17	25	10					
CAPE HALLETT	56.67	178.8	9	39K	-1	17	36	9			21	13	SS

TUKUBASAN	57.51	334.3	9	45A	-1	17	38	0	13	26 PPP
ABUYAMA	58.43	329.8	9	52A	-1					
MATUSIRO	58.59	333.0	9	51	-3	17	21	-31	11	38
LEMBANG	58.70	271.5	9	55A	0	17	55	2		
DJAKARTA	59.62	272.0	9	55	-6					
SCOTT BASE	62.21	180.1	10	17K	-1					
WILKES	62.59	202.3	10	20A	-1	18	48	5	22	55 SS
ZO-SE	64.00	316.8	10	30A	0	19	7	6		
HONG KONG	64.01	304.9	10	31	1	19	11	10	23	23 SS
CANTON	65.07	305.2	10	39A	2	19	25	11	11	9 *SP
Y.-SAKHLINSK	66.09	342.1	10	43A	-1	19	33	7		
NANKING	66.19	316.2	10	44A	0	19	31	4	11	14 *SP
PETROPAVLOVK	68.77	354.6	10	58	-2					
MIRNY	69.37	204.3	11	3	-1					
CHANGCHUN	70.38	329.3	11	11A	1	20	26	9		
BYRD STATION	71.83	169.9	11	17	-2				31	17 PKKP
PEKING	72.80	321.5	11	22A	-3	20	51	6		
SIAN	74.21	313.1	11	33	0					
SOUTH POLE	74.44	180.0	11	33	-1			11 50	38	44 PKPPKP
KUNMING	74.54	302.1	11	36A	1	21	14	9	12	6 *SP
CHENGTU	76.03	307.7	11	44A	1	21	29	8	12	14 *SP
MAGADAN	76.09	351.6	11	42	-2					
PORT BLAIR	78.33	285.7							12	48
LANCHOW	78.72	312.5	12	1A	3					
MAWSON	80.92	202.1	12	11	1				12	34
CHITTAGONG	82.69	295.6	12	22	3	22	41	10	13 1	15 45 PP
ULAN-BATOR	82.83	324.0	12	20	0					
SHILLONG	83.76	298.6	12	24A	-1	22	34	-8		16 31 PP
BERKELEY	85.01	48.6	12	32K	1				24	1 PPS
CONCORD	85.18	48.6	12	31	-1					
LICK	85.24	49.3	12	32K	0					
LHASA	85.87	302.2	12	37	2	23	12	9		
SHASTA	86.07	46.0	12	35	-1				17	17
MINERAL	86.48	46.5	12	38	0					
IRKUTSK	86.54	326.9	11	47	-51					
PASADENA	86.63	53.3	12	39	0	22	44	-26	16	2 PP
COLLEGE	87.29	17.7	12	39	-3				17	45 PP
RENO	87.43	47.8	12	44	1					
CHATRA	88.16	298.4	12	47A	1					
BOULDER CITY	89.84	52.6	12	56	2					
EUREKA	90.17	49.0	12	55	-1				16	12 PP
ARGENTINE I.	90.61	160.8	12	56	-2					
TIKSI	90.80	348.7	12	18	-41	22	36	-72		
RUTH	90.81	49.5	11	49	-70				12	56
PENTICTON	91.31	38.9	13	0	-1					
TUCSON	91.82	57.1	13	5	2					
TUCSON TELE.	91.93	57.1	13	4	0				19	17 PPP
HUNGRY HORSE	94.43	41.1	13	18	3					
FLAMING GRGE	95.41	49.1	14	20	60					
DEHRA DUN	96.83	299.5							17	41
BOMBAY	98.76	287.2	13	29	-6	24	31	24		
ANDIJAN	103.48	308.9	18	2	246					
NAMANGAN	104.04	309.0	18	11	252					
QUETTA	106.21	297.4	14	10	777					
RESOLUTE	107.15	16.0	18	19	777					
KHEYS	108.41	350.6	18	25	777					
SVERDLOVSK	111.90	325.4	18	17	-12					
LA PAZ	116.95	118.0	18	40	1				29	33 SKKS
SHIRAZ	118.62	295.5	18	43	1				22	19 PKS
BOGOTA	119.11	93.4				25	47	14	20	11 PP
OTTAWA	120.12	46.4	18	45	0					
APATITY	120.17	341.2	18	47	2					
SHAWINIGAN	121.95	44.6	18	50	1					
PALISADES	122.02	51.2							31	54 PPS
SODANKYLA	122.30	343.0	18	50	1					
SEVEN FALLS	123.13	43.6	18	51	0					
KIRUNA	123.59	345.4	18	52	0					
TIFLIS	124.18	310.0	18	51	-2					
MOSCOW	124.51	327.9	18	55	2					
SCORESBY SD.	124.93	3.6	18	52	-2					
BULAWAYO	125.77	230.3	18	57	1					
PULKOVO	125.86	334.6	18	58	2					
NURMIJARVI	127.61	337.5	19	0	1					
HELSINKI	127.72	337.1	19	4	4					
SKALSTUGAN	129.01	345.7	19	2	0				22	24 SKP
ADDIS ABABA	129.07	269.0	19	7	5					
BROKEN HILL	129.23	236.0	19	5	2					
SAN JUAN	129.31	78.9	19	3	0					

UPPSALA	130.53	340.2	19	7	2				22	29	SKP
SIMFEROPOL	130.85	316.5	19	8	2				22	33	PKS
KSARA	132.50	301.7	19	2	-7				21	29	PP
JERUSALEM	133.38	299.0	19	12	2				21	42	PP
GOTEBORG	134.03	341.6	19	12	0				22	43	SKP
LWOW	134.61	326.7	19	18	5						
LWIRO	134.97	250.4	19	19	6				21	51	PP
ISTANBUL KA.	135.72	313.4	19	15	0				21	53	
BUCHAREST	136.26	319.1							22	1	PKS
HELWAN	136.98	297.1	19	19	2				23	0	
RACIBORZ	137.38	330.4							34	20	PPS
COLLMBERG	138.78	335.3	19	17	-3				22	17	PP
SOFIA	138.86	318.4	19	21	1						
HALLE	139.04	336.2	19	16	-5				22	27	PP
PRUHONICE	139.12	332.8	19	23	2				22	43	PP
VIENNA-H.	139.50	329.6	19	25	3				22	23	
JENA	139.63	336.0	19	15	-7				22	18	PP
WITTEVEEN	139.78	341.5	19	25	3						
MUNSTER	140.21	340.1	19	21	-2						
SONNEBERG	140.22	335.7	19	24	1				23	1	
LJUBLJANA	141.93	328.5	19	24	-2				19	54	23 12 PKS
STUTTGART	142.26	335.8	19	25	-2				19	51	23 7 *SPP
TOLMEZZO	142.42	330.1	19	29	2						23 4 PKS
TRIESTE	142.60	328.6	19	29	2						
STRASBOURG	142.99	336.9	19	30	2				20	1	22 27 PP
PADOVA	143.70	329.9	19	36	7						
BASLE	143.93	336.1	19	30	1						20 28
PARIS	144.57	342.2	19	34	3						
NEUCHATEL	144.61	336.2	19	30	-1						
BESANCON	144.77	337.4	19	31	0				19	58	20 54
PAVIA	145.13	332.1	19	35	3						
PRATO	145.18	328.8	19	34	2						
FOLINIERE	145.41	345.3	19	33	1						
PORTO ISCHIA	145.77	322.2	19	37	4						20 2 PKP2
MONACO	147.04	332.2	19	39	4				20	10	
CLERMONT-FD.	147.06	339.0	19	38	3	26	30	-6			
SETIF	153.76	324.7	19	50	5				20	32	20 7 PKP2
SERRA PILAR	154.33	352.2	19	37K	-9						20 2 PKP2
TAMANRASSET	161.11	294.9	19	55	1				20	38	24 24 PP
MBOUR	175.99	108.0	20	4	0						

DECEMBER 13 7.H 36.M 13.S EPICENTRE -52.09 161.04 DEPTH= 0.KM

A=-0.58350 B= 0.20047 C=-0.78698 D= 0.3249 E= 0.9457
G= 0.7443 H=-0.2557 K=-0.6170 HT= -6.2

SE= 4.08

	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	
ROXBURGH	8.58	42.8	2	7	-2						3	17	
GEBBIES PASS	11.44	47.4	2	45	-3	4	55	-3					
KAIMATA	11.88	40.3	2	56	2	5	5	-3			3	35	
FORT NELSON	13.00	309.4	3	4K	-5	5	26	-10					
MOORLANDS	13.45	310.4	3	12K	-3	5	41	-5					
COBB RIVER	13.62	40.6	3	18	1	5	39	-11					
TARRALEAH	13.91	309.0	3	18	-3	5	49	-8					
WELLINGTON	14.32	46.3	3	28K	2	6	3	-4			7	24	
TONGARIRO	16.36	43.7	3	53	0						7	11	
CHATEAU	16.36	43.7	3	53	0						7	10	
TUAI	17.39	46.5	4	3	-3	7	18	-1			4	52	
KARAPIRO	17.43	41.4	4	4	-2						7	30	
MELBOURNE	18.18	315.4	4	13A	-3	8	3	26			4	38	PP
CANBERRA	18.85	328.1	4	23	-1	7	59	7			4	45	PP
ONERAHI	18.88	35.4	4	25	1						8	20	
RIVERVIEW	19.60	334.8	4	33A	0	8	30	21			4	58	PP
CAPE HALLETT	20.69	172.1	4	42K	-2						5	13	PP
ADELAIDE	23.40	308.3	5	14	2						5	35	PP
BRISBANE	25.44	342.7	5	32	1	10	16	19					
SCOTT BASE	25.95	177.2	5	33	-3						6	6	PP
WILKES	28.55	220.7	5	52	-8	10	41	-6			6	36	PP
NOUMEA	30.03	10.0	6	13	0						7	42	
MIRNY	35.56	219.7	7	8	7								
SUVA	36.53	28.5									7	32	
BYRD STATION	37.38	163.6	7	13	-4						39	44	PKPPKP
MUNDARING	38.13	284.0	6	19	-64						6	42	

AFIAMALU	43.87	39.8	8	10	0	15	0	18	8	27	10 11 PP
PORT MORESBY	44.05	340.1	8	14	2	15	6	21	8	34	9 8
RABAUL	48.30	348.1	8	46	1	15	20	-25			10 59
ARGENTINE I.	57.92	159.3	10	22	25						
LEMBANG	62.74	296.2	10	51	22	19	31	33			
DJAKARTA	63.71	295.9	10	51	15	19	39	29			
GUAM	66.79	342.7	11	19	23						
PORT STANLEY	71.51	155.7	10	40	-45						
MANILA	74.95	319.9	11	49	4	21	34	12			
BAGUIO CITY	76.74	320.2	12	24	29	21	32	-10			
NHATRANG	78.04	308.2	12	29	27						
HONOLULU	81.32	38.1	12	47	27	22	53	22			18 3 PPP
KIPAPA	81.46	38.1	12	44	23						
SANTA LUCIA	83.58	138.7	12	35	3	23	26	32			29 1 SS
HONG KONG	84.62	317.2	12	48	11	23	27	23			
CANTON	85.67	316.9	13	7	25						16 28 PP
PORT BLAIR	86.27	294.2	13	7	22	23	37	17			
HERMANUS	87.60	210.8	13	30	38	23	59	26			27 26
PIETERMZBURG	87.87	221.4	13	27	34						
TANANARIVE	88.80	240.3	12	58	1						16 31 PP
ABUYAMA	89.42	339.3	13	21A	21						
TUKUBASAN	89.83	343.2	13	16K	14	23	55	2			16 47 PP
ZO-SE	89.90	326.6	13	6	3						16 59 PP
COLOMBO	89.99	281.2	13	37	34						24 27
LCO. MARQUES	90.14	224.8							13	42	33 35 SSS
MATUSIRO	90.49	341.8	13	5	0	23	58	-1			24 10 SCS
KIMBERLEY	90.85	217.4	12	57	-10						
NANKING	91.60	325.2	13	13	3						16 46 PP
KUNMING	92.20	309.5	13	23	10						17 27 PP
PRETORIA	92.20	221.4	14	3	50						
KODAIKANAL	94.06	281.3									17 46
MADRAS	94.61	285.1	10	29	-175						
CHITTAGONG	95.45	299.6	13	38	10						
CHENGTU	96.31	313.3	14	6	34						17 50 PP
BULAWAYO	96.99	224.3	14	1	26						
SIAN	97.30	318.8	13	58	22						
SHILLONG	98.03	301.5	13	28	-12	23	33	-44			17 24 PP
HYDERABAD	99.11	286.5	14	21	36	25	13	50			18 19 PP
WINDHOEK	99.25	213.5	14	17	32						
LA PAZ	99.49	132.6	14	9	23	24	47	22			18 24 PP
PEKING	99.70	326.7	14	22	35						17 53 PP
HUANCAYO	99.85	124.2	14	9	21						18 21 PP
BOKARO	99.92	296.0	14	54	66	21	40	-167			26 43 PS
CHANGCHUN	100.40	334.6	14	8	17						18 24
CHATRA	101.54	298.8	14	21	25	24	50	15			17 52 PP
LHASA	101.74	303.3	14	21	24						18 51 PP
POONA	102.70	283.7	14	24	23						33 42 SS
BOMBAY	103.60	283.2	18	15	250						33 52 SS
MANZANILLO	107.60	81.6									30 29
DEHRA DUN	109.28	294.6									19 42
ULAN-BATOR	109.83	324.6	18	53A	777						
PASADENA	110.97	61.2	18	41	6	25	41	25			19 37 PP
TACUBAYA	111.01	85.2	18	48	12						19 26 PP
LICK	111.55	56.7	19	5A	28						30 20
BERKELEY	111.64	56.0	18	46	9						19 44 PP
LWIRO	112.57	233.2	15	20K	-199						20 9 PP
VERA CRUZ	112.75	87.7									19 40 PP
SAN SALVADOR	112.81	97.1									29 53
COMITAN	112.98	92.9									28 50
LUANDA	113.31	215.0									20 47
TUCSON	113.63	67.6	19	53A	72						33 58 PPS
SHASTA	113.72	53.9	19	4	23						19 55
CHIHUAHUA	113.73	73.5									26 33 SKKS
TUCSON TELE.	113.76	67.6	18	36A	-5						29 35 PKKP
MINERAL	113.85	54.6	19	8	27						29 39
BOULDER CITY	114.15	62.2	18	48A	6						31 26 PS
RENO	114.15	56.3	18	55	13						30 7
BOGOTA	114.50	116.0									20 19 PP
FUQUENE	115.39	115.8									20 23 PP
QUETTA	115.58	286.8	18	27	-17						19 3 PP
ADDIS ABABA	116.62	249.1									20 35
GLEN CANYON	116.65	63.5	18	53A	6						22 0 PP
MERIDA	118.08	91.6									21 59 PPP
VICTORIA	119.04	47.4	19	50A	59						30 01
SALT LAKE C.	119.23	60.4	19	20A	28						29 15 PKKP
FRUNSE	120.31	301.7	19	2	8						20 33 PP
DUZHANBE	120.52	294.6	18	56	2						27 51 SKKKS
SITKA	120.62	34.7	19	20	26						
PENTICTON	121.36	48.9	18	56	0						

TASHKENT	122.13	297.2	19	17	20				23	57	
BUTTE	122.51	55.6	19	18A	20						
LARAMIE	123.02	63.8	19	25	26						
BOZEMAN	123.05	56.7	19	5A	6				29	28	PKKP
COLLEGE	123.12	23.4	19	0A	1				20	34	PP
CARACAS	123.28	119.1	19	27	28	26	23	22			
HUNGRY HORSE	123.36	52.7	18	58A	-2				21	16	PP
SHIRAZ	123.91	276.0	19	18	17				23	17	
BANFF	124.54	49.4	19	24	22						
TIKSI	125.51	348.0	19	10	6						
FAYETTEVILLE	126.08	75.7	19	7	2				21	22	PP
ASHKABAD	126.09	287.4	19	28	23	26	11	2	22	28	
LITTLE ROCK	126.30	78.2	19	10	5						
TRINIDAD	126.30	124.6	19	33	28						
TEHERAN	128.79	280.6	19	20	10				19	37	PKP2
FORT FRANCE	129.88	122.1							19	38	
ST. LOUIS 1	130.13	75.9	19	36	23				31	49	PS
FLORISSANT	130.15	75.7	19	43	30						
SAN JUAN	130.17	114.3	19	17K	4						
LOME	131.24	207.1	19	43	28						
GORIS	134.28	281.0	19	40	20	26	28	-2	22	59	PKS
JERUSALEM	136.05	264.3	19	44	20				22	10	PP
TIFLIS	136.55	282.5				26	36	2	23	11	PKS
KSARA	137.03	267.0	19	25	0	27	30	55	22	24	PP
HELWAN	137.08	258.9	19	44	19						
CLEVELAND	137.13	78.6	19	53A	27						
PALISADES	141.50	84.4							23	36	PKS
MBOUR	142.35	183.2	19	58	23	27	5	22			
OTTAWA	142.82	77.2	19	50	14						
RESOLUTE	142.99	25.4	19	31	-5						
BREBEUF	144.14	78.3	19	50	12						
SIMFEROPOL	144.81	279.9	19	42	3	26	44	-3	20	14	
SHAWINIGAN	145.18	77.3	19	40	0						
TAMANRASSET	145.21	222.1	19	37	-3				23	0	PP
ISTANBUL KA.	145.79	270.6	19	43A	2				19	55	PKP2
SEVEN FALLS	146.62	77.5	19	48	6						
ATHENS	147.21	261.6	19	44	1						
HOSCOW	147.26	299.2	19	47	4	26	45	-5	23	7	PP
THULE	149.28	20.5	19	50	3				20	14	
BUCHAREST	149.45	273.6	20	17K	30				23	54	PP
HALIFAX	149.81	86.4	20	11	24						
BACAU	150.01	277.9	20	13	25				20	57	
SOFIA	150.25	268.6	19	41	-7	26	59	5	23	43	PP
NORD	150.35	359.3	20	17	29				22	6	
CAMPULUNG	150.54	274.3	20	17	28				25	34	
APATITY	150.60	321.7	19	55	6				23	51	PP
PULKOVO	151.94	305.4	20	16	25				23	29	PKS
REGGIO CALA.	152.15	253.6							22	12	
MESSINA	152.28	253.6	19	52	1	26	54	-3	23	47	PP
TIMISOARA	153.12	272.5							20	38	
BELGRADE	153.14	270.1	20	1K	9				23	28	PP
SODANKYLA	153.22	322.2	20	16	24				24	11	PP
HELSINKI	154.65	305.9	20	24	30						
NURMIJARVI	154.81	306.7	20	24	29	27	39	39			
SKALNATE PL.	155.17	279.0	20	23	28						
BUDAPEST	155.25	274.5	20	50	55				25	3	PP
KIRUNA	155.38	324.7	20	11	16				20	30	PKP2
KRAKOW	155.67	280.7	20	42	46				20	49	
WARSAW	155.68	286.3	20	33	37				24	8	PP
HURBANOVO	155.91	274.8							20	55	
ZAGREB	156.38	268.5	20	22	25						
ROME	156.43	256.9	20	14	17				22	6	PP
SETIF	156.54	236.9	20	28	31				24	8	PP
BRATISLAVA	156.71	274.7	20	21	24				24	30	PP
RACIBORZ	156.73	279.9	20	1	4				20	31	PKP2
VIENNA-H.	157.19	274.4	20	21	23						
LJUBLJANA	157.40	267.9	20	20	22				24	43	PP
TRIESTE	157.67	266.3	20	9	11				21	6	PKP2
ALGIERS UNI.	158.18	234.1	20	3	4				24	24	PP
UPPSALA	158.34	305.4	20	51	52				24	44	PP
PRATO	158.39	259.6	21	3	64						
TOLMEZZO	158.47	267.4	20	29	30				21	7	
BOLOGNA	158.58	261.3							21	27	
PRUHONICE	158.92	277.6	20	24	24				25	8	PP
PRAGUE	159.03	277.8	20	21	21				20	57	PKP2
CHIAVARI	159.71	258.7							25	40	PP
SKALSTUGAN	160.02	317.2	20	36	35				24	48	PP
PAVIA	160.25	260.7				27	10	5	21	7	

COLLMBERG	160.25	280.4	20	25	24				24	52	PP
CHEB	160.28	276.6							21	12	PKP2
POTSDAM	160.46	283.6	20	36	34				25	46	
MONACO	160.52	255.0	21	18	76						
PLAUEN	160.54	277.7	21	16	74				28	53	PPP
ALMERIA	160.82	223.9	20	27	25	27	35	29	25	42	PP
CHUR	160.83	265.5	20	14	12						
HALLE	160.94	280.5	20	19	17				25	2	PP
ISOLA	161.00	255.7							21	5	
JENA	161.02	278.6	20	18	16				25	5	PP
SONNEBERG	161.10	276.8	20	24	22				21	14	
ALICANTE	161.15	230.5	20	6	4	27	9	3	24	50	PP
COPENHAGEN	161.23	293.4	20	37	35						
GOTEBORG	161.45	299.8	20	24	21				21	18	PKP2
SCORESBY SD.	161.50	3.2	21	4	61	27	26	20	45	5	SS
GRANADA	161.57	222.0	20	51K	48	28	9	63	25	15	PP
EBINGEN	161.72	268.7	20	31	28				25	4	
STUTTGART	161.75	270.7	20	27	24				25	6	PP
TUBINGEN	161.80	269.8	20	32	29				25	5	
HEIDELBERG	162.32	272.2	20	26	23				21	22	
BASLE	162.32	265.6							21	5	
KARLSRUHE	162.38	270.8	20	40	36				24	40	PP
NEUCHATEL	162.48	263.4							21	24	
STRASBOURG	162.62	268.9	20	38	34				24	43	PP
BESANCON	163.18	263.2	20	33	29				25	0	PP
MUNSTER	163.67	280.1	20	31	26				25	11	
BENSBERG	163.72	276.4	20	23	18						
TOLEDO	164.02	226.0	20	32	27	27	33	25	25	12	PP
BERGEN	164.24	311.3							45	50	SS
BAGNERES	164.30	242.5	20	31	26				21	36	PKP2
WITTEVEEN	164.38	282.8	20	47	41						
LISBON	164.98	211.0	20	35A	29				21	15	PKP2
DE BILT	165.18	279.6	20	17	11						
PARIS	165.95	265.0	20	17	10						
COIMBRA	166.06	215.5	20	34	27						
SERRA PILAR	166.94	217.0	20	5A	-3	27	3	-7	24	59	PP
FOLINIERE	167.76	261.5							21	32	
KEW	168.43	274.3	20	29	20				25	39	PP
ABERDEEN	168.99	304.1				26	35	-36	52	44	SSS
DURHAM	169.29	291.3	20	15A	6				25	42	PP

MULTIPLICITY IS SUSPECTED

DECEMBER 13 10.H 5.M 34.S EPICENTRE 27.91 142.47 DEPTH= 95.KM

A=-0.70178 B= 0.53912 C= 0.46567 D= 0.6092 E= 0.7930
G=-0.3693 H= 0.2837 K=-0.8850 HT= 2.5

DEPTH OF FOCUS= 0.010R

SE= 4.06

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
TORISIMA	3.18	324.0	0	44	-5	1	32	6				
OSIMA	7.33	339.7	1	41	-5	3	33	25				
MERA	7.34	342.8	1	49	3	3	37	28				
OMAESAKI	7.59	332.4	1	54	4	3	24	9				
AJIRO	7.67	338.8	1	53	2	3	34	17				
MISIMA	7.79	338.2	1	44	-8	3	17	-3				
SHIZUOKA	7.85	334.7				3	35	14				
YOKOHAMA	7.87	342.9	1	53	-1	3	12	-10			3	50
TYOSI	7.90	350.4	1	53	-1	3	12	-10			2	19
HAMAMATU	7.91	330.3	2	1	7							
SIOMISAKI	7.98	315.4				3	39	15				
TOKYO C.M.O.	8.08	344.1	1	54	-2	3	18	-9				
OWASE	8.16	320.3	2	8	11							
HUNATU	8.19	338.3	1	54	-4						6	24
KOHU	8.42	337.7	1	59	-2	3	48	13			5	18
KAKIOKA	8.52	347.4	1	59	-3	3	30	-7				
TITIBU	8.54	341.2	1	56	-7							
IIDA	8.55	333.7									3	6
KAMEYAMA	8.61	324.9	1	58	-6						4	26
MITO	8.61	349.2	1	52	-12						4	6
KUMAGAYA	8.62	343.1	1	55	-9						4	16
NAGOYA	8.62	328.4	2	9	5							
NARA	8.81	321.6	2	5	-1							
UTUNOMIYA	8.89	346.3	1	59	-8	3	37	-10			4	25

GIHU	8.90	328.4	2	9	1	3	54	7	5	6	
MAEBASI	8.94	342.1	2	4	-4	3	59	11			
OSAKA	8.96	320.3	2	18	10						
OIWAKE	9.02	339.4	2	8	-1						
HIKONE	9.05	325.7	2	6	-3						
ABUYAMA	9.10	321.4	2	6A	-4						
ONAHAMA	9.11	352.0							3	42	
SUMOTO	9.11	316.6	2	19	9	4	3	11	2	30	
KYOTO	9.12	322.6	2	14	3				4	40	
MATUMOTO	9.14	336.5	2	20	9						
KOBE	9.18	319.1	2	5	-6	4	39	45			
MATUSIRO	9.32	338.3	2	6A	-7	3	49	-8	4	13	
SHIRAKAWA	9.37	348.9	2	8	-6	3	46	-12			
NAGANO	9.45	338.6	2	13	-2	4	5	5			
KOTI	9.52	308.3	2	13	-3	4	11	9			
SIMIDU	9.53	302.9	2	5	-11						
TAKAMATU	9.63	313.6	2	14	-3	4	25	20			
TOYAMA	9.83	334.4	2	11	-9				4	34	
HUKUSIMA	9.95	350.8	2	16	-6	3	59	-13			
TOYOOKA	10.00	321.3	2	31	9						
MATUYAMA	10.20	307.8	2	22	-3						
MIYAZAKI	10.38	295.3	2	29	2	4	37	14	5	29	
SENDAI	10.41	353.2	2	36	8	5	20	57	4	7	
YAMAGATA	10.46	350.8	2	23K	-6						
ISINOMAKI	10.53	355.1	2	20	-9	4	14	-12			
HIROSIMA	10.74	309.3	2	32	0	4	42	11			
OOITA	10.74	302.2	2	31	-1				5	3	
YAKUSIMA	10.76	286.4	2	33	0	4	46	14			
YONAGO	10.79	316.3	2	40	7						
KUMAMOTO	11.28	298.6	2	39	0	4	58	14			
HAMADA	11.28	310.7	2	32	-8	4	55	11			
SIMONOSEKI	11.59	304.1	2	45	1						
UNZENDAKE	11.59	297.4	2	49	5	4	47	-5			
MIYAKO	11.71	358.1							4	38	
MORIOKA	11.81	355.1	2	37	-9	4	42	-15			
HUKUOKA	11.83	301.5	2	42	-5	5	7	10			
NAGASAKI	11.89	296.9	2	47A	-1	5	2	3	6	15	
URAKAWA	14.21	0.9							5	40	
SAPPORO	15.15	356.9							6	23	
NEMURO	15.59	8.5							6	38	
VLADIVOSTOK	17.42	333.3	3	59	1						
ZO-SE	18.80	284.9	4	11	-3	7	36	-1	4	27	PP
NANKING	20.92	287.2	4	34A	-3	8	21	2	4	54	PP
CHANGCHUN	21.04	323.5	4	36	-2						
BAGUIO CITY	23.23	245.1	4	59	0	9	21	20			
MANILA	23.84	240.8	5	7	2	9	17	6			
PEKING	24.84	305.9	5	12A	-3	9	32	4			
HONG KONG	26.19	264.0	5	27	-1	10	4	14			
CANTON	26.69	266.2	5	33	1						
PETROPAVLOVK	27.81	21.2	5	29	-13						
SIAN	29.33	290.8	5	55A	-1						
MAGADAN	32.14	8.0	6	26	5				11	43	
RABAUL	33.27	162.2	6	27	-3				8	15	
CHENGTU	33.55	284.1	6	31A	-2	11	50	3	7	42	PP
KUNMING	35.55	274.8	6	50A	0	12	23	5	8	18	PP
IRKUTSK	37.34	321.3	7	5A	0	12	55	10			
PORT MORESBY	37.37	172.4	7	3	-2	12	44	-1	7	11	
TIKSI	44.41	353.9	8	2	-1	14	36	6			
LHASA	44.81	285.0	8	8	2						
SHILLONG	44.99	279.2	8	7A	-1	14	38	0	9	51	PP
CHITTAGONG	45.93	274.9	8	18	3	14	57	5			
LEMBANG	48.23	229.5	8	31	-2	15	23	-1			
DJAKARTA	48.30	230.9							15	30	
CHATRA	48.76	282.3	8	38	1	15	47	16	9	49	PCP
NOUMEA	55.03	152.7	9	21	-3				12	49	
DEHRA DUN	55.64	289.1	9	28	-1	17	12	7			
BRISBANE	55.87	168.9	9	30	0						
FRUNSE	55.88	304.6	9	30A	0						
COLLEGE	56.49	28.7	9	35	0				11	21	PP
ANDIJAN	57.88	302.5	9	44A	0						
NAMANGAN	58.36	302.9	9	48A	0						
WARSAK DAM	60.03	295.0	9	59	0						
AFIAMALU	60.77	127.1							11	15	
KHEYS	61.74	349.3	10	10	-1						
RIVERVIEW	61.95	171.8	10	20K	8						
ADELAIDE	62.64	183.5	10	14	-3						
POONA	63.05	277.6	10	13	-6	19	25	44			
CANBERRA	63.19	174.0	10	19	-1						

BOMBAY	63.81	278.4	10 37	13						19	0
MUNDARING	64.59	204.6	10 27	-2							
QUETTA	64.88	292.2	10 31A	0	19	14	11	10	39		
MELBOURNE	65.44	177.8	10 34K	-1	19	16	6				
TARRALEAH	69.96	176.8	11 3A	0				11	11		
FORT NELSON	70.63	176.2	11 7	0							
RESOLUTE	71.21	13.7	11 9	-2							
APATITY	71.39	337.5	11 12K	0							
KARAPIRO	72.46	153.1	11 16	-2						12	3
TONGARIRO	73.55	153.8	11 26	2						12	8
CHATEAU	73.55	153.8	11 25	1						12	7
SODANKYLA	73.73	338.7	11 25	0							
CORVALLIS	73.80	47.9	11 34	8							
COBB R'VER	74.16	156.7	11 33	5							
THULE	74.17	7.2	11 27	-1							
PENTICTON	74.19	42.3	11 28	0							
MAKHACH-KALA	74.93	310.8	11 33	1	21	9	8				
TEHERAN	75.09	302.7	11 35	2							
MOSCOW	75.18	325.6	11 33	-1	21	11	8				
KIRUNA	75.37	340.6	11 35	0							
BANFF	75.76	39.4	11 37	0							
SHASTA	75.98	51.3	11 37	-1							
PULKOVO	76.54	331.2	11 41	0							
MINERAL	76.68	51.4	11 41K	-1							
SHIRAZ	76.71	296.6	11 43K	1	21	28	8			22	35 SP
TIFLIS	77.27	310.5	11 44	-2	21	36	10				
BERKELEY	77.27	53.9	11 45A	-1							
HUNGRY HORSE	77.93	41.6	11 49	0						12	16
LICK	77.95	54.2	11 49K	0						12	11
RENO	78.27	51.5	11 52	1							
NURMIJARVI	78.44	333.5	11 52	0							
HELSINKI	78.52	333.1	11 54	2							
SOTCHI	79.75	313.9	11 51	-8							
BUTTE	79.93	43.1	11 59	-1							
SKALSTUGAN	80.73	339.7	12 4	0						15	19 PP
BOZEMAN	81.03	42.9	12 7	1							
SCORESBY SD.	81.25	354.8	12 8A	1							
UPPSALA	81.56	335.2	12 8	-1							
PASADENA	81.90	55.7	12 11	1						12	33
SIMFEROPOL	82.53	317.2	12 15	1	22	32	11				
SALT LAKE C.	83.04	47.4	12 17	1							
BOULDER CITY	83.42	52.8	12 19	1							
FLAMING GRGE	84.54	46.3	11 54	-30							
GOTEBORG	85.16	335.8	12 27	0							
GLEN CANYON	85.17	50.6	12 25	-2							
COPENHAGEN	86.48	334.2	12 34	1						12	48
LARAMIE	86.73	44.4	12 36	1							
RACIBORZ	87.99	327.8	12 42	1				12	49		
TUCSON	88.18	54.3	12 44	2							
TUCSON TELE.	88.21	54.2	12 43	1							
COLLMBERG	89.47	331.0	12 49K	1						16	32 PP
PRUHONICE	89.74	329.4	12 49A	0	23	32	2			16	27 PP
HALLE	89.77	331.6	12 48	-1				12	54	16	22 PP
VIENNA-H.	90.12	327.3	12 51	0						16	31 PP
JENA	90.34	331.4	12 51	-1	23	44	8			16	26 PP
SONNEBERG	90.92	331.2	12 54	0							
MUNSTER	91.16	334.0	13 11	15							
STUTTGART	92.95	331.1	13 4	0							
FAYETTEVILLE	96.94	43.0	13 23	1						13	48
SETIF	104.49	325.3								18	6 PP
ALGIERS UNI.	105.20	327.2								18	34 PP
TAMANRASSET	114.68	316.1	18 29	0						19	28 PP
BYRD STATION	118.69	168.6	18 38	1							
HUANCAYO	141.32	73.6	19 20	0							
AREQUIPA	146.66	77.2	19 22	-7							
LA PAZ	149.56	74.6	19 42	8						23	31 PP

DECEMBER 14 0.H 57.M 20.S EPICENTRE -10.95 165.47 DEPTH= 0.KM

A=-0.95065 B= 0.24631 C=-0.18869 D= 0.2508 E= 0.9680
G= 0.1827 H=-0.0473 K=-0.9820 HT= 6.4

SE= 2.83

	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

HONIARA	5.64	285.0	1	25	-2	2	39	5		
NOUMEA	11.33	175.4	2	44	-2	5	14	19		
SUVA	14.43	121.2	3	43	15	6	25	15		
RABAUL	14.79	295.9	3	30	-2				4	58
PORT MORESBY	18.10	273.2	4	14	0	7	38	3		
BRISBANE	20.25	214.4	4	28	-12	8	26	4		
AFIAMALU	22.40	99.9	5	3	1	8	59	-5		
ONERAHI	26.00	163.3	5	43	7				6	4
RIVERVIEW	26.28	207.7	5	38K	-1	10	8	-2	12	39 PCS
KARAPIRO	28.34	163.1	5	57	-1				9	11
CANBERRA	28 51	209.1	5	58K	-1	10	46	0	6	52 PP
TONGARIRO	29.53	164.0	6	6	-2					
CHATEAU	29.53	164.0	6	8	0					
TUAI	29.63	161.3	6	9	0	11	4	0		
COBB RIVER	30.69	169.2	6	21	2					
WELLINGTON	31.30	166.4	6	24	0	11	31	0	16	57 SCS
MELBOURNE	32.48	211.1	6	32A	-2	11	48	-1	8	4 PP
GEBBIES PASS	33.22	170.5	6	39	-2	12	1	0		
ADELAIDE	34.12	221.2	6	47K	-2					
ROXBURGH	34.57	175.2				12	27	5		
MOORLANDS	35.20	203.8	6	58K	0					7 49
TARRALEAH	35.38	204.7	7	OK	1				7	10
FORT NELSON	35.56	203.1	7	0	-1	12	37	0		
MUNDARING	49.90	237.3	8	55	-2	16	5	-2		
MANILA	50.83	299.1	9	5	1	16	8	-12		
BAGUIO CITY	52.07	300.8	9	14	0	16	38	1		
MATUSIRO	53.76	332.8	9	23K	-3	16	58	-2		
LEMBANG	57.24	268.9	9	50A	-1	17	44	-3		
ZO-SE	59.60	316.0	10	13	5	18	15	-3		
HONG KONG	60.17	303.6	10	16	4	18	28	3		
CANTON	61.22	304.0	10	20	1	18	38	0		
CAPE HALLETT	61.39	178.3	10	18	-2	18	44	4		10 49 PCP
NANKING	61.82	315.5	10	2[illegible]	0	18	45	-1		
CHANGCHUN	65.61	329.2	10	52	4	19	33	0		
WILKES	66.41	201.1	10	51	-2	19	41	-2		
SCOTT BASE	66.90	179.7	10	55	-1					
PEKING	68.24	321.2	11	20	15	20	3	-2		
SIAN	69.96	312.6	11	11	-4	20	23	-2		
KUNMING	70.84	301.5	11	21	0	20	37	2		
MIRNY	73.07	203.5	11	38	4					
YAKUTSK	77.91	343.6	12	2	1					
ULAN-BATOR	78.18	324.1	12	4	1	21	56	-1		
SHILLONG	80.25	298.5	12	9A	-5	22	7	-12		15 17 PP
LHASA	82.15	302.2	12	29	5	22	37	-2		
BERKELEY	83.03	49.4	12	28	-1					
COLLEGE	83.28	18.2	12	27	-3				12	46 12 59 SP
LICK	83.32	50.1	12	29K	-1					
SHASTA	83.89	46.7	12	28	-5					
MINERAL	84.34	47.2	12	34K	-1					
FRESNO	84.53	51.1	12	34	-2					
PASADENA	85.03	54.0	12	39	0	23	11	3		24 11 PS
RENO	85.38	48.4	12	42	2					
TIKSI	85.93	349.1	12	41	-2					
VICTORIA	85.96	39.1								41 43
BOULDER CITY	88.16	53.0	12	54	0					
EUREKA	88.21	49.4	12	53	-1					
PENTICTON	88.59	39.2	12	53	-3					
TUCSON	90.51	57.4	13	5	0	25	8	69		
TUCSON TELE.	90.62	57.3	13	4	-2					
GLEN CANYON	90.93	52.6	12	40	-27					13 7
SALT LAKE C.	91.58	48.9	13	9	-1					
HUNGRY HORSE	91.86	41.2	13	10	-1					
BUTTE	92.27	43.7	13	9	-4					
BOZEMAN	93.23	44.2	13	18	0					
FLAMING GRGE	93.44	49.1	13	18	-1					
BOMBAY	95.96	288.0								17 30
QUETTA	102.73	298.6	14	16	15	24	35	-5		18 16 PP
FLORISSANT	107.78	52.7								28 16 PS
ST. LOUIS 1	107.89	52.9								28 15 PS
SHIRAZ	115.23	297.6	18	46	3					19 55
PALISADES	120.12	48.8								37 16 SS
LA PAZ	120.38	116.5	19	0	7					36 48 SS
BOGOTA	120.75	91.1				25	56	4		30 27 PS
NURMIJARVI	122.72	338.2	19	0	2					
KIMBERLEY	125.24	222.9	19	0	-3					
BULAWAYO	127.50	234.1	19	8	1					
ADDIS ABABA	127.53	273.0	19	11	4					
SAN JUAN	129.68	75.2	19	11	0					
COLLMBERG	133.92	336.2	19	21	2					20 8

LWIRO	134.95	255.6			21 58 PP
STUTTGART	137.39	336.8	19 28	2	40 14 SS
LUANDA	146.10	235.6	19 46K	5	20 46
SETIF	149.06	327.6	19 49	3	20 9 PKP2
TAMANRASSET	157.53	304.1	19 59	1	24 16 PP
MBOUR	175.84	34.7	20 22	10	

DECEMBER 14 23.H 51.M 34.S EPICENTRE 3.03 126.30 DEPTH= 106.KM

A=-0.59121 B= 0.80482 C= 0.05243 D= 0.8059 E= 0.5920
G=-0.0310 H= 0.0423 K=-0.9986 HT= 7.1

DEPTH OF FOCUS= 0.011R

SE= 2.36

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
MANILA	12.66	336.3	4	1	64	5	21	5					
BAGUIO CITY	14.45	337.5	3	20	0	6	7	9					
LEMBANG	21.06	242.3	4	35A	-2	8	21	1					
DJAKARTA	21.49	244.8	4	40	-1	8	26	-2					
HONG KONG	22.49	329.4	4	51A	0	8	47	2					
PORT MORESBY	24.17	120.9	5	6	-1								
RABAUL	26.83	105.4	5	30K	-2						7	42	
YAKUSIMA	27.56	7.9	5	38	-1	10	9	-1					
ZO-SE	28.34	350.7	5	45	-1	10	23	0			6	33	PP
KAGOSIMA	28.67	7.6	5	50	1	10	43	15					
MIYAZAKI	29.14	9.0	5	56	3	10	43	7					
TOMIE	29.53	4.2	5	56	0	10	44	2					
NANKING	29.73	347.1	5	57	-1	10	44	-1					
NAGASAKI	29.74	6.1	5	59	1	10	47	2					
KUMAMOTO	29.92	7.4	6	0	0	10	52	4			16	29	
ASOSAN	30.05	8.0	6	0	-1								
SIMIDU	30.25	11.2	6	2	-1	10	54	1					
SAGA	30.30	6.7	6	5	2						11	59	
TORISIMA	30.35	24.4	6	3	0								
OOITA	30.46	8.8	6	4K	0	10	58	2			16	32	SCS
UWAZIMA	30.61	10.3	6	6	0	10	59	0					
HUKUOKA	30.63	6.7	6	7	1	10	59	0					
MUROTO	30.96	12.9	6	9	0	11	7	3					
KOTI	31.11	11.7	6	11K	1	11	8	1	6	32	7	49	PP
MATUYAMA	31.25	10.4	6	13	2	11	11	2			16	39	
SIOMISAKI	31.54	15.2	6	11	-3	11	14	1			16	38	SCS
KUNMING	31.58	316.2	6	15A	1	11	15	1					
HIROSIMA	31.70	9.7	6	16	1	11	16	0			16	37	SCS
TOKUSIMA	31.84	13.1	6	25	9	11	27	9					
TAKAMATU	31.96	12.2	6	19	1	11	9	-11					
HAMADA	32.16	8.9	6	18K	-1	11	22	-1					
SUMOTO	32.17	13.5	6	19K	0	11	23	0			16	40	SCS
HIMEJI	32.21	12.6	6	23	3	11	30	6			16	43	
OWASE	32.24	15.5	6	21	1	11	25	1			16	41	SCS
KOBE	32.56	13.7	6	20	-3	11	33	4					
OSAKA	32.62	14.2	6	22	-1	11	28	-2					
NARA	32.72	14.6	6	24	0								
ABUYAMA	32.83	14.1	6	24A	-1								
YONAGO	32.90	10.6	6	25	-1	11	35	1			7	44	
TU	32.92	15.6	6	27	1								
KYOTO	33.02	14.3	6	27	0	11	36	0			16	45	
KAMEYAMA	33.04	15.4	6	27	0	11	38	1			16	45	SCS
HAMAMATU	33.27	17.3	6	28	-1								
TOYOOKA	33.29	12.7	6	29K	0	11	40	-1			16	41	
OMAESAKI	33.32	18.1	6	29K	0	11	41	0			13	58	
HIKONE	33.38	14.9	6	32	2	11	44	2					
NAGOYA	33.48	16.0	6	31K	0	11	45	1			16	47	
SAIGO	33.64	10.3	6	38	6	11	56	10					
GIHU	33.64	15.5	6	32	0	11	42	-4					
SHIZUOKA	33.71	18.1	6	33	0	11	44	-3					
OSIMA	33.84	19.5	6	33	-1	11	33	-16					
MISIMA	34.02	18.7	6	33	-2						7	43	
IIDA	34.05	16.9	6	31	-5								
HUKUI	34.12	14.4	6	36	0						6	59	
MERA	34.13	20.0	6	33	-3								
HUNATU	34.32	18.2	6	37	-1	11	51	-5					
PORT BLAIR	34.36	286.2	6	42	4	12	0	3			13	5	SS
KOHU	34.41	17.8	6	37	-2	11	57	-1			16	54	

YOKOHAMA	34.54	19.4	6 38	-2					7 42	
CHENGTU	34.63	324.9	6 40A	-1	11	56	-5			
MATUMOTO	34.77	16.7	6 41	-1						
TOKYO C.M.O.	34.80	19.4	6 42	0	11	49	-15		7 52	
TITIBU	34.86	18.3	6 44	2						
TOYAMA	34.98	15.4	6 44	1	12	7	0			
OIWAKE	35.02	17.4	6 41	-3						
SIAN	35.03	334.5	6 42A	-2						
KUMAGAYA	35.11	18.6	6 46	1					8 50	
MATUSIRO	35.11	16.8	6 42A	-3	12	3	-6		16 55	SCS
TYOSI	35.21	20.8	6 43	-2						
NAGANO	35.23	16.7	6 44	-2	12	8	-3			
MAEBASI	35.24	18.0	6 45	-1					8 14	
TUKUBASAN	35.41	19.4	6 36	-11	11	38	-35		8 25	PPP
KAKIOKA	35.44	19.5	6 44	-3	12	7	-7			
WAZIMA	35.55	14.6	6 46	-2	12	15	0			
UTUNOMIYA	35.63	18.9	6 46	-3	12	13	-4		16 55	SCS
TAKADA	35.65	16.5	6 48	-1	12	13	-4			
MITO	35.67	19.8	6 52	3	12	20	3		17 1	
MUNDARING	36.10	194.6	6 51	-2					12 27	SS
SHIRAKAWA	36.26	19.0	6 54	0	12	22	-4			
ONAHAMA	36.34	19.9	6 50	-5	12	25	-2			
AIKAWA	36.51	16.0	7 2K	6						
NIIGATA	36.64	17.0	6 57	0	12	22	-10			
HUKUSIMA	36.92	18.8	7 1	1	12	36	0			
YAMAGATA	37.34	18.4	7 2	-1	12	42	-1			
SENDAI	37.53	19.0	7 5K	0	12	45	-1		8 20	
SAKATA	37.78	17.3	7 9	2	12	54	5			
ISINOMAKI	37.82	19.4	7 8K	1	12	53	3			
PEKING	37.96	347.3	7 8A	-1	12	47	-5			
MIZUSAWA	38.39	18.7	7 13	1	13	0	1			
CHITTAGONG	38.57	302.8	7 15A	1	13	6	5	7 40	8 52	PP
AKITA	38.61	17.1	7 16K	2	13	5	3	8 35	16 28	
LANCHOW	38.87	330.4	7 17A	1	13	5	-1			
MORIOKA	38.92	18.4	7 17K	1	13	7	0		17 15	
MIYAKO	39.13	19.3	7 18K	0	13	10	0			
ADELAIDE	39.55	163.9	7 21	-1	13	2	-14			
BRISBANE	39.58	141.5	7 23	1	13	10	-6			
HATINOHE	39.79	18.2	7 24K	0	13	19	-1			
AOMORI	39.83	17.2	7 25	1						
SHILLONG	39.96	307.3	7 6A	-19	12	54	-28		8 57	PP
VLADIVOSTOK	40.23	6.4	7 28	1	13	28	2		14 22	*SS
CHANGCHUN	40.64	358.9	7 32K	1	13	31	-1			
HAKODATE	40.73	16.6	7 32K	1	13	38	4			
MORI	40.95	16.3	7 38	5	13	39	2			
MURORAN	41.27	16.6	7 35	-1						
SUTTSU	41.51	15.5	7 40	2	13	44	-1			
URAKAWA	41.65	18.5	7 41	2	13	47	0		17 13	
TOMAKOMAI	41.73	17.0	7 42	2						
HIROO	41.95	19.0	7 43	2						
SAPPORO	42.07	16.5	7 43K	1	13	54	1		17 8	SS
OBIHIRO	42.48	18.4	7 47	1					14 2	
LHASA	42.64	312.1	7 49A	2	14	2	0			
KUSIRO	42.93	19.6	7 50K	1	14	0	-6			
RIVERVIEW	43.51	149.5	7 54K	0	14	18	4		9 38	PP
NEMURO	43.64	20.4	7 55K	0					14 16	
CANBERRA	43.68	152.8	7 56	0	14	19	1		9 45	PP
ABASHIRI	43.92	18.6	7 58	1						
MELBOURNE	44.18	158.7	8 0K	0	14	27	3	8 12	14 49	PS
BOKARO	44.24	301.5	7 59	-1	14	20	-5		10 18	PPP
CHATRA	44.30	306.1	8 0A	0	13	33	-53		9 55	PP
WAKKANAI	44.33	15.5	7 54	-7	14	28	2		17 51	
COLOMBO	46.40	276.6	8 14	-3					11 16	
NOUMEA	46.60	124.7	8 15	-4	14	59	0			
MADRAS	46.65	285.0	8 20A	1	15	1	2		10 11	PP
TARRALEAH	48.68	160.1	8 36A	1						
MOORLANDS	49.05	159.5	8 38A	0						
HYDERABAD	49.05	290.4	8 41A	3	15	32	-1		10 38	PP
FORT NELSON	49.54	159.7	8 44	2	15	40	0			
IRKUTSK	52.38	343.1	9 3	0	16	20	1	9 35	10 18	PCP
POONA	53.56	290.8	9 9	-3	16	31	-4		11 14	PP
BOMBAY	54.58	291.0	9 18	-1	16	44	-5		11 26	PP
SUVA	55.48	114.4	9 31	5	17	6	5		10 24	
PETROPAVLOVK	56.53	22.8	9 33	0	17	17	2	10 2	10 40	PCP
YAKUTSK	58.91	1.9	9 49	-1	17	42	-4			
ONERAHI	59.19	135.2	9 52	0					10 40	
WARSAK DAM	59.47	308.0	9 52A	-2	17	55	2			
MAGADAN	59.47	14.2	9 55	1					19 37	SCS

FRUNSE	60.59	318.5	10	0	-1	18	8	1		10	42 PCP
COBB RIVER	60.92	141.2	10	3	-1					19	46 SCS
KARACHI	60.94	296.7	10	3A	-1	18	13	1		10	47 PCP
KAIMATA	60.94	143.2	10	8	4					12	24
KARAPIRO	61.09	136.8	10	4	-1					11	42
ROXBURGH	61.55	146.9	10	6	-2	18	19	0		13	56 PP
TONGARIRO	61.72	138.1	10	8	-1						
CHATEAU	61.73	138.1	10	8	-1						
QUETTA	62.16	302.6	10	11A	-1	18	27	0		19	54 SCS
WELLINGTON	62.32	140.4	10	11	-2	18	21	-8		19	54 SCS
GEBBIES PASS	62.36	143.7	10	12	-1					10	40
TUAI	62.62	137.0	10	16	1						
DUZHANBE	63.08	312.1	10	17	-1	18	31	-8			
TASHKENT	63.64	315.2	10	21	-1	18	45	-1	10 47	19	55 SCS
AFIAMALU	63.65	107.0	10	22K	0	18	53	7		12	9 PP
TIKSI	68.53	0.9	10	48	-5					20	16 PS
WILKES	70.13	186.7	11	4A	2	20	3	-1		25	2 SS
ASHKABAD	70.82	309.1	11	7	0						
MIRNY	73.38	193.3	11	21	-1	20	43	2			
SVERDLOVSK	74.34	328.7								11	46 PCP
SHIRAZ	74.42	299.8	11	25A	-3	20	50	-2	12 11	12	29 *SP
TEHERAN	76.00	305.9	11	36	-1	21	12	2			
HAWAII V.OB.	78.09	70.9	12	26	38	22	48	76			
CAPE HALLETT	80.21	167.6	12	0	0	21	58	3		27	2 SS
GORIS	80.34	309.4	12	1	0	21	57	1			
TIFLIS	81.65	311.6	12	4	-3	22	9	0			
KHEYS	83.54	351.2	12	9	-8	22	28	-1	12 44	15	28 PP
SCOTT BASE	83.70	172.1				22	32	2			
COLLEGE	85.52	25.3	12	26K	-1	22	31	-17			
MOSCOW	86.77	325.5	12	33	0	22	57	-3	13 1	23	2 SCS
ADDIS ABABA	87.10	278.8	12	38	3	23	5	2			
KSARA	88.69	303.6	12	44A	2	22	44	-34	13 20	15	31 PP
JERUSALEM	89.34	301.6	12	46	1	23	8	-16			
SIMFEROPOL	89.43	314.8	12	46A	0	23	22	-3	13 28	16	24 PP
PULKOVO	90.43	329.8	12	50	0	23	29	-5	13 17	24	27 *SS
SODANKYLA	90.95	337.6	12	52	-1	23	38	0			
HELWAN	92.82	300.0	13	2A	1	23	50	-5			
SOUTH POLE	93.01	180.0	13	5	3	23	23	-33	13 37	38	24 PKPPKP
HELSINKI	93.02	330.6	13	3	1	23	27	-29			
NURMIJARVI	93.10	331.0	13	2	-1	23	58	1		23	25 SKS
KIRUNA	93.16	338.6	13	2	-1						
ISTANBUL KA.	93.48	311.3	13	4A	0	23	31	-29			
IASI	93.73	317.5	13	9	3	23	37	-26			
NORD	93.75	354.9	13	4	-2	23	34	-29			
BACAU	94.28	317.0	13	18	10	23	39	-28		24	12 SKS
LCO. MARQUES	94.64	244.3	13	11	1	23	44	-26		18	1 PP
BUCHAREST	95.17	314.9	13	12A	0	23	41	4	13 38	17	10
LWOW	95.60	320.5	13	15	1	23	42	3	13 45	25	47 PS
CAMPULUNG	95.78	315.9				23	58	18			
UPPSALA	96.67	331.2	13	18	-1						
WARSAW	96.92	323.3				23	48	2		23	34 S
BYRD STATION	97.06	170.8	13	22	1	24	36	49	13 51	28	0
SOFIA	97.46	313.6	13	23	0	23	52	3	13 39	17	14 PP
LWIRO	97.60	268.1	13	24A	1					16	53 PP
SKALSTUGAN	97.76	335.6	13	25	1						
ATHENS	98.04	308.8	13	23A	-2	23	55	3			
KRAKOW	98.13	321.3	13	26	0	23	34	-18		18	17
SKALNATE PL.	98.14	320.4	14	1	35	23	45	-7			
BULAWAYO	98.25	250.2	13	27A	1						
TIMISOARA	98.31	316.9	13	32	6					23	58
RESOLUTE	98.58	10.2	13	27	-1	23	56	2		17	32 PP
PRETORIA	98.62	244.6	13	18	-10						
CHORZOW	98.65	321.7	13	19	-9					17	33 PP
BELGRADE	99.05	316.1	13	30K	0	24	2	5		17	39 PP
RACIBORZ	99.19	321.7	13	32	2				13 48	15	33
BUDAPEST	99.36	319.0				24	2	4		13	33 PCP
GOTEBORG	100.17	330.2	13	34	-1						
BRATISLAVA	100.42	320.0	14	14	38	23	57	-7			
VIENNA-H.	100.87	320.2	13	39	1	24	10	4			
VICTORIA	101.01	39.4	13	40A	1	24	10	4		17	6 PP
PRUHONICE	101.47	322.3	13	41	0	24	13	4		17	51 PP
KIMBERLEY	101.55	241.4	13	41	0						
COLLMBERG	101.96	323.9	13	43A	0	25	18	67		17	59 PP
BERGEN	102.11	334.2								37	41
CORVALLIS	102.24	43.3	13	49	5						
HALLE	102.50	324.3	13	45	0	24	15	2	14 16	17	45 PP
ARCATA	102.71	47.1								18	8 PP
LJUBLJANA	102.73	318.5	13	46	0	24	22	7		18	8 PP
JENA	102.93	323.9	13	48	1	24	16	1		17	57 PP

TRIESTE	103.37	318.3	13	50	1	24	21	4	18	10 PP
SCORESBY SD.	103.65	349.5	13	54	4	25	33	74	28	3 PPS
SHASTA	104.00	46.9	13	53K	1					
MESSINA	104.27	310.5							18	16 PP
MINERAL	104.67	47.1	13	55K	0					
PADOVA	104.70	318.5				24	28	4	18	24 PP
MUNSTER	104.79	325.9	14	0	5				18	48
BANFF	104.83	35.0	13	56	1					
BERKELEY	104.88	49.7	13	59	3	24	31	7	18	8 PP
STUTTGART	105.12	322.4	13	58	777	24	27	2	18	14 PP
HEIDELBERG	105.21	323.1	14	1	777					
ROME	105.44	314.9				25	38	71	18	28 PP
BENSBERG	105.48	325 0							18	26 PP
LICK	105.50	50.0	14	0K	777				17	18
HERMANUS	105.77	235.2				24	39	11	18	27 PP
DE BILT	106.09	326.7				25	52	82	33	26 SS
STRASBOURG	106.11	322 6				25	5	35	18	28 PP
RENO	106.23	47.4	14	6A	777					
PAVIA	106.56	319.0							18	47 PP
HUNGRY HORSE	106.90	37.3	17	29	777				18	56 PP
BESANCON	107.76	321.9							16	45
DURHAM	108.21	331 2							19	5 PP
BUTTE	108.79	39.1	14	13	777					
EUREKA	109.05	46.4	17	44	777				29	48 PKKP
PASADENA	109.12	52.4	17	42	777	24	51	8	18	55 PP
PARIS	109.15	324.4	18	18	777				20	2
KEW	109.37	327.8							26	16
BOZEMAN	109.90	38.9	18	22	777				29	37 PKKP
FOLINIERE	110.87	325.5	18	1	-19					
BOULDER CITY	111.13	49.6	17	37	-44				14	26 P
SALT LAKE C.	111.48	43.9	18	22	1					
SETIF	112.58	311.3	18	14	-9				19	13 PP
GLEN CANYON	113.19	47.6	18	11	-14					
TUCSON	115 55	52.1	18	33	4				29	8 PKKP
TUCSON TELE.	115.61	52.0	18	17	-12	25	34	26	19	33 PP
TAMANRASSET	116.84	297.3	18	35A	3	25	22	9	19	37 PP
TOLEDO	117.65	318.5	18	39	6				19	43 PP
FAYETTEVILLE	125.76	40.4	18	50K	1				20	41
FLORISSANT	126.38	35.4	18	51	1				20	46 PP
ST. LOUIS 1	126.57	35.5	18	49	-1				20	46 PP
LITTLE ROCK	127.75	40.6	18	55	2					
SEVEN FALLS	127.84	14.8	18	53	0					
SHAWINIGAN	127.84	16.6	18	55	2					
OTTAWA	127.96	19.6	18	55	2					
BREBEUF	128.54	17.8	18	56	2					
CLEVELAND	128.97	26.8	18	57A	2					
TACUBAYA	130.04	61.6	19	1	4				21	26 PP
PENNSYLVANIA	131.11	24.4	19	4	5				21	21 PP
MORGANTOWN	131.18	27.0	19	2	3				22	15 PP
HALIFAX	131.75	9.5	19	6	6					
PONTA DELGDA	131.84	330.0							22	21 PKS
PALISADES	132.45	20.8	19	7	5	19	38		21	27 PP
VERA CRUZ	132.80	60.3							22	34
COLUMBIA	135.06	32.7	19	1	-6					
MBOUR	139.70	296.4	19	8	-7				22	11 PP
BALBOA HTS.	151.60	65.0	19	38	3					
GALERAZAMBA	154.52	57.1							20	20 PKP2
SAN JUAN	155.46	29.5	19	45K	5	20	9		21	3 PP
HUANCAYO	156.78	113.9	19	48	6				20	28 PKP2
AREQUIPA	158.00	128.5	18	48	-56	20	22			
BOGOTA	158.28	69.6	19	51	7				30	40 SKKS
FUQUENE	158.29	67.2	19	47	3				20	16 PKP2
LA PAZ	160.49	134.3	19	52K	6	20	25		24	16 PP
FORT FRANCE	160.88	22.5	19	51	4					
ST. VINCENT	162.24	24.9	19	53	5					
BARBADOS	162.92	19.9							20	27
TRINIDAD	164.40	29.3	19	57	7					

DECEMBER 16 18.H 21.M 29.S EPICENTRE 43.42 -29.09 DEPTH= 0.KM

A= 0.63671 B=-0.35427 C= 0.68491 D=-0.4862 E=-0.8738
G= 0.5985 H=-0.3330 K=-0.7286 HT= -3.0

SE= 2.68

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

	DEG.	DEG.	M S S	M S S	M S	M S
PONTA DELGDA	6.25	154.3	1 36K 0	2 48 -1		
SERRA PILAR	15.34	91.6	3 36A -4	6 25 -6		3 48 PP
LISBON	15.75	100.6	3 42A -3	6 44 3		
TOLEDO	19.02	92.1	4 23 -3			
KEW	20.95	57.3	4 45 -2	8 38 1		
DURHAM	21.15	47.9	4 47K -2			
ABERDEEN	21.87	41.6		8 56 2		9 3 SS
PARIS	22.45	65.1	5 1 -1			
CLERMONT-FD.	22.98	72.9		9 18 4		
UCCLE	23.77	60.2	5 13 -2	9 31 3		
DOURBES	23.88	61.9	5 15 -1	9 26 -4		
DE BILT	24.43	57.1	5 20 -2	10 45 66		
HALIFAX	24.74	284.8	5 27A 2			
BESANCON	24.82	68.8	5 24 -1			
WITTEVEEN	25.42	55.7	5 31 0			
BENSBERG	25.56	60.1	5 31 -1			6 4
BASLE	25.88	68.0	5 29 -6			
MUNSTER	25.91	57.8	5 32 -4			
STRASBOURG	25.95	65.6	5 38 2			6 27
MONACO	26.33	76.6	5 11 -29			
HEIDELBERG	26.54	63.7	5 39 -3			
EBINGEN	26.77	66.4	5 44 0			
TUBINGEN	26.81	65.6	5 42 -2			
STUTTGART	26.94	65.0	5 41 -4	10 14 -7		6 25 PP
RAVENSBURG	27.23	67.2	5 45 -3			
SCORESBY SD.	27.37	5.2	5 47A -2			
SONNEBERG	28.12	61.5	5 54 -2			
JENA	28.35	60.3	5 55 -3	10 46 2		6 17
COLLMBERG	29.24	59.5	6 3 -3			6 23
SEVEN FALLS	29.35	292.0	6 7 0			
TOLMEZZO	29.72	69.4				6 28
PRUHONICE	30.29	62.0	6 14 -1	11 16 1		
ROME	30.39	78.3				12 19
MROUR	30.75	156.5		11 31 9		
BREBEUF	31.55	289.5	6 33 7			
UPPSALA	32.50	43.2	6 26 -9			
PALISADES	32.98	281.5	6 42 3	12 2 5		
TAMANRASSET	35.20	114.6	6 57 -1	12 38 6		7 39
KIRUNA	35.59	29.7	7 4 3			
NURMIJARVI	36.06	42.7	7 2 -3			
THULE	36.97	345.6	7 11 -2			
SODANKYLA	37.78	31.5	7 17 -3			
SOFIA	37.78	72.5	7 13 -7			
RESOLUTE	42.30	338.9	7 55 -2	14 14 -5		17 23
ISTANBUL KA.	42.37	72.4	7 56 -2			8 38
ST. LOUIS 1	45.46	285.8	8 23 0	15 2 -3		
FLORISSANT	45.49	286.1		15 23 18		
KHEYS	47.03	12.9	8 33 -2			
LAWRENCE	48.81	288.6	8 49 0			
FAYETTEVILLE	49.45	284.8	8 53K -1			9 17
KSARA	50.50	77.8	9 1 -1	16 27 11		10 58 PP
JERUSALEM	51.10	80.5	9 6 -1			
BOZEMAN	55.96	303.1	9 42 -1			
HUNGRY HORSE	56.42	307.1	9 44 -2			
BUTTE	56.71	304.1	9 46 -2			
PENTICTON	59.10	310.3	10 2 -3			
GLEN CANYON	60.90	294.7	10 17 0			
COLLEGE	61.98	334.9	10 21 -3			
EUREKA	62.33	299.2	10 26 -1			
TUCSON TELE.	62.97	289.9	10 31 0			
TUCSON	63.10	289.9	10 32 0			
BOULDER CITY	63.61	295.4	10 35 0			
SHIRAZ	64.56	72.5	10 39A -2	19 17 -3		
RENO	64.71	301.2	10 43A 1			
MINERAL	65.33	302.8	10 45K -1			
SHASTA	65.61	303.5	10 47 -1			
FRESNO	66.36	298.8	10 53 0			
PASADENA	66.89	295.6	10 57 1			13 22
LICK	67.18	300.2	10 59K 1			
LWIRO	68.88	114.9	11 9 0	20 17 4		
HUANCAYO	69.46	229.0	11 13 1			
LA PAZ	69.54	220.2	11 13 0			
NAMANGAN	69.85	52.4				11 14
QUETTA	73.97	63.6	11 38K -1			
WARSAK DAM	74.36	58.0	11 39 -3			
LAHORE	77.75	58.2	11 56 -5			
ULAN-BATOR	81.12	28.2				12 16

SOUTH POLE	133.23	180.0	19 18	0								
PORT MORESBY	145.95	6.6	19 42	1								
CAPE HALLETT	149.58	191.5	19 53	6							20 24	

DECEMBER 17 10.H 37.M 14.S EPICENTRE -6.61 109.33 DEPTH= 258.KM

A=-0.32876 B= 0.93746 C=-0.11438 D= 0.9437 E= 0.3309
G= 0.0379 H=-0.1079 K=-0.9934 HT= 6.9

DEPTH OF FOCUS= 0.035R

SE= 1.77

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
LEMBANG	1.71	262.6	0 44	3				14 36	SCS
DJAKARTA	2.52	279.7	0 42	-7	1 14	-12			
PORT BLAIR	24.55	317.6	4 57	-1				5 49	
BAGUIO CITY	25.45	25.8	5 7	1				5 58	
PERTH	25.93	167.3	5 12	1	9 27	7		6 31	
MUNDARING	26.04	166.6	5 11	-1	9 21	-1			
HONG KONG	29.12	9.2	5 38	-1	10 15	4	6 33	12 4	*SS
CANTON	29.78	7.5	5 47K	2	10 23	2	6 39	7 6	PP
KUNMING	32.18	348.7	6 9K	3	11 5	6	7 1	8 47	PCP
COLOMBO	32.31	294.0						7 42	
CHITTAGONG	33.51	329.7	6 18	1	11 21	2	7 23	7 48	PP
MADRAS	34.90	303.9						7 53	
CALCUTTA	35.49	325.3	6 34	0	11 52	2			
TOCKLAI	36.04	337.5	6 40	1	11 49	-9			
SHILLONG	36.21	332.7	6 42A	2	12 1	0		8 20	PP
CHENGTU	37.41	352.4	6 51K	1	12 20	1	7 45	9 3	PCP
PORT MORESBY	37.55	96.8	6 51	0	12 20	-1		9 5	PCP
BOKARO	37.98	323.6						7 50	
HYDERABAD	38.74	308.5						12 28	
ADELAIDE	39.10	140.3	7 4A	0	12 43	-1			
ZO-SE	39.18	16.2	7 7K	2	12 49	4	8 2		
NANKING	39.50	12.7	7 10K	3	12 53	3	8 4	9 10	PCP
CHATRA	39.57	328.1	7 7	-1	12 43	-8	8 4	14 24	*SS
SIAN	40.64	359.5	7 20K	3	13 12	5			
RABAUL	42.71	89.0	7 32	-1				7 48	
LANCHOW	42.75	353.4	7 37K	3	13 42	4	8 32		
POONA	42.99	306.1	7 34	-2	13 37	-4		16 18	SS
BOMBAY	44.01	305.8	7 58	14	13 46	-10		10 19	
MELBOURNE	44.84	139.1	7 52K	2	14 10	2		9 40	PP
BRISBANE	46.09	121.9	8 3	3	14 30	5			
CANBERRA	46.28	133.7	8 2K	0			9 2	9 56	PP
PEKING	46.84	7.2	8 7K	1	14 34	-2	9 4	9 35	PCP
RIVERVIEW	47.19	130.8	8 8A	-1	14 42	1		18 14	SS
DEHRA DUN	47.41	322.4	8 12	2	14 40	-4		17 33	SS
ABUYAMA	48.12	29.2	8 16K	0					
TARRALEAH	48.37	143.2	8 19A	1				10 15	PP
FORT NELSON	49.28	143.3	8 25A	0				18 37	SS
HONIARA	50.17	96.7	8 31	0	15 21	-1			
LAHORE	50.56	320.7	8 22	-12					
MATUSIRO	50.75	30.2	8 34K	-2	15 24	-6		9 49	PCP
TUKUBASAN	51.47	31.9	8 38K	-3	14 35	-65		10 56	PP
KARACHI	51.68	308.8	8 49	6					
CHANGCHUN	52.25	14.6	8 47K	0	15 50	0	9 45	17 34	*SS
WARSAK DAM	53.94	321.0	8 59A	0	16 11	-2	10 1		
ULAN-BATOR	54.34	358.0	9 0	-2				9 59	PP
QUETTA	54.67	314.3	9 2A	-2	16 16	-7	10 4	11 9	PP
NOUMEA	57.14	112.2	9 21	-1				12 36	
FRUNSE	58.44	330.6			17 12	0	10 29	18 51	SCS
DUZHANBE	58.62	323.3			17 6	-9		10 31	
IRKUTSK	58.81	356.4	9 33	-1	17 19	2	10 33	10 18	PCP
WILKES	59.64	179.4	9 37	-2	17 25	-3			
TASHKENT	60.16	326.0			17 29	-5		11 53	PP
MIRNY	60.90	187.4	9 47	-1	17 44	0	10 52		
Y.-SAKHLINSK	61.05	25.5	9 47	-2			10 46		
TANANARIVE	61.21	252.1	9 53K	3				10 51	
SEMIPALATNSK	62.11	339.4	9 55	-1	17 57	-2		10 32	PCP
ROXBURGH	64.48	137.5						25 46	SS
ASHKABAD	64.88	317.3	10 13	-1	18 36	3		22 58	SS
KAIMATA	65.12	133.9	10 19	4					
SHIRAZ	65.34	306.7	10 15K	-2	18 23	-16	11 15	11 43	*SP
COBB RIVER	65.73	132.1	10 18	-1					

ONERAHI	65.96	126.2	10	21	0							
GEBBIES PASS	66.28	134.9	10	23	0							
OKHA	66.30	21.1	10	22	-1	18	51	1	11	23		
KARAPIRO	67.24	128.3	10	29	0						13	1
WELLINGTON	67.27	132.0	10	27	-2							
TONGARIRO	67.45	129.7	10	30	0							
CHATEAU	67.46	129.7	10	29	-1							
MAWSON	68.41	197.4	10	36	0	19	16	1				
TEHERAN	68.74	312.3	10	38	0	19	16	-3				
SEVERO-KUR.	69.84	29.6	10	45	1	19	34	2	11	45		
YAKUTSK	70.23	10.1	10	46	-1	19	33	-3	11	48	11	5 PCP
PETROPAVLOVK	72.54	28.7	11	0	-1				12	1		
MAGADAN	73.70	20.6	11	7	0	20	15	-1	12	9		
GORIS	73.95	314.2	11	11	2	20	16	-2	12	11	22	0 *SS
SVERDLOVSK	74.64	334.6	11	11	-2	20	23	-3				
CAPE HALLETT	75.13	164.0	11	16A	0	20	33	2	12	24	14	4 PP
TIFLIS	75.87	315.8	11	19	-1	20	37	-2	12	21	21	3 SKS
SCOTT BASE	76.99	169.4	11	25A	-1							
PIETERMZBURG	77.15	241.2	11	28	1							
AFIAMALU	77.69	102.8	11	31K	1							
BULAWAYO	79.06	250.8	11	37K	0							
TIKSI	79.14	6.2	11	35	-3						12	37 PCP
BROKEN HILL	79.55	256.6	11	41	1							
JERUSALEM	80.11	303.8	11	43	0							
LWIRO	80.34	268.8	11	46K	2	21	30	4			12	46
GRAHAMSTOWN	80.36	237.4	11	43	-1							
KIMBERLEY	82.09	241.9	11	53A	0							
HELWAN	82.95	301.1	11	58K	1						22	37
SOUTH POLE	83.43	180.0	11	59	-1	21	52	-6	13	1	23	58 *SS
SIMFEROPOL	84.28	316.4	12	4K	0	21	58	-8	13	7	23	35 PS
MOSCOW	85.29	327.4	12	8	-1				13	11	22	4 SKKS
ISTANBUL KA.	87.00	311.7	12	16	-1						15	50 PP
IASI	89.23	317.6									22	36
WINDHOEK	89.54	247.5	12	30A	1							
BYRD STATION	90.08	172.5	12	31	-1				13	37	16	8 PP
PULKOVO	90.16	330.2	12	32	0				13	37	22	36 SKKS
ATHENS	90.57	308.0	12	33A	-1	23	2	-2				
KHEYS	90.62	352.6	12	32	-2				13	36		
APATITY	90.72	338.1	12	33K	-2	22	35	-31	13	37		
SOFIA	91.50	312.6	12	37	-1	22	43	-30	13	44		
HELSINKI	92.88	330.1	12	45	0							
NURMIJARVI	93.08	330.4	12	45	-1	22	52	-34	13	47		
SODANKYLA	93.24	337.4	12	44	-2	22	51	-37	13	49		
KIRUNA	95.66	337.6	12	56	-1				14	0		
RACIBORZ	95.74	319.7									10	38
UPPSALA	96.52	329.5	13	0	-1				14	4	17	17 PP
LJUBLJANA	98.05	315.5	13	8	0						17	9 PP
PRUHONICE	98.09	319.5	13	6	-3				14	12	17	8 PP
TRIESTE	98.58	315.1									16	59 PP
COLLMBERG	99.08	320.8	13	12	-1				14	17	18	21 *PPP
TOLMEZZO	99.09	315.8				23	24	-1			17	15 PP
HALLE	99.73	321.0				23	25	-3			17	23 PP
COLLEGE	101.41	25.1	13	23	0							
STUTTGART	101.56	318.3	13	23	-1						17	35 PP
SETIF	105.11	305.6										
TAMANRASSET	105.24	291.7	13	40	777	23	59	5	14	56	17	54 PP
FOLINIERE	107.97	319.1									17	52 PP
THULE	110.22	359.4	18	2	1						17	58
RESOLUTE	110.56	6.7	18	2	0						18	44
VICTORIA	119.03	37.2	18	20K	2						14	4
PENTICTON	120.89	35.1	18	23K	1							
BANFF	122.15	31.6	18	24	0							
SHASTA	122.84	45.3	18	27K	2							
MINERAL	123.53	45.4	18	28K	1						19	44
BERKELEY	123.95	48.4	18	30K	2						20	10
BRANNER	124.16	48.9	18	30A	2							
HUNGRY HORSE	124.55	33.8	18	30	1				19	42	28	14 PKKP
LICK	124.59	48.8	18	31K	2							
VINEYARD	124.99	49.4	18	32	2							
RENO	125.11	45.6	18	32K	2						18	58
FRESNO	126.17	48.8	18	34	2							
BUTTE	126.68	35.5	18	34	1						21	25 PP
MBOUR	126.73	282.9	18	31	-2				19	40		
BOZEMAN	127.75	35.1	18	37	2				19	42		
EUREKA	127.83	44.1	18	23	-12				19	44		
PASADENA	128.36	51.2	18	39K	3				19	45	20	38 PP
SALT LAKE C.	129.97	40.7	18	41	2							
FLAMING GRGE	131.45	39.2	18	29	-13						20	50 PP
GLEN CANYON	132.05	44.9	18	34	-9						21	47 *PPP

RAPID CITY	133.08	32.0	18 50	5	19 52 21 49 *PPP
TUCSON	134.76	50.3	18 36	-12	21 25 PP
TUCSON TELE.	134.80	50.1	18 39	-9	19 54 21 57 PP
SEVEN FALLS	139.64	0.2	18 49	-8	
SHAWINIGAN	140.17	2.3	18 56	-2	
OTTAWA	141.11	5.7	18 54	-6	
HALIFAX	141.64	351.9	18 57K	-4	
FLORISSANT	143.34	26.2	19 2K	-2	
ST. LOUIS 1	143.54	26.2	19 2K	-2	20 7 22 44 PKS
FAYETTEVILLE	143.60	33.0	19 2K	-2	20 6 22 5 PP
CLEVELAND	143.96	13.9	19 4K	-1	20 10
PENNSYLVANIA	145.36	9.6	19 7	0	20 15
LITTLE ROCK	145.58	32.5	19 10	2	
PALISADES	145.63	4.3	19 11	3	20 16 22 25 PKS
TACUBAYA	149.50	62.7	19 21	7	20 44
COLUMBIA	151.11	18.0	19 19	3	20 28
HUANCAYO	160.89	166.0	19 34K	5	21 17 PKP2
SAN JUAN	167.49	339.6	19 36	1	20 42 21 48 PP
TRINIDAD	169.99	294.3	19 39	3	
CARACAS	174.65	316.5	19 46	8	21 2 PKP2
BOGOTA	176.08	120.2	19 42	3	25 19 PP
FUQUENE	176.76	110.3	19 41	2	21 27 PKP2

DECEMBER 17 16.H 44.M 41 S EPICENTRE 46.73 153.76 DEPTH= 0.KM

A=-0.61703 B= 0.30419 C= 0.72577 D= 0.4422 E= 0.8969
G=-0.6510 H= 0.3209 K=-0.6879 HT= -4.2

SE= 3.00

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KURILSK	4.37	252.1	1 14	5	2 18	17		
PETROPAVLOVK	7.05	24.8	1 45	-2				2 59
MIZUSAWA	11.96	235.1			5 33	23		5 4
MAGADAN	12.97	353.3	3 8	0				
TUKUBASAN	14.64	229.1	3 29	-1	6 4	-10		
MATUSIRO	15.42	234.3	3 39A	-1	6 33	0		
VLADIVOSTOK	15.89	264.8	3 48	2				
YAKUTSK	20.56	326.8	3 48	-55				
ULAN-BATOR	31.41	289.6	6 29	4				
COLLEGE	35.89	38.4	7 3	0				
KHEYS	45.19	346.7	8 20	0				
RESOLUTE	50.72	18.7	9 3A	0				
RABAUL	50.72	182.0	R 59	-4				
NORD	51.82	358.2	9 10	-2				
SHILLONG	52.82	269.0	9 21A	2				
VICTORIA	53.18	55.5	9 25	3				
SVERDLOVSK	54.15	317.4	9 27	-2				
THULE	54.23	11.2	9 29	0				
PENTICTON	54.88	53.0	9 34	0				
CHATRA	55.24	273.6	9 38	1				
ANDIJAN	56.62	295.9	9 41	-6				
NAMANGAN	56.92	296.5	9 49	0				
APATITY	57.54	336.9	9 51	-2				
SHASTA	58.17	62.8	9 59	1				
HUNGRY HORSE	58.47	51.4	10 0	0				
DEHRA DUN	59.24	282.8	10 8	3				
SODANKYLA	59.43	339.0	10 5	-2				
RENO	60.44	62.5	10 19	6				
KIRUNA	60.51	341.5	10 13	-1				10 42
LAHORE	60.94	286.2	10 17A	0			10 29	
BOZEMAN	61.72	52.5	10 23	1				
EUREKA	62.80	60.5	10 30	1				
SCORESBY SD.	63.07	358.4	10 30	-1				
MOSCOW	64.72	325.8	10 41	1				
PASADENA	64.87	66.3						10 45
NURMIJARVI	65.42	335.0	10 45	-1				
HELSINKI	65.60	334.7	10 48	0				
FLAMING GRGE	65.70	55.6	10 48	0				
SKALSTUGAN	65.90	342.2	10 48	-2				
QUETTA	66.66	289.7	10 56A	2				11 8 *SP
RAPID CITY	66.97	49.7	10 56	0				
GLEN CANYON	67.05	60.1	10 57	0				
LEMBANG	67.19	231.0						12 23
UPPSALA	67.90	337.8	11 1	-1				11 21

POONA	69.90	275.9	11	15	0					
TUCSON	70.71	63.4	11	31	12					
TUCSON TELE.	70.71	63.2	11	31	12					
GOTEBORG	71.21	339.5	11	22	-1					
TIFLIS	71.71	311.8	10	26	-60					
TEHERAN	72.41	303.5	11	32	2					
COPENHAGEN	72.90	338.3	11	34	1					
SIMFEROPOL	74.37	320.1	11	42	1					
LAWRENCE	74.78	49.0	10	59	-45					
SHIRAZ	76.08	298.4	11	52K	1					
RACIBORZ	76.19	332.3	11	50	-2				12 4	PCP
COLLMBERG	76.68	335.9	11	54A	0				12 8	PCP
DURHAM	76.75	345.6	12	48A	53					
HALLE	76.79	336.6	11	54	-1				12 35	
WITTEVEEN	76.92	340.2	12	0	4					
MUNSTER	77.48	339.3	11	59	0					
FAYETTEVILLE	77.50	50.3	11	48K	-11					
ST. LOUIS 1	77.58	46.1	11	58A	-1				12 9	
BENSBERG	78.52	339.2	12	5	1					
SHAWINIGAN	78.55	30.7	12	4	-1					
HEIDELBERG	79.56	337.6	12	10	0					
KEW	79.67	343.9	12	14	3					
DOURBES	79.93	340.4	12	15	3					
STUTTGART	79.99	337.0	12	12	0					
TUBINGEN	80.27	337.1	12	14	0					
STRASBOURG	80.56	337.9	12	16	1					
EBINGEN	80.62	337.0	12	16	0					
BESANCON	82.25	338.5	12	24	0					
FOLINIERE	82.28	343.1	12	24	0					
KSARA	82.28	312.0	12	25	1					
JERUSALEM	84.23	311.2	12	35	1					
ATHENS	84.55	322.6	12	34K	-2					
HELWAN	87.75	312.8	12	53	1					
SETIF	92.69	334.9	13	15	0					
TAMANRASSET	105.10	329.8	17	56	777					
LA PAZ	134.12	63.2	19	21	2					
BYRD STATION	135.05	165.7	19	20	-1					
SOUTH POLE	136.53	180.0	19	37	13					

DECEMBER 18 18.H 20.M 50.S EPICENTRE 8.88 126.28 DEPTH= 48.KM

A=-0.58475 B= 0.79658 C= 0.15340 D= 0.8061 E= 0.5918
G=-0.0908 H= 0.1237 K=-0.9882 HT= 6.7

DEPTH OF FOCUS= 0.002R

SE= 3.95

	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	
MANILA	7.68	319.0	1	53	1	3	34	15					
BAGUIO CITY	9.33	324.0	2	11	-4								
HONG KONG	17.70	320.3	4	2	-3	7	25	7					
GUAM	18.67	74.2	4	21	5	8	19	40					
CANTON	18.80	320.2	4	20K	2	7	50	8					
ZO-SE	22.61	348.6	5	0	2	9	8	11					
NANKING	24.09	344.2	5	15	3	9	40	17					
LEMBANG	24.28	230.6	5	6	-8	9	16	-11					
DJAKARTA	24.49	233.0									8	10	
PORT MORESBY	27.60	130.6	5	45	0	10	32	11			11	34	
KUNMING	27.63	308.7	5	47	2	10	29	7					
RABAUL	28.90	115.7	4	59	-57								
MATUSIRO	29.59	19.7	6	1K	-2	11	1	8			6	38	
CHENGTU	30.02	319.3									6	23	
PEKING	32.30	345.4	6	24	-3	11	38	2					
PORT BLAIR	33.13	277.7									7	48	
LANCHOW	33.90	326.3	6	38	-2								
VLADIVOSTOK	34.46	7.3	6	44	-1								
CHANGCHUN	34.82	358.8									8	58	
SHILLONG	36.66	301.3	6	59A	-5	12	44	1			8	23	PP
CALCUTTA	38.81	295.0	7	32	10	13	18	2			9	12	
Y.-SAKHLINSK	40.51	17.3	7	34	-2	13	34	-7					
KURILSK	40.73	23.5				14	2	18					
CHATRA	41.06	300.9	7	36	-4	13	59	10					
BOKARO	41.42	296.0	7	41	-2	13	54	-1					
MUNDARING	41.75	192.9	7	39	-7								

ULAN-BATOR	42.22	340.6	7	44	-6							14	37		
BRISBANE	44.26	145.4	8	6	-1							14	10		
ADELAIDE	45.17	165.6	8	11K	-3							19	1		
COLOMBO	45.99	271.0				15	1	-3				15	2		
RIVERVIEW	48.60	152.2										19	37	SS	
MELBOURNE	49.65	160.6	8	51K	2	15	58	5				12	2	PPP	
DEHRA DUN	49.74	302.3	8	53	3	16	9	15							
PETROPAVLOVK	51.21	24.5	9	1	0	16	12	-2				18	43	SCS	
POONA	51.68	286.5	9	1	-3	16	25	4				11	10	PP	
BOMBAY	52.67	286.9	9	5	-7	16	33	-1							
LAHORE	53.14	302.8	9	7	-8							12	21		
MAGADAN	53.85	15.2													
TARRALEAH	54.18	161.6	9	26	3										
WARSAK DAM	55.99	305.1	9	32	-4	17	23	4							
FRUNSE	56.30	316.1	9	35	-3										
ANDIJAN	57.18	313.1	9	41	-3										
NAMANGAN	57.76	313.1	9	47	-1										
QUETTA	59.12	299.8	9	53	-5	18	0	0	10	5		22	1	SS	
KARAPIRO	65.41	138.8	10	38	-2										
KAIMATA	65.67	144.9	11	0	18										
TONGARIRO	66.13	139.9	10	46	2										
CHATEAU	66.14	139.9	10	45	0										
SVERDLOVSK	69.38	327.7	11	1	-4										
SHIRAZ	71.58	298.2	11	13K	-5	20	33	1	12	19		21	20	SP	
TEHERAN	72.62	304.6	11	25	1	20	45	1							
MAKHACH-KALA	75.80	312.0	11	47	4										
WILKES	75.91	186.5				21	21	0							
KHEYS	77.79	351.0	11	52	-2										
TIFLIS	77.80	310.8	11	52	-2										
COLLEGE	80.28	25.6	12	5	-2							15	42	PP	
MOSCOW	81.97	325.2	12	13	-3										
TANANARIVE	82.34	249.5	12	10	-8							13	11		
APATITY	82.95	337.3	12	22	1										
SIMFEROPOL	85.32	314.6	12	34	1	22	59	1							
PULKOVO	85.39	329.7	12	23	-10										
KSARA	85.46	303.4	12	36	2	23	16	16				16	4	PP	
SODANKYLA	85.56	337.5	12	34	0										
CAPE HALLETT	85.90	167.7	12	34	-2	23	10	6							
KIRUNA	87.74	338.6	12	42	-3										
NURMIJARVI	88.00	331.0	12	44	-2										
HELWAN	89.89	300.1	12	55	0							16	36	PP	
LWOW	91.09	320.7	13	6	5										
UPPSALA	91.55	331.4	13	6	3										
WARSAW	92.24	323.6				23	38	-24				24	9	SCS	
RESOLUTE	92.86	10.1	13	8	-1										
THULE	94.41	3.4	13	14	-2										
PRUHONICE	96.84	322.8	13	27	0							17	19	PP	
COLLMBERG	97.23	324.5	13	29	0							17	29	PP	
JENA	98.20	324.5	13	34	1	24	10	4				25	10	S	
SOUTH POLE	98.82	180.0	13	36	0										
STUTTGART	100.47	323.2	13	46	3							18	10	PP	
ROME	101.28	315.9										28	41		
BYRD STATION	102.81	170.6	14	1	7							17	58	PP	
EUREKA	105.01	45.2	18	25	777										
TUCSON	111.91	50.1	19	15	45										
TUCSON TELE.	111.96	49.9	19	15	45										
TAMANRASSET	114.04	299.7	18	28	-6	25	25	9				19	12	PP	
PALISADES	126.98	19.1										39	12	SS	
SAN JUAN	150.27	24.3	19	50	9										
HUANCAYO	158.52	100.3	20	2	10										
LA PAZ	164.04	119.7	20	8	10										

DECEMBER 21 14.H 40.M 6.S EPICENTRE 62.15-150.97 DEPTH= 152.KM

A=-0.41057 B=-0.22789 C= 0.88289 D=-0.4853 E= 0.8743
G=-0.7719 H=-0.4285 K=-0.4696 HT= -9.6

DEPTH OF FOCUS= 0.019R

SE= 3.42

	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	3.07	26.0	0	51	1							
SITKA	9.43	115.8	2	11	-3	3	56	-2				
ALBERNI	19.40	119.7	4	17	0							
VICTORIA	20.56	118.9	4	30K	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.

PENTICTON	21.56	112.1	4 42K	4						
BANFF	22.05	103.6	4 48K	5						
RESOLUTE	22.96	34.4	4 56	4	9	0	13		9	43 SS
CORVALLIS	23.82	124.8	5 2K	2					5	31
HUNGRY HORSE	24.75	106.8	5 11	2	9	41	23	5 39	6	7 PP
ARCATA	26.73	130.3	5 27	0						
BUTTE	27.17	108.6	5 39	8					12	19 *SCP
SHASTA	27.50	128.0	5 34K	0						
MAGADAN	27.66	291.1			10	22	21			
PETROPAVLOVK	27.82	274.2	5 27	-10						
MINERAL	28.10	127.3	5 39K	-1						
BOZEMAN	28.11	107.3	5 40	0				6 8	12	17 *SCP
THULE	29.30	28.6	5 52	1				6 18	7	5 PP
RENO	29.48	125.6	5 52K	0						
CONCORD	30.02	130.2	5 56A	-1						
BERKELEY	30.04	130.6	5 56K	-1						
SAN FRANCSCO	30.06	131.0	5 56	-1						
TIKSI	30.37	321.8	5 54K	-6	10	46	-2			
BRANNER	30.47	130.9	6 0K	-1						
LICK	30.74	130.2	6 2K	-1						
EUREKA	31.04	120.6	6 7	1				6 37	8	54 PCP
VINEYARD	31.36	130.4	6 8K	-1						
RUTH	31.65	119.6	6 9	-2						
SALT LAKE C.	31.68	114.1	6 12	0				6 39	12	28 SCP
FRESNO	31.91	128.2	6 13K	-1						
RAPID CITY	32.91	100.8	6 24	2	11	39	11	6 51	7	24 PP
LARAMIE	34.00	106.4	6 32	1						
NORD	34.40	10.7	6 36K	1	12	36	45		8	4 PP
PASADENA	34.85	128.2	6 38K	-1	12	48	51	7 3	7	21 *SP
YAKUTSK	34.96	306.0	6 32	-8	11	46	-13			
TUCSON TELE.	39.34	120.4	7 17	1				7 43	8	49 PP
TUCSON	39.37	120.6	7 18	1					8	44 PP
Y.-SAKHLINSK	39.38	279.0	7 9	-8	13	58	52			
LAWRENCE	40.61	98.3	7 29	2						
LUBBOCK	42.04	109.5	7 40	2						
SCORESBY SD.	42.93	22.5	7 48A	2					18	6 SSS
FLORISSANT	43.02	93.8	7 48K	2	14	8	8	8 18	17	32 SS
ST. LOUIS 1	43.21	93.9	7 49K	1	14	10	7	8 19	17	32 SS
FAYETTEVILLE	43.43	99.8	7 50K	0	13	12	-54		9	39 PP
OTTAWA	44.70	75.6	8 2K	2						
SHAWINIGAN	45.15	72.3	8 6	3						
BREBEUF	45.57	73.9	8 8	1						
SEVEN FALLS	45.58	70.4	8 9K	2						
VLADIVOSTOK	47.32	283.8	8 12K	-8	14	52	-9			
WESTON	49.05	74.8	8 36	2						
WASHINGTON	49.17	82.2	8 15	-20					9	20 PCP
MATUSIRO	49.64	273.4	8 29	-9	15	27	-7	9 42	8	59
CHANGCHUN	49.73	289.5	8 31A	-8	15	27	-8	9 2	9	17 *SP
KIRUNA	50.16	4.2	8 41	-1				9 38		
APATITY	50.55	357.8	8 43K	-2	15	47	1		18	16 SCS
CHAPEL HILL	50.66	86.2	8 47	1						
HALIFAX	50.70	67.2	8 48K	2						
SODANKYLA	50.76	1.2	8 46	-1	15	54	5		13	43 SCP
COLUMBIA	51.30	89.3	8 52	1						
IRKUTSK	51.45	310.5	8 52	0	15	57	-1			
SKALSTUGAN	53.95	9.2	9 10	0						
ULAN-BATOR	54.06	305.7	9 7	-4						
TACUBAYA	55.54	115.9	9 21	-1					11	21
PEKING	56.80	293.6	9 23	-8	17	1	-9	9 54	18	1 *SS
NURMIJARVI	57.62	2.6	9 35	-2	17	25	4	10 4	14	12 SCP
HELSINKI	57.96	2.4	9 39	0						
UPPSALA	58.01	6.8	9 38	-1						
PULKOVO	58.40	359.2	9 40	-2	17	36	5			
SVERDLOVSK	58.82	340.3	9 43	-2	17	40	3			
ZO-SE	62.04	284.0	9 59	-8	18	13	-4	10 30	19	12 *SS
MOSCOW	62.26	354.5	10 8	0	18	27	7			
NANKING	62.31	286.5	10 1	-8	18	15	-6	10 32	10	46 *SP
KEW	64.35	19.9	10 22	0						
SIAN	64.77	295.6			18	46	-5			
MUNSTER	64.96	14.4	10 26	0						
LANCHOW	65.32	300.6	10 22A	-6	18	54	-4	10 53		
HALLE	65.88	11.6	10 32	0	19	13	8	11 2	20	16 *SS
COLLMBERG	66.18	10.9	10 33K	-1				11 2	11	38
JENA	66.41	12.0	10 35	0				11 5	11	48
DOURBES	66.41	16.9	10 36	1	19	19	8			
SONNEBERG	66.92	12.3	10 38	0						
FOLINIERE	66.94	20.7	10 38	-1						
HEIDELBERG	67.62	14.2	10 42	-1						

PRUHONICE	67.62	10.1	10	43K	0	19	30	4	11	11	11	26 *SP
RACIBORZ	67.78	7.5				19	36	8				
STUTTGART	68.31	13.9	10	47A	0				11	15	12	18
LWOW	68.31	3.5	10	44	-3							
STRASBOURG	68.32	15.0	10	48	1							
TUBINGEN	68.52	14.1	10	48	0							
SKALNATE PL.	68.80	6.2	10	48	-2							
EBINGEN	68.85	14.3	10	51	1							
FRUNSE	69.13	325.8	10	49	-3	19	46	2				
RAVENSBURG	69.32	13.9	10	54	1							
BRATISLAVA	69.61	8.5	10	56K	1				11	23		
CHENGTU	69.93	297.6	10	50	-7	19	47	-6	11	22	11	37 *SP
HURBANOVO	69.99	7.7	11	7	10							
SAN JUAN	71.53	85.7	11	6	-1							
ANDIJAN	71.66	326.7	11	4	-3	20	22	9				
CANTON	72.46	286.1	11	5	-7	20	17	-5	11	37		
SIMFEROPOL	73.17	356.2	11	21	5	20	35	5				
ST. KITTS	74.02	83.2	11	20	-1							
TOLEDO	74.87	25.8	10	28	-58				12	27	22	17
KUNMING	75.33	295.9	11	23	-6	20	48	-6	11	54	21	48 *SS
TIFLIS	75.70	347.9	11	30	-1				12	0		
LHASA	75.96	307.6	11	30	-2	21	3	2	12	1		
ISTANBUL KA.	77.13	360.0	11	37	-2				12	24		
GRANADA	77.56	26.2	12	27K	46							
CARACAS	78.00	90.3	11	45K	2	21	44	21				
WARSAK DAM	78.24	325.0	11	42	-3							
ST. VINCENT	78.33	84.0	11	45	0							
SHILLONG	79.32	305.1	11	45	-6							
LAHORE	79.76	321.9	11	51	-2							
DEHRA DUN	79.79	318.5	12	19	26						21	42
CHATRA	79.93	309.6	11	49	-5						21	41
ATHENS	80.13	4.3	11	56K	1							
SETIF	80.14	19.2	11	55	0							
TRINIDAD	80.47	85.4	11	55	-2							
TEHERAN	80.79	341.7	11	59	1	21	57	5				
CHITTAGONG	82.23	303.8	12	1	-5	22	3	-4	12	47	23	9 *SS
QUETTA	83.06	327.6	12	7	-3	22	14	-1	12	39	15	18 PP
KSARA	84.20	354.3	12	14	-2	22	57	31	13	0	15	47 PP
JERUSALEM	86.27	354.7	12	26	0						15	31 PP
SHIRAZ	86.58	339.7	12	25A	-3	22	52	3	13	0	23	24 SKKS
HELWAN	88.28	358.0	12	36A	0				13	13		
TAMANRASSET	93.30	21.6	12	58	-1				13	33	15	24 PP
HUANCAYO	93.97	108.2	13	0	-2							
ADDIS ABABA	108.63	349.8									18	42 PP
BYRD STATION	143.08	171.3	19	8	-8				19	49	22	37 PP
KIMBERLEY	146.48	6.8	19	27A	5							
GRAHAMSTOWN	151.11	4.3	19	34K	5							
SOUTH POLE	151.99	180.0	19	24	-6				20	7	25	15
MIRNY	153.07	232.6	19	33	1							

DECEMBER 22 3.H 2.M 19.S EPICENTRE 8.84 94.07 DEPTH= 15.KM

A=-0.07009 B= 0.98578 C= 0.15274 D= 0.9975 E= 0.0709
G=-0.0108 H= 0.1524 K=-0.9883 HT= 6.7

SE= 2.56

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
PORT BLAIR	3.10	334.8	0	54	4	1	34	6					
CHITTAGONG	13.61	351.1	3	15	-1	5	39	-9			3	29	PP
COLOMBO	14.20	263.2	3	28	5								
MADRAS	14.25	288.1	3	25A	1	5	57	-6			3	34	PP
CALCUTTA	14.67	338.7				5	56	-17			4	27	
SHILLONG	16.76	353.1	3	54A	-2	7	8	6			4	19	PPP
BOKARO	16.87	333.0	3	57	-1	7	5	1					
HYDERABAD	17.43	300.9	4	4	-1	7	24	7			7	58	SS
TOCKLAI	17.82	2.1	4	12	2								
KUNMING	18.17	26.0	4	16K	2	7	47	13					
CHATRA	19.04	340.8	4	24	-1	8	2	9			4	40	PP
DJAKARTA	19.61	139.1	4	33	2						12	51	
LEMBANG	20.61	138.6	4	39	-3						11	47	
LHASA	20.88	352.6	4	45A	0						5	9	
POONA	21.85	298.2	4	54	0	8	58	7			9	52	SS
BOMBAY	22.89	298.1	5	8	3	9	21	11			5	41	PP
CANTON	23.28	50.3	5	11K	3	9	28	12					

CHENGTU	23.61	21.8	5	13	1	9	29	7				
DEHRA DUN	26.09	327.1	5	36	1	9	59	-5			6	15 PP
BAGUIO CITY	26.92	71.1	5	42	-1	10	54	36				
MANILA	27.06	75.1	5	42	-2	9	56	-24				
LANCHOW	28.51	16.7	5	58	1							
SIAN	28.74	26.2	6	2	3							
LAHORE	29.11	323.7	6	0	-3							
WARSAK DAM	32.49	323.7	6	32	-1							
NANKING	32.55	41.3	6	35K	2	11	56	9				
QUETTA	33.06	313.7	6	38A	0	12	4	9	6	52	7	2 *SP
ZO-SE	33.58	45.0	6	44	2	12	13	10				
PEKING	36.78	28.8	7	11	2	12	59	6				
DUZHANBE	37.32	326.5	7	13	-1	12	58	-3				
FRUNSE	37.91	336.5	7	18	-1						13	16 SCS
TASHKENT	39.08	329.9	7	26	-3	13	13	-14			8	56 PP
ULAN-BATOR	40.43	13.3	7	6	-34							
ASHKABAD	43.29	317.7	8	2	-1						10	1 PCP
SHIRAZ	44.03	303.8	8	8K	-1	14	38	-3			9	47 PP
IRKUTSK	44.10	9.0	8	12	2							
CHANGCHUN	44.20	32.6	8	13K	2	14	50	7				
MUNDARING	45.77	153.4	8	20	-3							
TEHERAN	47.16	311.2	8	35	1	15	33	7				
VLADIVOSTOK	47.50	37.5	8	39	2						15	40 PS
MATUSIRO	48.57	48.4	8	47	2	15	52	7			10	52 PP
TANANARIVE	53.52	238.7	9	25	2							
TIFLIS	54.26	315.7	9	26	-2						11	31 PP
SVERDLOVSK	54.48	338.2	9	27	-3							
ADDIS ABABA	54.58	274.8	9	33	2	17	18	10				
PORT MORESBY	55.88	107.6	9	45	5	17	26	1				
Y.-SAKHLINSK	56.08	38.2	9	43	2							
KSARA	58.78	304.2	9	56	-4				10	19	12	8 PP
JERUSALEM	58.97	301.7	9	59	-3						12	20 PP
YAKUTSK	59.11	18.7	10	4	1							
RABAUL	59.36	100.2	10	5	1							
ADELAIDE	60.64	138.5	10	17	4							
HELWAN	62.04	299.1	10	22	-1						11	7
SIMFEROPOL	62.68	316.2	10	27	0	18	55	2			23	5 SS
MOSCOW	64.21	328.4	10	35	-2	19	8	-4			12	50 PP
ISTANBUL KA.	65.43	311.1	10	43	-2						11	5
LWIRO	65.97	263.6	10	49A	1							
BRISBANE	67.27	124.5	10	59	2							
CANBERRA	67.89	133.7	10	57	-4				11	5		
HONIARA	68.06	103.9	10	59	-3							
BUCHAREST	68.15	314.3	11	4	2	20	2	2			15	19
RIVERVIEW	68.75	131.4	11	0A	-6							
ATHENS	69.13	307.2	11	12K	4							
PULKOVO	69.33	331.0	11	11	2	20	17	3			11	39 PCP
SOFIA	69.91	312.2	11	7	-6							
BULAWAYO	70.52	245.0	11	15K	-2							
APATITY	70.90	339.3	11	20	1	20	31	-2			11	25 PCP
HELSINKI	72.03	330.6	11	28	2							
NURMIJARVI	72.26	330.9	11	28	1							
PRETORIA	72.66	239.6	11	30	1							
KRAKOW	73.09	319.6	11	30	-2						11	38 PCP
SODANKYLA	73.29	338.1	11	31	-2							
KHEYS	73.63	354.2	11	34	-1						11	42 PCP
RACIBORZ	74.20	319.5	11	38	0						12	0 PCP
BRATISLAVA	74.77	317.5	11	43	1							
VIENNA-H.	75.26	317.5	11	46	1						12	7 PCP
UPPSALA	75.59	329.6	11	47	1							
KIRUNA	75.70	337.9	11	46	-1							
LJUBLJANA	76.44	315.2	11	53	2						12	29
KIMBERLEY	76.48	237.6	11	56	5							
PRUHONICE	76.54	319.3	11	54	2							
TROMSOE	76.59	339.6	11	53	1							
COLLMBERG	77.57	320.6	12	0	2						14	48 PP
COPENHAGEN	78.02	325.1	12	3	3	21	57	5				
PLAUEN	78.09	319.7	12	5	5							
HALLE	78.23	320.8	12	4	3						16	55
GOTEBORG	78.35	327.1	12	3	1							
JENA	78.46	320.2	12	8	6						13	8
SKALSTUGAN	78.48	333.1	12	4	1						12	40
SONNEBERG	78.70	319.6	12	7	3							
CHUR	79.88	316.0	12	13K	3							
STUTTGART	79.98	318.0	12	13	2							
TUBINGEN	80.13	317.8	12	17	5							
EBINGEN	80.21	317.4	12	14	2							
HEIDELBERG	80.33	318.7	12	11	-2							

MUNSTER	80.92	321.3	12	18	2					
STRASBOURG	80.99	317.9	12	22	6					
WINDHOEK	81.51	245.6	12	18K	-1					
BESANCON	82.28	316.6	12	22	-1					
DOURBES	82.95	319.5	12	27	1				23 9	SCS
UCCLE	83.04	320.3							12 48	
SETIF	83.78	305.6	12	34	4					
NORD	84.28	352.1	12	30	-3				15 42	PP
PARIS	84.46	318.4	12	40	6					
TAMANRASSET	85.30	292.2	12	38	0				15 55	PP
KEW	85.88	321.3	12	43	2					
DURHAM	86.09	324.7	12	45A	3					
FOLINIERE	86.41	318.6	12	46	2					
KARAPIRO	88.72	128.5	12	56	1					
TONGARIRO	88.98	129.8	13	1	5					
CHATEAU	88.98	129.8	12	58	2					
COLLEGE	93.48	22.2	13	19	2				17 4	PP
THULE	94.25	355.9	13	20	0					
RESOLUTE	96.45	2.4	13	29	-1					
SOUTH POLE	98.79	180.0	17	40	239					
BYRD STATION	107.10	174.2	18	44	777					
HUNGRY HORSE	117.89	20.8	18	54	7					
EUREKA	124.43	28.0	19	0	1				20 51	PP
FLAMING GRGE	125.96	21.9	19	32	30					
PASADENA	127.44	33.9	19	9	4					
TUCSON TELE.	132.70	28.9	19	19	4					
TUCSON	132.72	29.1	19	17	2					
ST. KITTS	145.32	318.6	19	40	2					
SAN JUAN	146.62	324.2	18	49	-51					
ST. VINCENT	147.16	311.4	19	45	4					
TRINIDAD	148.84	307.9	19	52	8					
CARACAS	153.04	315.1	20	11	21					
LA PAZ	161.05	244.6	20	11	11					

DECEMBER 22 3.H 47.M 22.S EPICENTRE -15.92 -73.14 DEPTH= 108.KM

A= 0.27906 B=-0.92078 C=-0.27256 D=-0.9570 E=-0.2900
G=-0.0791 H= 0.2608 K=-0.9621 HT= 5.6

DEPTH OF FOCUS= 0.012R

SE= 1.37

	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	
AREQUIPA	1.67	109.0	0	28	-2								
LA PAZ	4.85	97.5	1	14K	2	1	48	-20					
SANTA LUCIA	17.59	173.1	3	56	-4	7	9	-1			4	10	PP
BOGOTA	20.43	357.3	4	33	2	8	17	9					
FUQUENE	21.26	358.4	4	42	3	8	38	14					
CARACAS	26.96	13.6	5	34	0	10	4	3					
TRINIDAD	28.84	24.5	5	50	0								
ST. VINCENT	31.19	22.8	6	9	-2								
SAN JUAN	34.78	11.7	6	40	-2								
FAYETTEVILLE	55.43	339.3	9	25K	-1				9	49	10	24	PCP
ST. LOUIS 1	56.58	344.0	9	33	-1				9	57			
FLORISSANT	56.77	343.9	9	33	-2								
LAWRENCE	58.39	339.8	9	45	-2								
TUCSON	59.97	323.2	9	57	-1								
TUCSON TELE.	59.98	323.4	9	57	-1								
BREBEUF	61.13	359.6	10	4	-1								
SEVEN FALLS	62.78	1.8	10	16	0								
LARAMIE	64.38	333.4	10	26	-1								
PASADENA	65.69	319.9	10	36	1						11	1	
RAPID CITY	65.72	336.7	10	36	0				11	0			
FLAMING GRGE	65.79	330.6	10	36	0				11	1			
SALT LAKE C.	66.86	328.9	10	43	0								
BYRD STATION	67.41	187.9	10	45	-1				11	20	39	2	PKPPKP
EUREKA	68.07	325.4	10	51	1				11	16	38	58	PKPPKP
LICK	69.91	320.5	11	3K	1								
BOZEMAN	70.25	332.8	11	3	-1								
RENO	70.26	323.3	11	5K	1								
CONCORD	70.57	320.8	11	7	1								
BERKELEY	70.63	320.6	11	7K	1								
BUTTE	71.19	332.1	11	10	1								
MINERAL	71.83	323.0	11	12K	-1								
SHASTA	72.52	322.9	11	16	-1								

HUNGRY HORSE	73.61	332.9	11	24	1						
SOUTH POLE	74.18	180.0	12	0	33						
CORVALLIS	75.53	325.5								11	53
PENTICTON	76.85	330.8	11	43	1						
VICTORIA	78.16	328.5	11	49	0						
SCOTT BASE	80.55	190.7	12	3	1						
CAPE HALLETT	82.67	196.0	12	13	0						
TOLEDO	84.83	46.2	12	25K	1						
TAMANRASSET	86.00	65.1	12	31K	1				12	56	
RESOLUTE	91.44	354.3	12	55	0						
BULAWAYO	95.21	112.5	13	12K	-1						
STUTTGART	96.92	41.3	13	19	-1						
COLLEGE	97.93	335.4	13	24	-1				13	50	
COLLMBERG	99.87	39.5	13	35	1						
QUETTA	140.84	61.6	19	20	2						
MATUSIRO	145.42	312.4	19	26K	0						
LAHORE	146.56	56.4	19	31	3						
ULAN-BATOR	148.09	359.9	19	33	3						
POONA	148.39	80.4	19	32	2						
SHILLONG	163.02	53.1	19	51K	2						

DECEMBER 22 6.H 31.M 23.S EPICENTRE -31.12-176.96 DEPTH= 36.KM

A=-0.85642 B=-0.04553 C=-0.51426 D=-0.0531 E= 0.9986
G= 0.5135 H= 0.0273 K=-0.8576 HT= 1.5

DEPTH OF FOCUS= 0.000R

SE= 2.30

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ONERAHI	8.60	235.1	2	9	4								
KARAPIRO	9.19	220.3	2	11	-2						2	42	
CHATEAU	10.13	215.2	2	23	-3	4	4	-15			2	41	
TONGARIRO	10.14	215.3	2	22	-4	4	5	-14					
WELLINGTON	12.14	211.1	2	52	-1	4	53	-15					
COBB RIVER	12.96	217.1	3	6	2	5	15	-13			3	41	
SUVA	13.57	341.0	3	12	0						5	48	
KAIMATA	14.68	216.0	3	29	3	5	53	-16					
GEBBIES PASS	15.01	210.3	3	22	-9	5	58	-18			3	53	
NOUMEA	17.22	296.7	4	2	3	7	24	17					
AFIAMALU	17.78	16.7	4	3	-3	7	11	-9					
BRISBANE	26.62	270.3	5	34	-3	10	7	0					
RIVERVIEW	26.99	255.7	5	41A	1						10	19	
CANBERRA	28.70	252.4	5	56A	1								
FORT NELSON	30.62	237.3	6	19	7						6	35	SP
MELBOURNE	31.93	247.4	6	23A	-1				6	38			
ADELAIDE	37.13	251.9	7	9	1						9	29	
RABAUL	39.50	306.4	7	27	-1						9	35	
PORT MORESBY	39.73	295.2	7	31	1						13	37	
CAPE HALLETT	41.81	185.8	7	50	3	14	11	9			17	32	SS
SCOTT BASE	47.39	184.6	8	35	3								
BYRD STATION	54.06	169.5	9	21	-2						39	27	PKPPKP
MUNDARING	56.10	250.3	9	34	-4								
SOUTH POLE	59.05	180.0	9	58	0						10	47	PCP
MIRNY	61.90	207.0	10	16	-2								
ARGENTINE I.	70.90	155.7	11	13	-2								
MAWSON	71.95	200.4	11	20	-1								
LEMBANG	74.03	271.6	11	32	-1	21	4	2					
MANILA	74.89	297.8	11	38	0	21	28	16					
MATUSIRO	79.34	324.7	12	2	-1						21	55	
HONG KONG	84.71	299.8	12	28	-3	23	13	18					
ZO-SE	85.26	310.6	12	34	0	22	56	-4					
PASADENA	85.34	45.4	12	34	0						13	3	
SANTA LUCIA	85.38	126.4				24	55	114			28	53	SS
LICK	85.50	41.1	12	36A	1								
BERKELEY	85.53	40.4	12	36A	1								
CONCORD	85.71	40.4	12	37	1								
Y.-SAKHLINSK	85.85	333.6	12	37	0	23	12	6					
FRESNO	86.16	42.5	12	39	1								
NANKING	87.45	310.0	12	44	0	23	9	-12					
SHASTA	87.48	38.3	12	44A	-1								
VLADIVOSTOK	87.49	325.2	12	45	0	23	5	-16					
MINERAL	87.65	39.0	12	45A	0								
RENO	88.07	40.5	12	48A	1								
TUCSON	88.80	50.8	12	52	1								

TUCSON TELE.	88.92	50.8	12	53	1					
CORVALLIS	89.80	35.1	12	56A	0					
EUREKA	90.21	42.6	12	57	-1				31	10 PKKP
CHANGCHUN	91.35	322.3	13	3	0	24	4	7		
VICTORIA	92.59	32.4	13	7	-2					
SALT LAKE C.	93.46	43.6	13	12	-1					
HUANCAYO	93.58	106.2	13	16A	3					
PEKING	94.06	314.9	13	16	1	23	47	-33	24	30 S
AREQUIPA	94.28	112.0	13	17	1					
PENTICTON	94.93	33.6	13	19	0					
FLAMING GRGE	95.03	44.7	13	19	-1					
LA PAZ	96.91	113.8	13	30	2					
BOZEMAN	96.96	40.2	13	28	0					
HUNGRY HORSE	97.05	36.8	13	28	-1				17	22 PP
COLLEGE	98.34	12.1	13	34	-1				17	23 PP
KIMBERLEY	116.97	201.4	18	38	-3					
RESOLUTE	117.66	17.3	18	40A	-2					
OTTAWA	118.86	52.1	18	44	0					
WARSAK DAM	123.18	292.5	18	52	-1					
THULE	124.37	15.7	18	52	-3					
QUETTA	125.72	286.7	18	59A	1					
KHEYS	126.01	350.4	18	58	0					
SVERDLOVSK	133.02	320.6	18	59	-12				22	40 PKS
SHIRAZ	137.58	281.2	19	12K	-8				22	2 PP
APATITY	139.37	342.6	19	24	1					
ADDIS ABABA	140.17	244.2	19	27	2					
SODANKYLA	141.11	345.7	19	21	-5					
KIRUNA	141.85	349.4	19	21	-7					
TIFLIS	145.08	299.4	19	34	1					
MOSCOW	145.43	325.5	19	34	0					
PULKOVO	146.02	335.5	19	36K	1					
SKALSTUGAN	147.00	352.4	19	38	2					
NURMIJARVI	147.29	340.3	19	36	-1				19	49
HELSINKI	147.47	339.7	19	40	3					
UPPSALA	149.64	345.4	19	44	3				20	9
SIMFEROPOL	152.09	308.5	19	45	1					
KSARA	152.23	284.3	19	46	2				23	34 PP
GOTEBORG	152.72	349.5	19	52	7					
MBOUR	155.21	127.7	19	49	0				22	52 PKP2
LWOW	155.57	325.9							20	13
HELWAN	155.62	274.4	20	17	28				20	44
ISTANBUL KA.	156.82	302.6	19	40	-11				20	21
VIENNA-H.	160.10	333.1	19	55	0				20	36 PKP2
STUTTGART	161.75	346.7	19	56	0				20	42 PKP2
FOLINIERE	162.17	7.6	19	58	1					
TAMANRASSET	171.41	195.5	20	5	1				25	14 PP
GRANADA	171.83	40.5	21	32A	88				25	25 PP
ALGIERS UNI.	174.36	359.9	20	6	1				25	31 PP
SETIF	174.56	339.4	20	7	2				21	40 PKP2

DECEMBER 22 21.H 2.M 46.S EPICENTRE -6.81 154.79 DEPTH= 476.KM

A=-0.89844 B= 0.42299 C=-0.11780 D= 0.4260 E= 0.9047
G= 0.1066 H=-0.0502 K=-0.9930 HT= 6.9

DEPTH OF FOCUS= 0.070R

SE= 3.00

	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	
RABAUL	3.68	314.7	1	11A	-4								
HONIARA	5.73	117.3	1	21	-12						2	30	
PORT MORESBY	7.99	250.7	1	57	0	3	35	5					
NOUMEA	19.07	145.0	3	45	-6	5	38	-80					
BRISBANE	20.56	185.1	4	4	-1	7	26	3					
GUAM	22.47	333.6	4	24	1	8	2	7			8	15	PCP
SUVA	25.65	118.2	4	56	4	8	39	-7			11	14	
RIVERVIEW	27.10	186.7	5	2A	-3	9	9	0	6	13	8	12	PCP
CANBERRA	28.87	189.8	5	19A	-1				6	34	6	38	PP
ADELAIDE	31.69	205.6	5	44K	0	10	21	1			11	26	SCP
MELBOURNE	32.14	194.7	5	48K	0	10	28	1	7	6	15	26	SCS
AFIAMALU	33.60	104.8	5	54	-6				7	12			
ONERAHI	33.96	150.8	6	2	-1						7	32	
TARRALEAH	36.11	190.5	6	21A	0				7	39			
MOORLANDS	36.11	189.6	6	21A	0				7	40			

KARAPIRO	36.25	151.7	6	19A	-4					7	36	
FORT NELSON	36.57	189.2	6	24A	-1	11	37	3				
TONGARIRO	37.27	153.0	6	28A	-3					7	46	
CHATEAU	37.28	153.0	6	28A	-3					7	46	
COBB RIVER	37.69	157.6	6	32	-2	11	49	-2				
KAIMATA	38.49	160.1	6	39	-2	12	0	-3				
WELLINGTON	38.66	155.7				11	59	-6		10	14	
MANILA	39.66	302.7	6	54	3	12	24	4				
GEBBIES PASS	39.95	159.7	6	48	-5					8	15	
ROXBURGH	40.53	164.2				12	32	-1		14	56	
BAGUIO CITY	40.97	304.6	7	4	3	12	48	9				
MUNDARING	43.79	230.0	7	24	0	13	22	3				
PERTH	44.07	230.2	7	29	3					8	52	
TUKUBASAN	44.97	343.1	7	34A	1	13	26	-10	9	22	9	29 PP
ABUYAMA	45.25	337.6	7	37A	2							
MATUSIRO	45.84	341.3	7	40A	1	13	53	5			12	23 SCP
LEMBANG	46.82	267.0	7	48	1				9	18		
DJAKARTA	47.64	267.8	7	52K	-1	14	14	1				
HONG KONG	49.18	307.2	8	9K	4	14	48	14			9	54 PP
ZO-SE	49.54	321.4	8	10A	2	14	45	6			10	14 *SP
CANTON	50.25	307.5	8	17K	4	15	2	14	9	50	10	25 *SP
NANKING	51.69	320.5	8	27K	4	15	19	11	9	54	17	35 SCS
VLADIVOSTOK	53.87	339.4	8	41	2	15	47	10			10	44 PP
Y.-SAKHLINSK	54.65	349.9	8	45	0	15	54	7	10	12	10	58 PP
CHANGCHUN	57.02	334.9	9	2A	1	16	24	6	10	29	11	9 *SP
PEKING	58.65	325.9	9	14A	2	16	47	8	10	43	18	21 SCS
SIAN	59.55	316.4	9	23	5	16	58	8				
PETROPAVLOVK	59.69	2.7	9	18	-1	16	56	4			11	32 PP
KUNMING	59.74	304.2	9	24K	5	17	5	12			11	33 *SP
CHENGTU	61.23	310.4	9	32	3	17	20	9	11	0	11	40 *SP
LANCHOW	64.03	315.6	9	52	5	17	58	12				
PORT BLAIR	64.41	286.3	9	58	8							
CAPE HALLETT	66.12	174.9	9	58	-2	18	14	3	11	28	10	21 PCP
MAGADAN	66.22	357.8	10	1	0	18	17	5				
WILKES	66.75	197.9	10	8	4	18	17	-1	11	32	12	17 PP
CHITTAGONG	68.08	297.3	10	14	1	18	45	11	11	58	12	59 PP
ULAN-BATOR	68.85	327.7	10	20	3							
SHILLONG	69.04	300.6	10	21K	3	18	55	10			12	45 PP
LHASA	71.07	304.4	10	35K	5	19	19	11				
CALCUTTA	71.19	296.5	10	39	8	19	19	10			19	59
SCOTT BASE	71.28	177.3	10	31A	-1				12	2		
YAKUTSK	71.32	347.8	10	32	0	19	15	4				
MIRNY	72.79	201.7	10	40	0							
IRKUTSK	72.81	330.3	10	42A	2	19	37	10			12	19 PP
CHATRA	73.44	300.5	10	48	4						13	35 PP
BOKARO	73.82	297.1	10	50	4	19	49	11				
COLOMBO	75.97	278.8	11	3	5	20	14	12				
MADRAS	76.67	285.0	11	8K	6							
HYDERABAD	79.12	289.2	11	16	1	20	43	8			25	50 SS
TIKSI	80.13	351.9	11	18	-2	20	50	5				
DEHRA DUN	82.08	301.8	11	36	6	21	12	7			14	9 PP
BYRD STATION	82.59	169.9	11	32	-1	21	14	4	13	9	30	40 PKKP
COLLEGE	82.99	21.2	11	34	-1	21	20	6			14	22 *SP
SOUTH POLE	83.24	180.0	11	36	0	21	23	7	13	22	40	37 SKPPKP
POONA	83.62	289.5	11	41	3	21	24	4			26	23 SS
MAWSON	84.48	202.6	11	42	0							
BOMBAY	84.64	289.7	11	44	1	21	29	-1			24	23 SS
LAHORE	85.46	302.4	11	49K	2	21	46	9			21	29 SKS
SEMIPALATNSK	85.47	321.8	11	48	1						21	44 SKKS
FRUNSE	87.42	313.5	12	0	4	22	6	10			21	45 SKS
WARSAK DAM	88.19	304.4	12	3K	3							
BERKELEY	88.60	51.8	12	2	0							
SHASTA	88.98	49.0	12	4	0							
LICK	89.00	52.4	12	4A	0							
MINERAL	89.51	49.4	12	6A	0							
FRESNO	90.37	53.2	12	10	0							
RENO	90.75	50.4	12	13A	1							
KARACHI	90.79	294.8	12	16K	4	22	6	-20				
DUZHANBE	91.09	308.5	12	17	3	22	39	11				
PASADENA	91.34	55.9	12	14A	-1	22	5	-25	13	52	18	46
QUETTA	91.52	300.0	12	18K	3	22	12	-20			16	10 PP
PENTICTON	92.24	40.8	12	17A	-2						27	25
EUREKA	93.69	50.8	12	26	1	22	33	-18	14	4	16	7 PP
HUNGRY HORSE	95.82	42.1	12	34	-1	22	31	6			16	28 PP
GLEN CANYON	96.94	53.6	12	37	-3						16	39 PP
SALT LAKE C.	96.94	49.8	12	40	0							
TUCSON TELE.	97.39	58.3	12	44	2							
BOZEMAN	97.73	44.9	12	43	-1							
KHEYS	97.78	350.5	12	44	0							

SVERDLOVSK	97.93	326.4	12	45	0						
FLAMING GRGE	98.81	49.7	12	48	-1					14	25 *PPP
ASHKABAD	99.22	307.3								26	13 PS
RESOLUTE	101.84	14.8	13	1	-1					22	58
RAPID CITY	103.33	46.4	13	9	0					17	28 PP
TANANARIVE	103.92	248.7	13	15	4					17	38 PP
SHIRAZ	103.98	298.8	13	13	1	23	11	7		26	53 SS
TEHERAN	104.82	305.1				23	19	11		17	38 PP
APATITY	107.89	339.8				23	30	9		18	40 PP
GORIS	108.54	309.3				23	33	9		18	13 PP
TIFLIS	109.40	311.8	17	47	777	23	39	11			
SODANKYLA	110.25	341.1								18	17 PP
MOSCOW	110.70	327.4								20	38 PPP
FAYETTEVILLE	110.95	54.1								24	34
KIRUNA	111.87	343.0	17	41	1						
PULKOVO	112.71	333.1	18	34	53					19	39 PP
ST. LOUIS 1	113.68	50.8								18	10 PP
NURMIJARVI	114.77	335.4	17	47	2						
HELSINKI	114.83	335.0	17	48	3						
SIMFEROPOL	116.27	317.1	19	4	76					22	34 PKS
ADDIS ABABA	116.66	276.7	17	55	6						
KSARA	117.70	304.6				23	52	-8		19	15 PP
UPPSALA	117.99	337.1	17	53	2						
JERUSALEM	118.63	302.4	17	57	4					19	25 PP
KIMBERLEY	120.28	231.2	17	56	0						
BULAWAYO	120.70	241.9	17	59	2						
ISTANBUL KA.	121.03	314.2								19	40
GOTEBORG	121.61	337.6	18	0	1						
BUCHAREST	121.80	318.8								21	8
OTTAWA	121.91	39.8	18	0	1						
HELWAN	122.27	301.0	18	3	3					21	59
COPENHAGEN	122.84	335.7				24	32	15		36	5 SS
SHAWINIGAN	123.21	37.5	18	3	1						
SEVEN FALLS	124.08	36.1	18	4	1					25	56
PALISADES	124.96	43.9								19	59 PP
LWIRO	125.34	262.4	18	9	3					20	8
COLLMBERG	125.56	331.5	18	10K	4					19	46 PP
PRUHONICE	125.65	329.5	18	10K	4					20	10 PP
VIENNA-H.	125.74	326.9								18	10
HALLE	125.92	332.2	18	12	5					20	45
BALBOA HTS.	126.16	83.9	19	20	73						
JENA	126.47	331.9	18	11	3					36	50 SS
HUANCAYO	126.76	110.4	18	13	5	21	59				
LJUBLJANA	128.05	325.6	18	19	8					20	56 *SPKP
BENSBERG	128.43	334.4								21	1
DURHAM	128.55	342.7								20	56 PP
AREQUIPA	128.71	117.3	18	16	4						
HEIDELBERG	128.86	332.1	18	15	2					20	56 SKP
STUTTGART	129.04	331.2	18	16	3	20	7			20	32 PP
WINDHOEK	129.33	233.6	18	18	5					21	1
EBINGEN	129.59	330.8	18	16	2						
UCCLE	129.73	336.0								21	2
STRASBOURG	129.89	331.9								21	2 *SPKP
DOURBES	130.17	335.2	21	3	168					24	2 PPP
BASLE	130.72	331.0								20	44
KEW	130.95	339.6								21	5 PP
NEUCHATEL	131.40	330.9								21	7
LA PAZ	131.65	119.1	18	22	5					21	6 PP
BESANCON	131.68	331.8								21	7 *SPKP
ROME	131.68	322.3								20	54 PP
PARIS	132.04	335.6								21	10
FOLINIERE	133.24	337.7								18	13
ISOLA	133.31	328.1	18	25	4					21	15 PP
SAN JUAN	138.56	70.0	18	22	-9					21	29 PP
SETIF	139.51	320.6	18	29	-3					21	33 PP
ALGIERS UNI.	140.58	323.2								21	32 PP
TOLEDO	141.99	333.2	18	38	0						
SERRA PILAR	142.75	339.1	18	39A	0	24	58	-2		21	54 PP
ALMERIA	143.61	328.5	18	41K	1				20 37	22	2 PP
GRANADA	143.93	330.0	18	39A	-2					19	8
ST. VINCENT	143.96	77.0	18	38	-3						
TRINIDAD	144.04	81.3	18	39	-2						
BARBADOS	145.58	76.8	18	47	4						
TAMANRASSET	146.42	301.5	18	49	4				20 25	22	20 PP

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DECEMBER 23 9.H 41.M 49.S EPICENTRE -3.52 102.05 DEPTH= 120.KM

A=-0.20834 B= 0.97615 C=-0.06100 D= 0.9780 E= 0.2087
G= 0.0127 H=-0.0597 K=-0.9981 HT= 7.1

DEPTH OF FOCUS= 0.014R

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	
DJAKARTA	5.45	119.2	1	20A	-1	2	22	-1					
LEMBANG	6.45	120.9	1	31K	-3	2	51	4					
PORT BLAIR	17.71	328.5	3	54	-7						6	10	
COLOMBO	24.44	295.1	5	21	12	9	24	6					
MANILA	26.12	45.8	5	24	-1	10	10	24					
BAGUIO CITY	26.98	42.2									5	33	PG
MADRAS	27.22	307.5									6	12	
CHITTAGONG	27.60	339.2	5	37	-1	10	12	3			6	29	PP
HONG KONG	28.27	24.2	5	50	6	10	29	9					
KUNMING	28.48	1.3	5	46K	0	10	28	4					
SHILLONG	30.56	341.7	6	1K	-4	11	53	57			7	39	PP
HYDERABAD	31.24	312.5									7	4	
MUNDARING	31.27	156.4	6	11	0								
BOKARO	31.46	330.6	6	11	-2						10	13	
CHATRA	33.42	335.4	6	27A	-3	12	2	21					
LHASA	34.62	343.0	6	39K	-1	12	0	0					
POONA	35.38	309.2	6	44	-2								
BOMBAY	36.39	308.8				12	32	5			8	8	
SIAN	38.12	9.2	7	9	0	12	56	3					
ZO-SE	38.96	26.6	7	18	2	13	12	6					
LANCHOW	39.40	2.3	7	21	1	13	15	3					
DEHRA DUN	40.73	327.4	7	40	9	13	33	1			9	6	PP
LAHORE	43.73	324.9	8	0	5								
PORT MORESBY	45.16	99.7	8	7	0	14	42	6			8	29	
PEKING	45.24	15.3	8	8	1	14	43	5					
CHARTERS TS.	46.11	114.6	8	15	1	14	56	6					
ADELAIDE	46.19	137.2	8	16A	1								
WARSAK DAM	47.11	324.9	8	21K	-1	15	5	1					
QUETTA	47.42	317.5	8	25	0	15	6	-2			10	14	PP
ABUYAMA	49.50	36.7	8	41A	0								
CHANGCHUN	51.57	21.4	8	55A	-1	16	8	2					
ANDIJAN	51.74	331.4	8	56K	-2	16	9	1					
MELBOURNE	51.97	136.8	9	1	2						10	11	PCP
MATUSIRO	52.20	37.0	9	0A	-1						10	11	PCP
FRUNSE	52.38	334.7	9	1	-1	16	20	3					
VLADIVOSTOK	53.68	26.9	9	11	-1								
CANBERRA	53.68	132.1	9	13A	1								
BRISBANE	53.87	121.5	9	15	2						21	23	
RIVERVIEW	54.70	129.6	9	20A	1						11	25	PP
TARRALEAH	55.26	140.8	9	24	1								
TANANARIVE	55.36	249.5	9	24A	0				9	42			
IRKUTSK	55.61	1.7	9	24	-2	17	6	5					
FORT NELSON	56.15	141.0	9	30	0				9	55			
SHIRAZ	57.73	308.4	9	39K	-2	17	26	-2	9	53	11	31	PP
HONIARA	57.78	98.9	9	41	1								
TEHERAN	61.36	314.2	10	4	-2								
ADDIS ABABA	64.29	281.7	10	26	1								
TIFLIS	68.67	317.5	10	51A	-2	19	48	3					
YAKUTSK	68.71	13.6	10	51	-2	19	43	-2					
SVERDLOVSK	68.87	337.1	10	52	-2	19	47	0					
MAWSON	69.33	195.0	10	56	-1						11	17	
JERUSALEM	72.39	304.8	11	14	-1								
KSARA	72.42	307.0	11	16	1	20	25	-3			21	3	PS
LWIRO	73.15	268.7	11	20K	0								
COBB RIVER	73.17	131.8	11	22	2								
BROKEN HILL	73.23	256.1	11	17A	-3								
BULAWAYO	73.25	250.1	11	18A	-2								
PRETORIA	73.95	244.4	11	18	-6								
KARAPIRO	74.83	128.2	11	29	0						14	17	
TONGARIRO	74.99	129.5	11	31	1						11	59	
CHATEAU	75.00	129.5	11	31A	1								
TIKSI	77.02	8.4	11	38	-4								
KIMBERLEY	77.15	241.5	11	41	-1								
ISTANBUL KA.	79.57	312.7	11	50	-6				12	11			
CAPE HALLETT	80.12	163.3	12	0	1								
SCOTT BASE	81.38	168.8	12	7	2								
ATHENS	82.98	308.8	12	11K	-2								
PULKOVO	83.93	331.1	12	18	0	22	34	4					
WINDHOEK	84.00	247.8	12	19	0								

SOFIA	84.10	313.4	12 18	-1						
LWOW	84.97	320.5	12 21	-2						
APATITY	85.21	339.0	12 24	-1						
SOUTH POLE	86.50	180.0	12 31	0			12 51	29	9	PKKP
KHEYS	86.70	353.4	12 31A	-1						
NURMIJARVI	86.86	331.1	12 32	-1				12 58		
SODANKYLA	87.65	338.0	12 36	0	23 10	4				
VIENNA-H.	89.72	318.2	12 47	1						
KIRUNA	90.07	337.9	12 47	-1						
UPPSALA	90.21	329.8	12 48	-1						
LJUBLJANA	90.79	315.9	12 51	0			13 32			
TROMSOE	90.87	339.7	12 52	0						
PRUHONICE	91.06	319.8	12 53A	0			13 27	16	29	PP
COLLMBERG	92.12	321.1	12 58	1				16	45	PP
HALLE	92.79	321.3	13 0	0			13 20	16	35	PP
JENA	93.00	320.7	12 50	-11			13 17			
SKALSTUGAN	93.02	333.4	13 1	-1						
BYRD STATION	94.03	173.3	13 8	2			13 30	30	3	PKKP
STUTTGART	94.45	318.5	13 6	-2			13 30			
TAMANRASSET	97.37	292.4	13 22	1						
COLLEGE	101.65	24.2	17 59	258				29	47	PKKP
RESOLUTE	108.22	4.7	18 15	777						
VICTORIA	120.73	33.5	18 40	2						
PENTICTON	122.28	31.0	18 43	2						
SHASTA	125.55	40.9	18 50	2				20	40	
HUNGRY HORSE	125.70	28.9	18 49	1				20	45	PP
MINERAL	126.25	40.9	18 51K	2						
BERKELEY	127.05	43.8	18 53	3						
LICK	127.74	44.1	18 55K	3						
RENO	127.85	40.8	19 1	9						
VINEYARD	128.21	44.6	18 56	3						
BOZEMAN	129.04	29.5	18 56	2						
EUREKA	130.33	38.7	18 59	2				22	49	PPP
PASADENA	131.77	45.9	19 3	3				20	22	
SALT LAKE C.	131.98	34.7	19 1	1				22	51	PPP
FLAMING GRGE	133.24	32.9	18 47	-15				22	57	PPP
SEVEN FALLS	136.13	353.0	19 2	-6						
SHAWINIGAN	136.90	354.8	19 12	3						
TUCSON	137.96	43.4	19 4	-7				23	15	PPP
TUCSON TELE.	137.98	43.2	19 4	-7				24	33	PPP
FLORISSANT	143.11	16.3	19 19	-1						
ST. LOUIS I	143.30	16.2	19 19	-2				22	59	PKS
FAYETTEVILLE	144.29	22.8	19 22A	0				19	48	
CHAPEL HILL	147.74	1.7	19 33	5						
COLUMBIA	149.54	5.0	19 37	6						
LA PAZ	157.87	205.7	19 47A	5				23	51	PP
HUANCAYO	164.31	189.5	19 55	6						

DECEMBER 23 10.H 48.M 3.S EPICENTRE 8.83 126.12 DEPTH= 69.KM

A=-0.58263 B= 0.79831 C= 0.15246 D= 0.8078 E= 0.5895
G=-0.0899 H= 0.1232 K=-0.9883 HT= 6.7

DEPTH OF FOCUS= 0.006R

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
MANILA	7.62	320.1	1	10	-40							
BAGUIO CITY	9.28	324.9	2	11	-2	4	26	29				
HONG KONG	17.65	320.7	4	4	2	7	27	13				
CANTON	18.74	320.6	4	16	1	7	50	12				
ZO-SE	22.63	348.9	4	56	1	9	4	10				
NANKING	24.10	344.6	5	15	5	9	34	15				
LEMBANG	24.13	230.4	5	10	0	10	26	66				
DJAKARTA	24.33	232.9	5	29	17	10	36	73				
ABUYAMA	27.33	17.1	5	41K	1							
KUNMING	27.54	308.9	5	42	0	10	35	19				
PORT MORESBY	27.68	130.3	5	42	-1							
RABAUL	29.02	115.5	5	55	0						6	36
MATUSIRO	29.69	19.9	6	0A	-1							
PEKING	32.32	345.6	6	23	-1							
LANCHOW	33.86	326.5	6	38	1							
CHANGCHUN	34.87	359.0	6	35	-11							
CHARTERS TS.	34.91	145.6	6	44	-2							

CHITTAGONG	35.57	296.2	6 55	3							
SHILLONG	36.56	301.4	6 58A	-2							
LHASA	38.82	307.0	7 21	2							
CHATRA	40.96	301.0	7 39	2							
MUNDARING	41.66	192.7	7 38	-5							
ULAN-BATOR	42.22	340.8	7 49	2							
BRISBANE	44.31	145.2	8 4	0	14 39	6					
ADELAIDE	45.16	165.4	8 9A	-2							
RIVERVIEW	48.63	152.0	8 59	21	16 3	29			19	16	SS
CANBERRA	48.94	155.1	8 42	1							
DEHRA DUN	49.64	302.4	8 53	7	16 6	18					
MELBOURNE	49.65	160.4	8 46	0			9	2			
BOMBAY	52.54	287.0			16 32	4					
LAHORE	53.04	302.9	9 7	-5							
YAKUTSK	53.16	2.1	9 11	-2	16 41	5					
FORT NELSON	55.03	161.1	9 30	4							
WARSAK DAM	55.89	305.2	9 32	0							
FRUNSE	56.23	316.2	9 35A	0							
ANDIJAN	57.11	313.1	9 40	-1							
KARACHI	58.33	293.7	9 48	-2							
QUETTA	59.02	299.8	9 53	-1	17 57	3	10	6	18	19	*SS
TIKSI	62.77	1.0	10 17	-3	18 48	6					
KARAPIRO	65.47	138.7	10 37	0							
TONGARIRO	66.19	139.8	10 45	3							
CHATEAU	66.20	139.8	10 46	4							
SVERDLOVSK	69.35	327.7	11 2	0							
SHIRAZ	71.46	298.3	11 13	-2							
TIFLIS	77.72	310.8	11 51	1							
KHEYS	77.82	351.0	11 51	0							
COLLEGE	80.39	25.6	12 6	1							
MOSCOW	81.93	325.2	12 13	0							
TANANARIVE	82.17	249.5	12 13	-1							
APATITY	82.94	337.3	12 21	3							
SODANKYLA	85.55	337.5	12 21	-10							
ADDIS ABABA	86.05	278.5	12 40	6	23 26	25					
JERUSALEM	86.18	301.4	12 29	-5							
KIRUNA	87.73	338.6	12 40	-2							
NURMIJARVI	87.98	331.0	12 49	6							
RESOLUTE	92.94	10.1	13 7	1							
PRUHONICE	96.79	322.8	13 29	5							
COLLMBERG	97.18	324.4	13 35	9							
SOUTH POLE	98.77	180.0	13 33	0							
BYRD STATION	102.78	170.6	17 55	244							
LA PAZ	164.15	120.2	20 5	10							

DECEMBER 25 5.H 20.M 53.S EPICENTRE 27.64 142.98 DEPTH= 0.KM

A=-0.70827 B= 0.53418 C= 0.46152 D= 0.6021 E= 0.7984
G=-0.3685 H= 0.2779 K=-0.8871 HT= 2.6

SE= 2.44

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
TUKUBASAN	8.89	344.8	2	11	-2	2	45	-70				
MATUSIRO	9.75	336.7	2	22	-3	4	5	-11			4	42
VLADIVOSTOK	17.86	332.7	4	15	3							
KURILSK	17.98	11.3									8	7
Y.-SAKHLINSK	19.34	359.5	4	30K	0	8	4	1				
BAGUIO CITY	23.53	246.3	5	12	-1	9	33	9				
HONG KONG	26.62	264.9	5	47	5							
PETROPAVLOVK	27.90	20.4									8	15
RABAUL	32.88	162.9	6	39	1							
ULAN-BATOR	34.53	315.7	6	50	-2							
YAKUTSK	35.49	349.3	7	5	4							
PORT MORESBY	37.04	173.2	7	14	0							
IRKUTSK	37.83	321.3	7	21	1	13	14	2				
SHILLONG	45.48	279.6	8	31K	8							
CHITTAGONG	46.40	275.4	8	18	-12							
CHARTERS TS.	47.56	175.8	8	39	0							
LEMBANG	48.40	230.2	8	42K	-4							
BRISBANE	55.52	169.4	8	42	-57							
COLLEGE	56.51	28.6	9	48	2						10	9
WARSAK DAM	60.55	295.3	10	13	-2							
KHEYS	62.09	349.3	10	24	-1							
CANBERRA	62.88	174.5	10	31	1							

SVERDLOVSK	63.23	322.4	10	31	-2					
QUETTA	65.40	292.5	10	45	-2				11	2 *SP
RESOLUTE	71.37	13.7	11	23	-1					
APATITY	71.81	337.6	11	26	-1					
KARAPIRO	72.02	153.4	11	32	4					
SODANKYLA	74.15	338.9	11	40	0					
THULE	74.38	7.3	11	43	1					
MOSCOW	75.65	325.7	11	48	-1					
SHASTA	75.80	51.4	11	50	0					
MINERAL	76.49	51.5	11	54	0					
BERKELEY	77.07	54.0	11	58	1					
SHIRAZ	77.23	296.8				21	43	-4		
LICK	77.74	54.3	12	3A	2					
TIFLIS	77.79	310.7	11	59	-2					
HUNGRY HORSE	77.83	41.7	12	3	2					
RENO	78.08	51.6	12	7	4					
NURMIJARVI	78.88	333.6	12	7	0					
BUTTE	79.82	43.3	12	14	2					
EUREKA	80.76	50.3	12	18	1					
SCORESBY SD.	81.56	354.9	12	22	1					
PASADENA	81.68	55.9	12	25	3					
UPPSALA	81.99	335.4	12	23	0					
SALT LAKE C.	82.89	47.6	12	29	1					
GLEN CANYON	84.99	50.8	12	40	1					
RAPID CITY	86.46	41.3	12	48	2					
LARAMIE	86.61	44.6	12	50	3				13	12
TUCSON	87.97	54.5	12	55	2					
TUCSON TELE.	88.00	54.4	12	55	2					
COLLMBERG	89.92	331.2	13	6	3					
TAMANRASSET	115.19	316.4	19	42	58					
SOUTH POLE	117.49	180.0	18	50	2					
BYRD STATION	118.34	168.7	18	52	2					
HUANCAYO	140.96	74.3	19	34	2					
AREQUIPA	146.28	78.0	19	53	11					
LA PAZ	149.20	75.4	19	58	12					

DECEMBER 25 20.H 27.M 39.S EPICENTRE 54.67 161.67 DEPTH= 70.KM
A=-0.55144 B= 0.18267 C= 0.81397 D= 0.3145 E= 0.9493
G=-0.7727 H= 0.2560 K=-0.5809 HT= -7.1

DEPTH OF FOCUS= 0.006R

SE= 1.46

	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
PETROPAVLOVK	2.44	228.5	0	37K	-2	1	7	-1				
MAGADAN	7.68	314.0	1	56	5							
YAKUTSK	18.15	306.8	4	7	-2	7	35	9				
TIKSI	22.06	332.8	4	48K	-2							
MATUSIRO	24.26	231.3	5	13K	1						5	39
COLLEGE	26.65	47.3	5	33	-1							
KHEYS	38.69	345.2	7	20	1							
RESOLUTE	41.51	23.0	7	42	0							
NORD	43.97	359.6	8	1	-1							
THULE	45.36	14.7	8	13	0							
HUNGRY HORSE	49.84	60.3	8	48	0							
SHASTA	50.50	72.9	8	53	0							
MINERAL	51.18	72.7	8	58K	0							
APATITY	52.16	337.5	9	5	-1							
RENO	52.73	72.2	9	11	1							
LICK	53.26	75.4	9	10A	-4							
SODANKYLA	53.74	340.2	9	17	0							
KIRUNA	54.47	343.0	9	21	-2							
EUREKA	54.88	69.7	9	27	1							
PASADENA	57.51	75.6	9	45	1						10	14
SHILLONG	57.96	269.7	9	46	-2							
RAPID CITY	58.21	57.6	9	50	1							
GLEN CANYON	59.08	68.8	9	16	-39						9	46 PCP
RABAUL	59.19	191.1	9	57	1							
SKALSTUGAN	59.71	344.7	9	59	-1							
NURMIJARVI	60.19	337.1	10	2	-1							
HELSINKI	60.42	336.8	10	5	0							
UPPSALA	62.27	340.4	10	16	-1							
TUCSON	63.02	71.8	10	23	1							
GOTEBORG	65.33	342.7	10	36	-1							

QUETTA	68.55	292.0	10	56	-1					
WITTEVEEN	70.89	344.3	11	14	3					
COLLMBERG	71.21	339.8	11	15A	2				12	41
RACIBORZ	71.23	336.1	11	15	1				11	27 PCP
HALLE	71.23	340.6	11	12	-2	11	28		11	32 PCP
JENA	71.85	340.6	11	17	0				11	37
PRUHONICE	72.14	338.4	11	19A	0					
PLAUEN	72.15	340.1	11	17	-2					
BENSBERG	72.61	343.4	11	22	0					
HEIDELBERG	73.84	342.0	11	28	-1					
DOURBES	73.85	344.9	11	29	0					
STUTTGART	74.35	341.4	11	32	0					
TUBINGEN	74.62	341.5	11	34	1					
STRASBOURG	74.80	342.4	11	36A	2				12	5
EBINGEN	74.97	341.5	11	36	1					
RAVENSBURG	75.24	340.9	11	38	1					
PARIS	75.42	345.9	11	39	1					
CHARTERS TS.	75.62	194.9	11	40	1				12	10
FOLINIERE	75.85	347.9	11	41	1					
BASLE	75.85	342.2	11	41A	1					
LJUBLJANA	75.86	337.1	11	41A	0					
BESANCON	76.40	343.2	11	39	-5					
SHIRAZ	76.42	302.2	11	43	-1	21	34	12	15	19 PP
NEUCHATEL	76.47	342.5	11	45	1					
MONACO	79.55	341.3	12	1	0					
JERUSALEM	82.38	316.3	12	17	1					
HELWAN	85.60	318.4	12	33	1					
BYRD STATION	141.43	164.1	19	38	15					
SOUTH POLE	144.49	180.0	19	27	-1					

DECEMBER 26 1.H 44.M 45.S EPICENTRE 33.97 136.41 DEPTH= 0.KM

A=-0.60193 B= 0.57297 C= 0.55622 D= 0.6895 E= 0.7243
G=-0.4029 H= 0.3835 K=-0.8310 HT= 0.5

SE= 4.43

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
OWASE	0.20	298.7	0	8K	-1	0	14	-2				
TU	0.73	7.0	0	15A	-2	0	24	-5				
SIOMISAKI	0.75	225.9	0	18A	1	0	29	-1				
NARA	0.85	325.8	0	15K	-4	0	24	-8				
KAMEYAMA	0.88	3.1	0	17A	-2	0	28	-5				
OSAKA	0.99	313.0	0	17K	-4	0	29	-7				
WAKAYAMA	1.06	284.3	0	18K	-4	0	28	-9				
ABUYAMA	1.13	322.3	0	18K	-5							
KYOTO	1.19	331.8	0	20A	-4	0	32	-9				
KOBE	1.24	305.0	0	19K	-5	0	32	-10				
NAGOYA	1.28	20.9	0	23A	-2	0	39	-4				
SUMOTO	1.30	286.8	0	21K	-4	0	35	-8				
HIKONE	1.30	354.1	0	23A	-2	0	36	-8				
HAMAMATU	1.31	55.1	0	26A	1	0	42	-2				
GIHU	1.45	11.6	0	25K	-2	0	42	-5				
TOKUSIMA	1.52	274.1	0	25K	-3	0	40	-9				
OMAESAKI	1.62	66.8	0	30	0	0	50	-2				
TSURUGA	1.70	350.5	0	27K	-4	0	45	-9				
MAIZURU	1.71	330.9	0	28	-3	0	45	-9				
HIMEJI	1.75	288.1	0	27	-5	0	43	-12				
SHIZUOKA	1.92	58.3	0	33A	-1	0	55	-4				
IIDA	1.93	36.7	0	33A	-1	0	48	-12				
TAKAMATU	1.99	280.7	0	32K	-3	0	53	-8				
MUROTO	2.00	249.4	0	32A	-3	0	54	-7				
TSURUGISAN	2.00	267.1	0	31	-4						0	40
TOYOOKA	2.03	320.3	0	32K	-4	0	53	-9				
HUKUI	2.08	355.9	0	32A	-4	0	55	-8				
NAGATURO	2.11	72.1	0	44	7						1	2
OKAYAMA	2.18	289.6	0	33K	-5	0	57	-9				
TAKAYAMA	2.28	17.3	0	37	-2	0	52	-16				
MISIMA	2.39	60.7	0	39A	-2	0	59	-12				
TOTTORI	2.39	310.5	0	36K	-5	1	1	-10				
KOTI	2.44	260.8	0	38A	-3	1	5	-7				
KOHU	2.45	45.6	0	40A	-2	1	3	-10				
AJIRO	2.47	63.4	0	41A	-1	1	11	-2				
HUNATU	2.47	51.2	0	40A	-2	1	9	-4				
KANAZAWA	2.56	4.3	0	43A	0	1	12	-3				

OSIMA	2.58	71.2	0	44A	0	1	13	-3			
MATUMOTO	2.61	28.9	0	41	-3	1	10	-7			
TOYAMA	2.80	13.1	0	45	-2	1	14	-8			
YONAGO	2.91	300.8	0	44K	-4	1	16	-8			
OIWAKE	2.93	36.1	0	46	-3	1	37	12			
HATIDYOZIMA	2.95	106.2	0	50	1	1	25	-1			
MATUSIRO	2.95	29.4	0	46A	-3	1	21	-5			
TITIBU	2.97	46.8	0	48A	-1	1	41	15			
MERA	2.98	70.6	0	49	0				1	9	
MATUYAMA	3.02	268.5	0	49K	-1	1	32	5			
YOKOHAMA	3.04	60.5	0	51	1	1	26	-2			
NAGANO	3.06	28.0	0	48	-2	1	27	-1			
SIMIDU	3.12	248.5	0	46A	-5	1	30	0			
MATSUE	3.12	299.1	0	47	-4	1	20	-10			
TOKYO C.M.O.	3.23	57.3	0	53	0	1	30	-3	1	15	
MAEBASI	3.26	41.2	0	51A	-2	1	23	-10			
HONGO	3.26	57.0	0	59	6	2	1	28			
KUMAGAYA	3.26	47.4	0	51A	-2	1	43	10			
UWAZIMA	3.31	258.1	0	49K	-5	1	38	4	1	9	
HIROSIMA	3.32	277.9	0	50K	-4	1	25	-10			
SAIGO	3.36	312.2	0	55	0	1	41	5			
WAZIMA	3.42	6.5	0	49	-7	1	41	4			
TAKADA	3.46	25.1	0	54A	-2	1	25	-13			
HAMADA	3.71	285.7	0	56K	-4	1	34	-11			
TUKUBASAN	3.76	52.4	0	54	-6	2	1	15	1	21	*SP
KAKIOKA	3.82	52.9	1	0A	-1				1	18	
UTUNOMIYA	3.82	46.8	1	1	0	1	50	2	1	24	
TYOSI	4.04	63.2	1	4	0	1	48	-5			
OOITA	4.07	260.8	1	7A	2	1	52	-2	1	20	
MITO	4.10	53.0	1	4A	-1	1	58	3			
AIKAWA	4.30	19.7	1	8	0						
SHIRAKAWA	4.42	43.6	1	8	-2	1	50	-13			
NIIGATA	4.48	27.8	1	1	-10	1	51	-13			
SIMONOSEKI	4.56	271.2	1	6A	-6	1	50	-16			
ASOSAN	4.59	258.0	1	9	-3	2	11	4			
MIYAZAKI	4.67	245.4	1	10K	-3	1	58	-11			
ONAHAMA	4.72	49.7	1	11	-3	1	46	-24	2	16	
KUMAMOTO	4.91	258.0	1	15	-2	2	35	20			
HUKUSIMA	5.01	40.0	1	16	-2						
HUKUOKA	5.04	267.2	1	16	-2	2	17	-1			
SAGA	5.15	263.6	1	17	-3	2	31	10	1	50	
UNZENDAKE	5.30	258.2	1	19	-3	2	22	-3			
YAMAGATA	5.33	35.6	1	20A	-3	2	22	-3			
KAGOSIMA	5.49	245.7	1	23	-2	2	44	14			
NAGASAKI	5.61	259.0	1	22A	-4	2	29	-4			
SENDAI	5.62	39.0	1	24A	-3	2	42	9			
ITUHARA	5.92	274.2	1	24	-7	2	37	-3			
ISINOMAKI	5.96	40.3	1	29A	-2	2	43	2			
YAKUSIMA	6.12	236.6	1	31	-3	2	37	-8			
MIZUSAWA	6.39	35.1	1	36	-2	2	44	-8			
AKITA	6.45	26.2	1	36	-2						
TOMIE	6.54	260.2	2	9	29	3	26	30			
MORIOKA	6.87	32.3	1	41A	-3	2	53	-11			
MIYAKO	7.21	36.6	1	47	-2						
AOMORI	7.67	25.7	1	56	1						
HATINOHE	7.71	30.4	1	53	-3	3	28	3			
HAKODATE	8.54	22.4	2	4A	-4	3	57	11	5	29	
MORI	8.75	20.8	2	11	0						
MURORAN	9.07	22.0							3	12	
SUTTSU	9.31	17.6	2	14	-4						
TOMAKOMAI	9.55	23.6	2	7	-15						
URAKAWA	9.58	29.7	2	21	-1						
SAPPORO	9.87	21.6	2	5	-21				4	24	
HIROO	9.91	31.2	2	21	-6						
OBIHIRO	10.39	28.8	2	28	-5						
ASAHIGAWA	10.83	23.6	2	39	0						
KUSIRO	10.95	32.5	2	40	-1	4	48	3			
WAKKANAI	12.13	17.9							5	32	
CHANGCHUN	13.09	322.0	3	5A	-5						
ZO-SE	13.17	261.6	3	6A	-5	5	38	-1			
Y.-SAKHLINSK	13.88	18.3	3	11	-9						
NANKING	14.92	267.5	3	28	-6	6	13	-8			
PEKING	17.25	296.4	3	59	-5	7	11	-4			
OKHA	20.11	11.4	4	30	-8	8	11	-8	4	48	*SP
GUAM	21.78	157.7	4	52	-3	8	59	7			
SEVERO-KUR.	22.03	34.9	4	53	-5				8	53	PCP
BAGUIO CITY	22.55	223.1	4	59	-4	9	2	-4			
SIAN	22.74	278.5	5	3	-2						

HONG KONG	22.75	245.0	5	0	-5	9	9	-1				
MANILA	23.70	219.5	5	11	-3	9	29	2				
PETROPAVLOVK	24.78	33.1	5	20	-4	9	38	-7			5	37 *SP
LANCHOW	26.70	283.8	5	30	-12							
MAGADAN	27.29	16.0	5	41	-7	10	16	-11				
YAKUTSK	28.39	353.4	5	57	-1						7	1 PPP
IRKUTSK	29.37	318.3	6	11	4	11	5	5				
KUNMING	30.48	262.2	6	9	-8	11	7	-11				
TIKSI	37.93	356.1				13	0	-13			8	56 PPP
LHASA	38.56	276.3	7	20	-6	13	11	-12				
SHILLONG	39.31	269.9	7	35A	3							
CHITTAGONG	40.69	265.4	7	50	6	13	53	-2				
RABAUL	40.78	155.5	7	38	-6							
SEMIPALATNSK	43.65	309.6	8	11	3							
PORT MORESBY	44.32	164.7	8	8	-5						18	5
FRUNSE	48.26	299.7	8	50	6						10	42 PP
DJAKARTA	48.77	220.7									15	45
LEMBANG	48.89	219.4	8	45	-4	15	41	-12				
DEHRA DUN	48.98	282.6	8	55	5							
TASHKENT	52.47	298.9	9	21	4	16	53	11			11	22 PP
DUZHANBE	53.62	295.8	9	31	6							
COLLEGE	53.83	30.8	9	20	-7				9	39	10	24 PCP
CHARTERS TS.	54.57	168.6	9	27	-5	17	4	-7				
KHEYS	54.82	348.7									11	32 PP
POONA	57.38	271.3	9	55	3	17	57	9				
QUETTA	57.95	286.9	10	1A	5	18	2	6	10	25	12	18 PP
BOMBAY	58.06	272.3	10	2	5	17	46	-11				
ASHKABAD	61.54	298.4	10	27A	6	18	52	10			14	32
NOUMEA	62.84	148.6	10	25	-5						13	22
BRISBANE	62.97	163.7	10	26	-5	18	56	-4				
APATITY	63.78	335.3	10	46K	10	19	17	7				
NORD	63.82	355.7	10	27	-9							
SODANKYLA	66.17	336.5	10	43	-8							
RESOLUTE	66.54	13.1	10	46K	-8							
MOSCOW	67.24	322.7	11	2	4	20	2	9			20	46 SCS
TEHERAN	67.54	298.7	11	3	3	20	3	7				
KIRUNA	67.89	338.4	10	54	-8							
AFIAMALU	68.53	124.9	11	2	-4							
ADELAIDE	68.62	178.0	11	1	-6				11	23		
PULKOVO	68.70	328.5	11	13	6	20	13	3				
THULE	68.77	6.1	10	59	-9						11	6 PCP
RIVERVIEW	68.85	166.9	11	5A	-3	20	11	-1			21	8 SCS
GORIS	69.42	304.3	11	17	5	20	28	9				
TIFLIS	69.44	306.9	11	17	5	20	26	7			21	23 SCS
SHIRAZ	69.47	292.4	11	4A	-8	20	22	3			13	51 PP
CANBERRA	69.93	169.1	11	10K	-5							
NURMIJARVI	70.67	330.9	11	19	0							
HELSINKI	70.74	330.5	11	21	1							
MELBOURNE	71.88	172.9	11	22	-5	20	41	-6				
PENTICTON	73.18	41.6	11	29	-5							
SKALSTUGAN	73.21	337.2	11	35	1							
CORVALLIS	73.56	47.1	11	32K	-4							
UPPSALA	73.85	332.6	11	43	5							
SIMFEROPOL	74.57	314.0	11	48	6	21	23	5				
SCORESBY SD.	74.68	352.6	11	48	5							
ARCATA	75.02	50.7	11	41	-4							
SHASTA	76.20	50.2	11	47K	-5							
HUNGRY HORSE	76.77	40.2	11	50	-5						15	0 PP
MINERAL	76.89	50.1	11	50K	-6							
GOTEBORG	77.47	333.0	12	5	6							
SAN FRANCSCO	77.76	52.7	11	55	-5							
BERKELEY	77.83	52.5	11	56K	-5							
CONCORD	77.90	52.4	11	57	-4							
RENO	78.48	50.0	12	0K	-4							
LICK	78.53	52.7	12	0K	-5							
BUTTE	78.97	41.5	12	2	-5							
VINEYARD	79.03	53.1	12	3K	-4							
KRAKOW	79.26	324.0	12	9	0							
KSARA	79.53	303.7	12	7	-3							
BOZEMAN	80.03	41.1	12	8	-5						12	23 PCP
FRESNO	80.07	52.3	12	8K	-5							
RACIBORZ	80.08	324.8	12	10	-3				12	33		
KARAPIRO	80.25	149.6	12	10	-4							
POTSDAM	80.82	328.8	12	23	6							
EUREKA	80.94	48.3	12	13	-4				12	33	15	37 *SP
JERUSALEM	81.13	302.3	12	25	6							
TONGARIRO	81.32	150.3	12	15	-4							
CHATEAU	81.33	150.3	12	15	-5							
COLLMBERG	81.63	328.0	12	15	-6						15	18 PP

PRUHONICE	81.86	326.4	12 16A	-6						15	6
BRATISLAVA	81.90	323.9	12 29A	6							
VIENNA-H.	82.20	324.3	12 28	4						13	10
SOFIA	82.20	316.8	12 29	5							
JENA	82.51	328.4	12 22	-4						13	9
PLAUEN	82.58	327.8	12 31	5							
SALT LAKE C.	82.64	45.3	12 22	-4							
PASADENA	82.67	53.7	12 22	-5							
BENSBERG	84.35	330.5	12 41A	6							
LJUBLJANA	84.64	323.6	12 43	6							
HELWAN	84.96	302.7	12 38	0							
ATHENS	84.99	312.9					13	14			
STUTTGART	85.11	328.0	12 31	-8			13	10			
GLEN CANYON	85.20	48.2	12 34	-5							
RAPID CITY	85.26	38.6	12 37	-3						16	10 PP
LARAMIE	85.88	41.8	12 38	-5							
BASLE	86.80	328.1	12 40A	-7							
PARIS	87.92	331.5	12 46	-7							
TUCSON	88.68	51.4	12 51	-5						16	20 PP
TUCSON TELE.	88.70	51.3	12 52	-4						16	21 PP
ADDIS ABABA	91.29	281.7	13 7	-1	24	7 1				16	53 PP
LAWRENCE	93.06	37.8	13 10	-7							
ST. LOUIS 1	95.79	34.9	13 25A	-4							
FAYETTEVILLE	95.80	39.0	13 24K	-5			13	51	13	57	*SP
PALISADES	100.33	22.9								32	22
LWIRO	105.84	278.1								18	43 PP
TAMANRASSET	106.74	313.2								18	33 PP
CAPE HALLETT	108.57	169.7	18 28	777							
SOUTH POLE	123.79	180.0	18 17	-43							
BYRD STATION	125.66	168.0	18 59	-4			19	21			
HUANCAYO	143.78	60.6	19 32	-5							
AREQUIPA	149.47	62.1	19 48	2							
LA PAZ	151.91	57.8	19 49	-1						20	17

DECEMBER 26 4.H 32.M 33.S EPICENTRE -57.38 -26.04 DEPTH= 35.KM

A= 0.48665 B=-0.23773 C=-0.84063 D=-0.4389 E=-0.8985
G=-0.7553 H= 0.3690 K=-0.5416 HT= -8.0

DEPTH OF FOCUS= 0.000R

SE= 1.58

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
PORT STANLEY	19.20	273.6	4	23	-1						15	48	SCS
ARGENTINE I.	19.68	230.7	4	30	1						15	52	SCS
BYRD STATION	34.71	197.8	6	48	-1	12	3	-12			16	59	SCS
HERMANUS	37.99	72.6	7	14	-2	13	4	-2			16	5	SSS
SANTA LUCIA	38.42	289.1	7	37	17	12	57	-15			9	29	
MAWSON	38.71	142.2	7	22	0	13	9	-8	7	29	9	26	
GRAHAMSTOWN	42.69	78.8	6	54	-61								
SCOTT BASE	44.79	183.8	8	13A	1						10	1	PCP
KIMBERLEY	45.35	73.1	8	17A	0								
PIETERMZBURG	47.62	79.2	8	35	0								
PRETORIA	49.55	74.0	9	20	31								
CAPE HALLETT	50.10	186.4	8	53	-1	16	0	-1			10	49	PP
LA PAZ	51.48	304.7	9	4A	0	16	15	-5			11	9	PP
WILKES	52.38	159.5	9	13A	2	16	30	-3			9	39	
AREQUIPA	53.04	301.1	9	16	0				9	44			
BULAWAYO	54.40	70.5	9	24K	-2								
HUANCAYO	58.67	299.8	9	57	1	17	59	2					
BROKEN HILL	59.13	66.8	9	58K	-2								
TANANARIVE	65.43	86.8	10	45K	3						11	13	PCP
LOME	67.06	29.6	10	52	0								
LWIRO	69.85	60.5	11	10K	1						25	6	SS
MBOUR	71.89	9.2	11	21	0	20	39	0					
BOGOTA	72.92	309.2	11	28	0	20	42	-8			21	29	SS
TRINIDAD	73.75	323.7	11	32	0								
CARACAS	75.50	318.3	11	41K	-1	21	19	0					
ROXBURGH	76.71	191.0				21	27	-5					
FORT FRANCE	77.51	325.2	11	55	1								
GEBBIES PASS	78.08	193.7	11	56	-1								
KAIMATA	79.39	193.0	12	5	1								
WELLINGTON	80.16	195.8	12	6	-2	22	2	-7					
ST. KITTS	80.46	324.6	12	10	0								

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COBB RIVER	80.64	194.3	12	11	0					
CHATEAU	82.08	196.8	12	17	-1				22	27
TONGARIRO	82.08	196.8	12	17	-1				22	30
TUAI	82.21	198.1	12	24	5					
SAN JUAN	82.53	321.9	12	20	-1					
KARAPIRO	83.32	197.0	12	23	-2					
TAMANRASSET	84.13	29.0	12	29K	0	22	47 -2	12 54	15	44 PP
ADDIS ABABA	84.45	63.9	12	34	4	23	4 11			
MELBOURNE	84.85	172.9	12	31	-1	22	47 -10	13 0		
MUNDARING	85.47	148.5	12	34	-1					
ONERAHI	85.62	196.5	12	39	3				13	6
ADELAIDE	87.11	167.5	12	43	0	23	11 -7	12 57	23	57
CANBERRA	87.56	175.9	12	45	-1	23	17 -6	12 48		
RIVERVIEW	89.11	177.7	12	52A	-1	23	30 -7		16	20 PP
BRISBANE	95.55	178.9	13	21	-2	23	45 -10			
CHARTERS TS.	102.56	172.6	13	56	2					
KSARA	104.68	49.4	14	11	7				18	23 PP
PALISADES	105.94	324.3				24	46 1		18	42 PP
SOFIA	107.94	36.0	18	47	777					
SHIRAZ	108.67	64.2	14	30	777	24	47 -10		18	4
FAYETTEVILLE	109.25	307.2	18	10	777				20	32 PPS
STUTTGART	109.75	24.0							19	5 PP
BREBEUF	109.92	326.5							18	49 PP
PRUHONICE	112.11	27.0							19	26 PP
JENA	112.30	24.7							19	34
COLLMBERG	112.97	25.4	18	34	1				19	44 PP
PORT MORESBY	113.22	172.7	18	38	4	27	0 104		19	50
TUCSON	113.88	292.7	18	37	2				29	18 PKKP
TUCSON TELE.	113.89	292.8	18	35	0					
QUETTA	116.42	74.9	18	45	5	25	24 -4			
GLEN CANYON	118.02	295.2	18	42	-1				22	7 PP
RABAUL	118.60	178.0	18	41	-3				22	9
LARAMIE	118.60	302.5	18	43	-1				21	8
PASADENA	119.11	288.5	18	49	4				20	38
RAPID CITY	119.74	306.0	18	47	0				22	13 PP
SALT LAKE C.	121.12	297.8	18	50	1					
WARSAK DAM	121.82	75.7	18	50	-1					
UPPSALA	121.86	24.2	18	48	-3				22	13
EUREKA	122.13	293.9	18	50	-1				28	49 PKKP
LICK	123.36	288.3	18	55K	1				22	21
MOSCOW	123.87	37.6	18	53	-2					
HELSINKI	123.89	27.9	18	53	-2					
CONCORD	124.06	288.4	18	59	4					
BERKELEY	124.08	288.2	18	56	1					
RENO	124.10	291.3	18	57	2					
NURMIJARVI	124.11	27.5	18	53	-2				22	11 SKP
SKALSTUGAN	124.17	19.6	18	53	-2					
BOZEMAN	124.50	302.1	18	56	0				22	22 PP
CHATRA	124.62	93.7	18	54K	-2					
PULKOVO	124.98	30.9							17	25
BUTTE	125.46	301.4	18	58	0				22	21 PP
MINERAL	125.61	290.7	18	58K	0					
SHILLONG	126.14	98.8	18	53A	-6					
SHASTA	126.27	290.4	19	0K	1					
ANDIJAN	127.36	71.0	19	1	0					
SCORESBY SD.	127.60	1.7	19	2	0					
HUNGRY HORSE	127.85	302.4	19	1	-1				22	9 PP
LHASA	128.92	94.9	19	5	1					
KIRUNA	129.50	20.9	19	4	-1				22	16
CORVALLIS	129.57	293.1	19	10	4				22	17
FRUNSE	130.02	70.7	19	6	0					
SODANKYLA	130.39	23.8	19	5	-2				21	21 PP
BANFF	130.55	304.0	19	7	0					
PENTICTON	131.13	299.9	19	9	0				22	20
KUNMING	131.48	109.4							22	24
APATITY	132.10	26.5							22	24
VICTORIA	132.39	296.8							22	25
SVERDLOVSK	133.23	48.9	19	10	-3					
ALBERNI	133.58	296.7							22	30
NORD	138.84	2.1	19	11	-12					
RESOLUTE	139.33	337.6	19	13	-11				22	47
NANKING	145.08	121.3	19	33K	-1					
ZO-SE	145.35	125.2	19	34K	0					
PEKING	150.13	109.1	19	46K	4					
ULAN-BATOR	150.48	88.2	19	46	3					
IRKUTSK	151.48	78.8	19	50K	6					
COLLEGE	151.88	309.6	19	40	-5				28	41 PKKP
MATUSIRO	156.65	146.5	19	57	6					
CHANGCHUN	157.53	114.8	19	52	0					

TIKSI	162.32	26.3	19	51	-7							
YAKUTSK	166.95	59.1									21	12

DECEMBER 27 10.H 35.M 26.S EPICENTRE 41.57-124.96 DEPTH= 0.KM

A=-0.42996 B=-0.61491 C= 0.66107 D=-0.8195 E= 0.5730
G=-0.3788 H=-0.5418 K=-0.7503 HT= -2.3

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
ARCATA	0.96	135.9	0	18A	-2	0	32	-3				
SHASTA	2.13	113.3	0	36	-1							
MINERAL	2.82	114.5	0	46A	-1							
CONCORD	4.23	147.3	1	5	-2							
BERKELEY	4.24	149.7	1	5K	-2	1	51	-7				
SAN FRANCSCO	4.26	152.1	1	4	-3							
RENO	4.42	115.7	1	10K	0							
BRANNER	4.67	151.7	1	10K	-3							
LICK	4.95	147.6	1	15K	-2							
VINEYARD	5.56	148.8	1	24	-2							
FRESNO	6.25	138.4	1	35K	-1							
VICTORIA	7.03	8.4	1	41	-6							
EUREKA	7.16	104.0	1	48	0							
ALBERNI	7.70	0.7	1	54	-2							
RUTH	7.97	103.8	2	1	1							
PENTICTON	8.61	24.0	2	5	-4							
PASADENA	9.15	141.9	2	15	-1							
SALT LAKE C.	9.92	90.3	2	26	-1	5	5	45			3	17
BUTTE	10.00	59.5	2	26	-2	5	37	75				
HUNGRY HORSE	10.29	45.1	2	30	-2	3	58	-31				
BOZEMAN	10.88	63.2	2	38	-2	6	34	110			3	18
GLEN CANYON	11.34	109.6	2	47	1						3	46
BANFF	11.59	30.9	2	49	0							
TUCSON	14.63	125.0	3	30	0							
TUCSON TELE.	14.63	124.5	3	31	1	6	35	21				
RAPID CITY	16.16	73.8	3	47	-3	6	32	-18				
SITKA	16.87	340.2	4	0	1	7	22	16				
CHIHUAHUA	20.08	124.0	4	22	-16	7	52	-27			8	22
LAWRENCE	22.77	86.7	4	59	-6							
MAZATLAN	24.04	134.0									14	42
FAYETTEVILLE	24.51	92.8	5	20A	-2	9	40	0			5	52 PP
FLORISSANT	26.47	84.5	5	39A	-1	10	14	1				
ST. LOUIS 1	26.62	84.7	5	41	-1	10	16	0				
COLLEGE	26.75	338.4	5	41	-2	10	23	5			9	11
GUADALAJARA	27.73	132.1									15	26
MANZANILLO	28.52	135.7									16	40
TERRE HAUTE	28.54	81.8	7	34	95							
TACUBAYA	31.12	127.4				11	0	-28			6	22
VERA CRUZ	33.14	123.5									13	40 SS
PENNSYLVANIA	35.11	75.2	6	56	-1							
OTTAWA	35.49	66.8	7	0	0							
RESOLUTE	35.91	13.1	7	2K	-2	12	43	1				
CHAPEL HILL	35.92	83.6	7	3	-1							
WASHINGTON	36.29	78.0	6	6	-61						15	40
GEORGETOWN	36.29	78.0	7	6	-1							
BREBEUF	36.91	66.1	7	11	-1							
SHAWINIGAN	37.27	64.2	7	14K	-1							
PALISADES	37.90	73.4	7	20	0	13	41	28			8	43 PP
FORDHAM	37.97	73.6	7	20	-1							
SEVEN FALLS	38.45	62.9	7	24	-1							
WESTON	39.33	70.3	7	32K	0	13	34	0				
THULE	42.29	17.1	7	55	-2							
HALIFAX	43.98	64.5	8	11K	1							
SAN JUAN	54.84	96.3	9	34	0							
TIKSI	55.89	338.4	9	36	-6							
FUQUENE	57.97	113.7	9	55A	-1						12	12 PP
ST. KITTS	58.02	94.9	9	56	-1							
KHEYS	58.05	359.4	9	55	-2	17	58	1				
BOGOTA	58.35	114.7	9	59	0	18	3	2				
CARACAS	59.31	104.0	10	5A	-1	18	14	0				
YAKUTSK	60.70	328.6	10	13	-2							
FORT FRANCE	60.83	96.1	10	10	-6							
TRINIDAD	63.27	99.8	10	29	-4							
KIRUNA	67.84	13.5	10	59	-3							

SODANKYLA	69.26	11.4	11 8	-3							
APATITY	69.97	8.7	11 19	4							
HUANCAYO	70.23	127.6	11 18	1							
MATUSIRO	71.33	302.4	11 21	-2	20 39	-2					
GOTEBORG	74.73	22.3	11 42	-1							
NURMIJARVI	75.27	15.0	11 44	-2							
PULKOVO	76.98	12.5	12 18	22							
IRKUTSK	77.25	331.5	11 41	-16	21 32	-15					
FOLINIERE	77.60	33.9	11 59	0							
LA PAZ	78.04	124.8	12 2	0	21 44	-12					
PARIS	78.79	32.3	12 8	2							
BENSBERG	78.83	28.6	12 6	0							
ULAN-BATOR	79.78	327.5	12 15	4							
JENA	80.38	26.2	12 13	-2					13 6		
COLLMBERG	80.52	25.2	12 16	1					13 7		
STUTTGART	81.41	28.6	12 20	0					13 11		
SVERDLOVSK	81.85	356.9	12 19	-3							
PRUHONICE	82.16	25.0	12 23	-1							
ISOLA	84.39	32.5	12 36	1			12 44				
LJUBLJANA	85.58	27.0	12 41	0							
TRIESTE	85.66	27.7	12 42	0			12 51				
SANTA LUCIA	89.81	137.2			23 42	-11			30 6	SS	
PORT MORESBY	94.59	261.6			25 56	81			31 12	PS	
TIFLIS	96.57	7.7	13 30	-3							
TAMANRASSET	101.25	45.7							18 8	PP	
KSARA	102.93	16.3	13 56	-5					18 4	PP	
RIVERVIEW	107.45	240.2							34 4	SS	
QUETTA	107.76	349.2							18 52	PP	
BYRD STATION	121.37	178.9	18 52	-3							
SOUTH POLE	131.38	180.0	19 14	0			19 23		22 44	SKP	
WINDHOEK	143.06	71.0	19 9	-27							
BROKEN HILL	144.49	48.2	19 38	0							
BULAWAYO	149.05	54.4	19 48	2							
KIMBERLEY	152.30	72.2	19 58	7							
PRETORIA	152.79	63.0	20 0	9							

DECEMBER 27 18.H 9.M 53.S EPICENTRE -13.10 -74.68 DEPTH= 115.KM
A= 0.25748 B=-0.93969 C=-0.22515 D=-0.9645 E=-0.2643
G=-0.0595 H= 0.2171 K=-0.9743 HT= 6.1

DEPTH OF FOCUS= 0.013R

SE= 1.95

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
AREQUIPA	4.55	137.7	1	6	-2								
LA PAZ	7.18	118.9	1	43A	0	3	1	-3			1	55	PP
BOGOTA	17.61	2.0	4	3	4	7	20	11			4	27	PP
FUQUENE	18.47	3.0	4	10	1	7	43	16					
SANTA LUCIA	20.58	170.4	4	32K	1	8	22	12			5	6	PPP
BALBOA HTS.	22.44	347.3	4	50	1								
GALERAZAMBA	23.73	358.6				9	31	26			5	47	PP
CARACAS	24.67	18.5	5	11A	0	9	24	3					
TRINIDAD	27.02	29.8	5	33	0								
BARBADOS	30.03	30.4	6	22	22								
SAN JUAN	32.40	15.3	6	19	-1				6	41	8	47	PCP
ST. KITTS	32.46	21.6	6	41	20								
TACUBAYA	40.33	322.7	7	38	11						9	10	PP
DALLAS	50.33	335.7	8	46	-1								
FAYETTEVILLE	52.28	340.0	8	59K	-2				9	22	10	7	PCP
ARGENTINE I.	52.58	174.5	9	3	0								
ST. LOUIS 1	53.48	344.9	9	8	-2	16	31	-1	9	31			
FLORISSANT	53.67	344.8	9	9	-2								
PALISADES	53.84	0.7				16	34	-3			19	38	SS
TUCSON	56.84	323.3	9	57	23								
TUCSON TELE.	56.84	323.5	9	33	-1								
OTTAWA	58.23	359.1	9	43	-1								
HALIFAX	58.32	9.3	9	44A	-1								
BREBEUF	58.33	0.9	9	44	-1								
SHAWINIGAN	59.39	1.5	9	51	-1								
SEVEN FALLS	60.04	3.0	9	56	-1								
GLEN CANYON	60.72	326.5	10	1	0				10	24			
LARAMIE	61.20	333.8	10	4	0								
RAPID CITY	62.56	337.2	10	12	-1				10	36			
PASADENA	62.59	320.0	10	13	-1	18	49	18			23	1	SS

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FLAMING GRGE	62.62	330.9	10	14	0				10	38	
MBOUR	63.33	66.5	10	18A	-1	18	40	0			
SALT LAKE C.	63.69	329.2	10	21	0						
EUREKA	64.91	325.7	10	29	0						39 17 PKPPKP
VINEYARD	66.26	320.3	10	37	-1						
LICK	66.80	320.7	10	41K	0				11	6	
BOZEMAN	67.07	333.2	10	42	-1				11	5	
RENO	67.12	323.5	10	44	1						
CONCORD	67.46	321.0	10	46K	1				11	10	
BERKELEY	67.51	320.8	10	46A	1				11	10	
BYRD STATION	69.99	187.5	11	2	1						39 1 PKPPKP
HUNGRY HORSE	70.44	333.3	11	3	0				11	27	13 46 PP
CORVALLIS	72.38	325.8	11	16	1						
BANFF	73.20	334.5	11	18	-2						
PENTICTON	73.68	331.2	11	23	1						
VICTORIA	74.99	328.8	11	30	0						
SOUTH POLE	76.99	180.0	11	43	2						12 17
CAPE HALLETT	84.95	196.1	12	23	0	23	7	27	12	50	
TAMANRASSET	86.19	65.7	12	31K	2	22	28	-24	12	57	15 56 PP
WINDHOEK	86.68	112.3	11	53	-38						
RESOLUTE	88.51	354.7	12	40K	0						
THULE	89.43	1.5	12	45	0				13	10	
FOLINIERE	89.62	39.5	12	46	1						
SETIF	89.80	52.8	12	47	1						
SCORESBY SD.	90.79	15.5	12	53A	2						
COLLEGE	94.76	335.8	13	9	0				13	33	
STUTTGART	95.80	41.4	13	14	0						
BULAWAYO	97.66	112.7	13	25	3						
COLLMBERG	98.65	39.4	13	31	4						
PRUHONICE	99.41	40.9	13	32	2						14 15
CHARTERS TS.	127.95	231.3	18	55	3						19 20
RABAUL	130.41	252.9	18	59	2						19 46
QUETTA	140.72	58.1	19	14	-2						22 51 PKS
MATUSIRO	142.41	314.2	19	16	-3				19	41	47 22 SSS
WARSAK DAM	142.96	50.1	19	19	-1						
LAHORE	146.13	52.1	19	29	4						
POONA	149.27	75.8	19	34	4						
CHATRA	158.18	48.5	19	44	1						
LEMBANG	160.07	186.7	19	47A	2						24 7 PP
SHILLONG	162.27	43.6	19	43K	-4						

DECEMBER 29 6.H 2.M 4.S EPICENTRE -18.55-174.47 DEPTH= 0.KM

A=-0.94426 B=-0.09140 C=-0.31625 D=-0.0963 E= 0.9953
G= 0.3148 H= 0.0305 K=-0.9487 HT= 5.0

SE= 2.78

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
APIA	5.39	29.1	1	18	-5	2	13	-14					
SUVA	6.75	272.3	1	31	-12						3	16	
NOUMEA	18.26	255.0	4	17	1						6	25	
ONERAHI	19.79	207.7	4	36	2								
KARAPIRO	21.19	202.3	4	48	-1						5	30	
WELLINGTON	24.45	199.9	5	22	1	10	16	37			6	6	
ROXBURGH	30.04	203.1				11	14	3					
BRISBANE	31.33	247.7	6	21	-3	11	30	-1					
RIVERVIEW	34.21	236.7	6	47	-2	12	5	-11			8	6	PP
RABAUL	35.58	289.5	6	54	-7						8	33	
CANBERRA	36.35	235.2	7	7	0	12	44	-5			8	32	PP
CHARTERS TS.	37.03	261.0	7	12	-1	13	0	1					
PORT MORESBY	38.27	278.4	7	23	0	13	30	12			9	6	
MELBOURNE	40.19	232.9	7	38	-2	13	36	-11			9	21	PP
ADELAIDE	44.46	238.7	8	14	0						10	2	PP
CAPE HALLETT	54.49	185.7	9	31	0	17	18	8			19	26	SCS
SCOTT BASE	60.04	184.5	10	13	2	18	32	9					
MUNDARING	63.17	243.0	10	29	-3								
PERTH	63.49	243.0	10	35	1						23	45	
BYRD STATION	66.02	171.0	10	49	-1								
WILKES	67.15	205.0	10	57A	-1	19	53	2					
MATUSIRO	70.70	321.1	11	18	-2	19	51	-43					
SOUTH POLE	71.56	180.0	11	24	-1								
BAGUIO CITY	72.74	294.4	11	34	2								
VINEYARD	74.38	41.8	11	42	1								

BERKELEY	74.53	40.5	11	36	-6					21	20
LICK	74.58	41.2	11	43	1						
CONCORD	74.71	40.5	11	43	0						
PASADENA	74.94	45.6	11	43	-1	21	27	5		26	23 SS
FRESNO	75.40	42.6	11	48	1						
SHASTA	76.24	38.1	11	51	-1						
LEMBANG	76.43	267.3	11	31A	-22						
MINERAL	76.49	38.8	11	49	-4						
RENO	77.07	40.3	11	59K	3						
DJAKARTA	77.37	267.7	11	56	-2					14	8
ZO-SE	79.06	308.0	12	9K	2						
TUCSON	79.11	50.6	12	9	1					15	7 PP
TUCSON TELE.	79.23	50.6	12	10	2						
EUREKA	79.43	42.2	12	10	1					15	10 PP
RUTH	79.93	42.8	12	15	3						
HONG KONG	80.71	297.2	12	20	4	22	44	20			
GLEN CANYON	80.97	46.2	12	19	1						
NANKING	81.32	307.9	12	22K	3	22	44	14			
SALT LAKE C.	82.78	42.8	12	28	1						
TACUBAYA	82.92	66.9	12	29	1				12 53	23	39 PS
CHANGCHUN	82.95	320.7	12	29K	1	22	58	11			
FLAMING GRGE	84.46	43.7	12	35	-1						
BUTTE	85.15	38.1	12	40	1						
HUNGRY HORSE	85.61	35.6	12	42	1						
COLLEGE	85.64	11.1	12	40	-2	23	14	1			
BOZEMAN	85.86	39.0	12	41	-2						
PEKING	86.89	314.0	12	49K	1	23	30	5			
SIAN	89.72	306.3	13	6	5						
KUNMING	91.46	295.9	13	12	3						
CHENGTU	92.29	301.5	13	16	3	24	24	9			
FAYETTEVILLE	93.20	53.1	13	18	1						
PALISADES	109.77	52.2								28	35 PS
BOMBAY	116.65	282.3								19	42
QUETTA	123.45	294.3	19	2	3						
SHIRAZ	135.97	293.7	19	24	1						
POTSDAM	145.73	351.8	19	41	1						
ADDIS ABABA	146.41	258.2	19	46	5						
COLLMBERG	146.79	351.4	19	45K	3						
JENA	147.34	352.9	19	47	4						
BENSBERG	147.64	358.1	19	42A	-1						
PRUHONICE	147.82	349.0	19	50K	6					21	32
KSARA	148.95	305.3	19	49	3						
LWIRO	149.15	230.3	18	48	-58						
STUTTGART	149.70	355.1	19	49	2						
SOFIA	151.59	331.7	19	52	2						
HELWAN	153.97	300.5	19	56	3					23	53
MBOUR	158.03	97.5	20	3	5					24	18 PP
TAMANRASSET	175.79	0.1	20	13	1					25	39 PP

DECEMBER 29 10.H 36.M 38.S EPICENTRE -45.00 -76.01 DEPTH= 0.KM

A= 0.17151 B=-0.68847 C=-0.70469 D=-0.9703 E=-0.2417
G=-0.1703 H= 0.6838 K=-0.7095 HT= -3.5

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	
CONCEPCION	8.69	21.5	2	4	-6	3	29	-21					
SANTA LUCIA	12.27	21.6	2	54A	-5	5	8	-9					
ARGENTINE I.	21.31	166.4	4	50	0								
AREQUIPA	28.70	9.1	6	0	-1								
LA PAZ	29.17	15.7	6	6	1	10	58	1			7	2	PP
HUANCAYO	32.84	1.2	6	39	2						7	53	PP
BYRD STATION	38.40	191.1	7	25	0								
SOUTH POLE	45.20	180.0	8	20	0	15	26	25			9	13	
BOGOTA	49.42	2.5	8	54	1	16	3	2			10	59	PP
CHINCHINA	49.74	0.5	8	57A	1	16	8	3			19	40	SS
FUQUENE	50.28	3.0	9	4A	4								
SCOTT BASE	51.69	193.9	9	10	-1								
BALBOA HTS.	53.80	355.7	9	27	1	16	58	-3					
CAPE HALLETT	54.30	200.2	9	29	-1	17	16	9			19	28	SCS
GALERAZAMBA	55.52	0.9				17	28	4			21	25	SS
CARACAS	55.84	10.8	9	42	1	17	22	-6					
TRINIDAD	56.94	17.2	9	49	0								
BARBADOS	59.73	18.6	10	15	6								
FORT FRANCE	60.96	16.5	10	16	-1								

COMITAN	62.69	342.5							17	10
ST. KITTS	63.20	14.2	10	31	-1					
SAN JUAN	63.71	10.5	10	33A	-3					
VERA CRUZ	66.47	339.2	10	51	-2				11	27 PCP
MERIDA	66.79	346.2	10	58	3				20	9
TACUBAYA	67.48	336.3	11	1K	1	19	53	-3	13	34 PP
WILKES	68.88	182.8	11	7	-2	20	16	4		
HERMANUS	69.95	118.8				20	32	7		
ROXBURGH	73.00	222.0	11	33	0	21	14	14	25	54 SS
KAIMATA	74.15	225.2							12	6
CHATEAU	74.39	229.9	11	41	0					
TONGARIRO	74.39	229.9	11	41	0					
COBB RIVER	74.53	227.0	11	42	0					
KARAPIRO	75.30	230.9	11	46	-1					
WINDHOEK	76.51	108.3	11	54	1					
KIMBERLEY	77.26	117.8	11	56	-2					
MBOUR	79.64	57.6	12	16	5	22	20	7		
DALLAS	79.75	342.3	12	10	-1					
PRETORIA	81.51	117.9	12	20	-1					
FAYETTEVILLE	82.37	345.2	12	23A	-2					
TUCSON	83.15	330.8	12	29A	0					
TUCSON TELE.	83.19	331.0	12	30	1				15	41 PP
LCO. MARQUES	84.08	120.9	11	42	-52				23	34 SP
ST. LOUIS 1	84.24	348.9	12	33A	-2	22	57	-3		
FORT NELSON	84.30	210.5	12	34	-1				12	45
FLORISSANT	84.41	348.8	12	34	-1	23	0	-1		
TARRALEAH	85.17	210.2	12	39	0					
LOME	85.34	76.7	12	47	7				16	11 PP
LAWRENCE	85.36	345.1	12	38	-2					
PENNSYLVANIA	85.43	358.6	12	41	0	23	7	-4		
FORDHAM	85.48	1.6	12	39	-2					
PALISADES	85.64	1.6	12	41	-1	23	17	4	16	3 PP
BULAWAYO	85.82	114.3	12	42	-1					
WESTON	87.09	3.5	12	44	-5	23	28	1		
PASADENA	87.57	326.1	12	52A	1	23	46	14	16	18 PP
GLEN CANYON	87.70	332.2	12	53	1					
MELBOURNE	89.64	211.3	13	0	-1				16	38 PP
BROKEN HILL	89.84	110.3	13	3K	1					
HALIFAX	89.91	8.8	13	3A	1					
LARAMIE	89.91	338.2	13	2	0				13	45
OTTAWA	90.01	0.2	13	1	-2					
BREBEUF	90.14	1.7	13	3	0					
CANBERRA	90.26	215.3	13	3	-1					
FRESNO	90.50	326.2	13	6	1					
FLAMING GRGE	90.63	335.4	13	4	-2				16	39 PP
RIVERVIEW	90.63	217.6	13	8A	2	24	2	2	13 18	16 45 PP
RUTH	90.88	330.8	13	6	-1					
VINEYARD	91.11	325.1	13	13	5					
SHAWINIGAN	91.21	2.2	13	10	2					
SALT LAKE C.	91.23	333.6	13	9	1				16	55 PP
EUREKA	91.45	330.2	13	10A	1				30	3 PKKP
LICK	91.73	325.3	13	13A	2					
SEVEN FALLS	91.85	3.5	13	13	2					
RAPID CITY	91.93	340.8	13	10	-1					
NOUMEA	92.17	235.3	13	12	-1				17	7
BERKELEY	92.43	325.1	13	11	-3	24	22	6	17	10 PP
RENO	92.91	327.6	13	21A	5					
MINERAL	94.30	326.8	13	23A	1					
ADELAIDE	94.41	208.0	13	22	-1					
SHASTA	94.91	326.5	13	24	-1					
BRISBANE	95.34	222.2	13	29	2	23	38	-25		
BOZEMAN	95.46	336.1	13	29	1					
BUTTE	96.22	335.3	13	32	1					
TANANARIVE	98.29	127.1	13	50A	9				17	51 PP
HUNGRY HORSE	98.75	335.4	13	41	-2				17	44 PP
LWIRO	98.85	102.1	13	50A	7	24	30	9	17	43 PP
TAMANRASSET	100.07	68.0	13	50	1	24	35	8	17	50 PP
CHARTERS TS.	104.65	220.8	18	28	259					
PORT MORESBY	113.35	227.3	19	33	53				29	27 PS
ADDIS ABABA	113.81	101.4	18	39	-2					
RABAUL	114.87	235.0	19	37	54					
ROME	117.06	56.9							29	59
PAVIA	117.13	52.4	18	52	5				29	42 PS
DOURBES	117.68	45.8	18	53	5				20	17
STRASBOURG	118.41	48.6							19	55
STUTTGART	119.33	49.1	18	56	5				20	12 PP
BENSBERG	119.51	46.2							20	9 PP
TRIESTE	120.01	54.1				25	49	-2	20	13 PP

RESOLUTE	120.06	354.3	18	51	-2			28	58	
MUNSTER	120.33	45.4						20	25	
LJUBLJANA	120.68	54.1						20	19	PP
THULE	121.24	2.1	18	55	0					
JENA	121.79	48.1	18	52	-4			20	4	PP
HELWAN	122.20	78.5	19	11	14			25	13	
HALLE	122.29	47.6	18	55	-2	19	5	20	32	PP
COLLMBERG	122.74	48.3	18	58	0			20	45	PP
COLLEGE	122.86	331.1	18	57K	-1					
PRUHONICE	122.86	50.2	19	2	4			20	41	PP
BRATISLAVA	123.32	53.1						20	49	
SOFIA	124.13	61.5						20	5	PP
RACIBORZ	124.93	51.6	19	6	4					
KSARA	127.64	77.3						21	17	PP
LEMBANG	128.31	184.6	19	8A	-1			21	13	PP
UPPSALA	129.13	40.5	19	13	3					
NORD	130.08	9.5	19	8	-4					
SIMFEROPOL	132.03	63.9	19	22	6			22	48	SKP
NURMIJARVI	132.64	41.4	19	16	-1			22	45	PKS
KIRUNA	133.01	31.1	19	16	-2					
PULKOVO	135.14	43.5						24	59	PPP
SODANKYLA	135.22	32.4	19	20	-2					
SHIRAZ	137.02	92.8	19	26	1			23	3	
TIFLIS	137.67	72.7	19	30	4			22	30	PP
GORIS	137.74	76.4	19	32	6					
APATITY	137.85	32.7	19	26	-1					
MOSCOW	137.91	50.6	19	30	3			22	15	PP
TEHERAN	139.50	84.3	19	31	1			22	33	PP
KHEYS	140.90	10.8	19	32	0			23	1	SKP
BOMBAY	143.29	124.9	19	40	4			41	30	SS
POONA	143.59	126.6	19	38	1			27	20	
PETROPAVLOVK	144.05	302.9	19	34	-3					
HYDERABAD	145.18	133.9	19	48	9					
PORT BLAIR	145.41	160.3	19	45	5					
ASHKABAD	145.46	85.4						19	35	
MANILA	146.48	211.0	19	45	3			23	11	
QUETTA	147.45	104.2	19	44K	1	19	57	23	28	PKS
MAGADAN	148.62	314.5	19	52	7					
SVERDLOVSK	150.72	50.5	19	52	4					
TUKUBASAN	151.41	264.8	19	41	-8			43	5	SS
WARSAK DAM	152.84	102.5	19	57	6					
MATUSIRO	152.90	263.9	19	56	4			23	44	PP
DUZHANBE	153.12	91.4	19	57	5					
LAHORE	153.29	110.0	19	59	7			24	0	PP
TASHKENT	154.53	86.0	19	59	5			24	12	PP
DEHRA DUN	154.91	116.9						20	28	
CHITTAGONG	155.31	152.2	19	57	2					
HONG KONG	155.87	203.6	19	28	-28					
YAKUTSK	157.35	327.9						24	15	PP
CHATRA	157.40	137.7	19	59	1					
SHILLONG	158.28	149.2	19	52	-7					
FRUNSE	158.78	85.4	20	0	1			24	22	PP
KUNMING	160.14	176.7	20	2	1			24	29	PP
ZO-SE	160.67	230.0	20	1	0			24	36	PP
LHASA	161.57	141.9	20	5	3			24	33	PP
NANKING	162.69	226.8	20	5	2			24	42	PP
SEMIPALATNSK	163.16	62.8	20	2	-2			24	39	PP
CHANGCHUN	164.72	273.2	20	8	3			24	56	PP
CHENGTU	165.69	180.1	20	7	1			24	56	PP
SIAN	168.62	201.1	20	12	4					
PEKING	169.73	245.3	20	10	1			25	19	PP
LANCHOW	171.06	179.2	20	13	3			25	24	PP
IRKUTSK	172.72	358.4	20	11	0			25	31	PP
ULAN-BATOR	176.45	326.5	20	13	1			25	48	PP

DECEMBER 29 18.H 19.M 41.S EPICENTRE 34.94 22.52 DEPTH= 58.KM

A= 0.75886 B= 0.31466 C= 0.57019 D= 0.3830 E=-0.9237
G= 0.5267 H= 0.2184 K=-0.8215 HT= 0.1

DEPTH OF FOCUS= 0.004R

SE= 3.32

	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

ATHENS	3.17	17.4	0	49A	0				1	32 SG
MESSINA	6.48	302.1	1	27	-8				2	19
SOFIA	7.77	4.4	1	50	-3	3	27	6	2	39
ISTANBUL KA.	8.00	38.3							4	50 SG
HELWAN	9.00	121.8	2	4	-6	3	43	-8		
BELGRADE	9.99	351.5							3	21
TIMISOARA	10.84	355.1							6	40
JERUSALEM	11.08	103.0	2	35	-4	4	31	-11		
KSARA	11.10	92.0							7	19
LJUBLJANA	12.65	333.7	2	53	-6	5	13	-6	3	4 PP
SIMFEROPOL	13.37	38.1	3	15	6					
TOLMEZZO	13.51	330.7	3	9	-2	5	37	-3	3	54
SETIF	14.00	280.1	3	20	3				3	31 PP
VIENNA-H.	14.06	342.9	3	17	-1					
PAVIA	14.44	319.1							10	9
LWOW	14.91	3.8	3	26	-3				8	22
ISOLA	15.06	312.4	3	36	5					
KRAKOW	15.21	353.6	3	29	-4				3	48 PP
CHUR	15.40	324.5	3	39	4					
RACIBORZ	15.45	349.5	3	36	0				3	48 PP
CHORZOW	15.55	351.5	3	39	2				3	50 PP
PRUHONICE	16.12	341.2	3	46A	1				5	4
BASLE	16.83	322.9	3	50A	-3				10	52
STUTTGART	16.94	328.7	3	52	-3				4	39
PLAUEN	17.27	337.2	3	57	-2					
HEIDELBERG	17.66	329.1	4	3	-1					
COLLMBERG	17.74	340.1	4	5A	0	7	18	0	5	54
JENA	17.84	336.9	4	5	-1	7	49	29	5	26
HALLE	18.22	338.5	4	11	0				4	27 PP
POTSDAM	18.69	341.7	4	15	-1				4	29 PP
TIFLIS	18.71	62.2	4	17	1	7	47	7		
TAMANRASSET	19.17	235.3	4	17A	-5	7	34	-16	4	33 PP
BENSBERG	19.49	329.9	4	24	-1					
DOURBES	20.02	324.6	4	29	-2					
MUNSTER	20.10	332.4	4	31	-1					
PARIS	20.27	319.2	4	31	-3					
TOLEDO	21.64	291.0	4	44	-3					
COPENHAGEN	21.87	344.6	4	49	-1					
FOLINIERE	21.90	316.1	4	47	-3					
MOSCOW	23.24	21.9	5	4	1	9	26	19		
TEHERAN	23.53	79.7	5	9	3	9	30	18		
UPPSALA	25.12	354.2	5	19	-2					
HELSINKI	25.29	2.9	5	23	0					
PULKOVO	25.36	9.2	5	23	-1	9	49	6		
NURMIJARVI	25.62	2.4	5	25	-1					
SHIRAZ	25.85	93.4	5	29K	1				6	9 10 16 PCP
ADDIS ABABA	29.78	146.2	6	5	1					
SODANKYLA	32.56	3.0	6	27	-1					
KIRUNA	32.95	358.5	6	30	-2					
APATITY	33.25	7.6	6	34K	0					
SVERDLOVSK	33.73	37.7	6	30	-8					
TROMSOE	34.80	357.8	6	48	1					
LWIRO	37.46	169.6	7	9	-1					
QUETTA	37.51	84.5	7	12	2					
FRUNSE	40.76	62.8	7	39	2					
KHEYS	47.77	7.4	8	34	0					
NORD	48.88	352.9	8	35	-7					
CHATRA	55.23	79.4	9	30A	0					
SHILLONG	59.57	78.6	9	54	-6					
RESOLUTE	63.32	344.7	10	25	-1					
SEVEN FALLS	67.44	312.4	10	50K	-2					
OTTAWA	71.24	312.6	11	15	0					
COLLEGE	80.23	355.8	12	8	2					
FAYETTEVILLE	87.98	313.6	12	45	0					
HUNGRY HORSE	88.46	332.7	12	57	10					
SOUTH POLE	124.76	180.0	18	0	-54					
BYRD STATION	132.41	188.4	17	26	-102					

DECEMBER 29 19.H 1.M 47.S EPICENTRE -18.99 -70.04 DEPTH= 93.KM

A= 0.32307 B=-0.88937 C=-0.32350 D=-0.9399 E=-0.3414
G=-0.1105 H= 0.3041 K=-0.9462 HT= 4.9

DEPTH OF FOCUS= 0.009R

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	
AREQUIPA	2.88	331.0	0	43	-2								
LA PAZ	3.07	36.5	0	52	5	1	27	4			1	2	PG
HUANCAYO	8.58	322.8	2	0	-3	4	11	32					
SANTA LUCIA	14.40	182.0	3	21	1	6	11	13			3	33	PP
BOGOTA	23.80	350.0	5	8	3	9	20	10					
CHINCHINA	24.44	346.4	5	8A	-3	9	23	2					
FUQUENE	24.58	351.1	5	14A	2	9	33	9					
CARACAS	29.47	6.2	5	56A	-1	10	35	-8					
TRINIDAD	30.66	16.8	6	7	0								
ST. VINCENT	33.11	15.8	6	27	-2								
FORT FRANCE	34.63	15.2	6	37	-5								
ST. KITTS	36.81	11.7	6	59	-1								
SAN JUAN	37.34	6.1	7	2	-3	12	41	-4			9	39	PCP
VERA CRUZ	45.79	324.6									9	13	PP
ARGENTINE I.	46.39	176.7	8	16	-2								
TACUBAYA	47.69	321.5	8	33	4								
COLUMBIA	53.73	348.7	9	12	-2								
CHAPEL HILL	55.27	351.1	9	27	1								
DALLAS	57.54	333.3	9	41	-1								
FAYETTEVILLE	59.36	337.3	9	53K	-1								
PALISADES	59.80	356.6									18	5	
PITTSBURGH	59.84	351.3	9	56A	-2								
ST. LOUIS 1	60.38	341.9	10	0K	-1	18	10	3	10	17			
FLORISSANT	60.57	341.8	10	1K	-2				10	17			
WESTON	61.07	358.9	10	6K	0								
MBOUR	61.89	61.4	10	11	-1	18	32	6					
LAWRENCE	62.31	338.0	9	54	-20								
HALIFAX	63.57	5.1	10	21A	-2								
TUCSON	64.20	322.1	10	26	-1								
TUCSON TELE.	64.20	322.2	10	27	0				10	44			
BREBEUF	64.26	357.2	10	27	0								
OTTAWA	64.29	355.6	10	27K	0								
BYRD STATION	64.80	188.4	10	30	-1				10	46			
SHAWINIGAN	65.28	357.9	10	34K	0								
SEVEN FALLS	65.81	359.4	10	37K	0								
GLEN CANYON	68.07	325.1	10	53	2						11	34	PCP
LARAMIE	68.45	331.9	10	54	0								
RAPID CITY	69.72	335.1	11	2	1				11	20			
PASADENA	69.94	318.9	11	4	1								
SALT LAKE C.	71.02	327.6	11	9	0				11	16			
SOUTH POLE	71.13	180.0	11	8	-2						12	23	
EUREKA	72.27	324.3	11	18	1								
FRESNO	72.66	320.0	11	19K	0								
VINEYARD	73.62	319.2	11	26	1								
LICK	74.16	319.5	11	29K	1								
BOZEMAN	74.34	331.5	11	30	1				11	46			
RENO	74.49	322.2	11	31K	1								
CONCORD	74.82	319.8	11	33K	1				11	53			
BERKELEY	74.87	319.6	11	33K	1				11	51			
SAN FRANCSCO	74.93	319.4	11	33K	1								
BUTTE	75.29	330.9	11	35	1								
MINERAL	76.06	321.9	11	39K	0								
SHASTA	76.75	321.8	11	42K	0								
HUNGRY HORSE	77.70	331.7	11	48	0				12	5			
ARCATA	77.86	321.1	11	50K	1								
SCOTT BASE	78.09	190.4	11	49A	-1						12	6	PCP
CORVALLIS	79.74	324.4	12	0K	1								
BANFF	80.43	332.9	11	59	-4								
CAPE HALLETT	80.53	195.6	12	3	0						12	21	PCP
PENTICTON	80.98	329.7	12	7K	2								
VICTORIA	82.32	327.4	12	13K	1								
TAMANRASSET	84.65	63.9	12	25K	1	22	36	-6			15	30	PP
TOLEDO	84.85	44.9	12	27	2								
KIMBERLEY	85.12	118.6	12	2	-25								
BULAWAYO	91.31	111.7	12	56	0								
FOLINIERE	91.37	38.3	12	56	0								
BROKEN HILL	93.17	106.3	13	7A	2								
RESOLUTE	94.80	353.6	13	12K	0								
THULE	95.21	0.4	13	14	0				13	30			
SCORESBY SD.	95.29	14.5	13	18	4								
STUTTGART	97.27	40.9	13	33	10						13	55	
LWIRO	97.62	95.0	13	27	2						17	23	PP
COLLMBERG	100.36	39.3	13	38	1								
PRUHONICE	100.92	40.9									17	46	PP
COLLEGE	101.95	334.7	13	43	-1				14	0	17	57	PP
ADDIS ABABA	110.59	87.3									19	3	PP

SHIRAZ	127.05	66.8	18 55	2	19 13	22 49	
CHARTERS TS.	127.33	224.4	18 54K	0			
MUNDARING	128.98	186.8	18 58	1			
RABAUL	132.49	245.3	19 5	2		22 20	
PORT MORESBY	133.74	235.6	19 8	2			
QUETTA	139.54	65.6	19 20	4		19 38	*SPKP
LAHORE	145.59	61.7	19 32	5		19 50	*SPKP
POONA	145.84	84.8	19 30	2			
TUKUBASAN	148.44	309.1	19 44	12			
DEHRA DUN	148.98	62.5	19 37	4			
MATUSIRO	149.66	311.0	19 36	2			
ULAN-BATOR	151.04	4.3	19 45	9			
LEMBANG	154.24	174.6	19 42K	2			
CHATRA	157.63	65.4	19 47	2		23 35	PP
SHILLONG	162.03	65.4	19 47K	-3			

DECEMBER 31 18.H 8.M 4.S EPICENTRE -44.04 -75.92 DEPTH= 0.KM
A= 0.17548 B=-0.69952 C=-0.69273 D=-0.9699 E=-0.2433
G=-0.1686 H= 0.6719 K=-0.7212 HT= -3.2

SE= 1.82

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
CONCEPCION	7.78	23.6	1 56	-1	3 13	-14			
SANTA LUCIA	11.35	23.0	2 44A	-3	4 56	1		5 12	SS
ARGENTINE I.	22.22	167.0	4 58	-2					
AREQUIPA	27.75	9.2	5 52	0					
LA PAZ	28.23	15.9	5 58K	1	10 45	3		6 52	PP
HUANCAYO	31.88	1.1	6 30K	1	11 52	12			
BYRD STATION	39.36	190.9	7 33	0				9 41	PCP
SOUTH POLE	46.15	180.0	8 27	-1			8 36	10 5	PCP
BOGOTA	48.46	2.5	8 47	1	15 56	9			
CHINCHINA	48.78	0.4	8 48	-1	15 55	3			
FUQUENE	49.32	2.9	8 53K	0					
SCOTT BASE	52.64	193.7	9 18	0					
BALBOA HTS.	52.85	355.5	9 20	0					
GALERAZAMBA	54.56	0.8	9 48	16	17 23	12			
CARACAS	54.89	10.8	9 35	0	17 12	-3			
CAPE HALLETT	55.22	199.9	9 37K	0	17 26	6			
TRINIDAD	56.01	17.3	9 42	-1					
ST. VINCENT	58.48	16.8	10 1	1					
SAN JUAN	62.76	10.5	10 23A	-6					
MAWSON	64.41	163.7	10 42	2					
TACUBAYA	66.63	336.0	10 55K	1					
WILKES	69.84	182.8	11 13K	-1	20 24	0			
HERMANUS	70.35	119.0	11 24	6	20 29	-1		21 12	PS
GEBBIES PASS	73.39	224.8	11 38	2					
ROXBURGH	73.75	221.7						26 2	SS
WELLINGTON	74.01	227.7	11 38	-1					
CHATEAU	75.06	229.7	11 44	-1					
TONGARIRO	75.06	229.7	11 44	-1					
KARAPIRO	75.96	230.6	11 48	-2					
WINDHOEK	76.75	108.5	11 52	-3					
MBOUR	79.07	57.7	12 9K	1	22 6	-1			
CHAPEL HILL	79.63	357.4	12 10	-1					
FAYETTEVILLE	81.46	345.1	12 20K	0				12 59	*SP
PRETORIA	81.90	117.9	12 50	27					
TUCSON	82.34	330.7	12 25K	0					
TUCSON TELE.	82.39	330.8	12 26K	1					
ST. LOUIS 1	83.31	348.8	12 27K	-3	22 55	4			
LUANDA	83.31	95.8	12 33	3					
FLORISSANT	83.49	348.7	12 30	-1	22 54	2			
PENNSYLVANIA	84.47	358.5	12 33	-3	23 6	4			
PALISADES	84.68	1.5	12 38	1	23 8	4	13 12	24 2	PS
FORT NELSON	85.16	210.3	12 38	-1					
MOORLANDS	85.64	210.5	12 42	0					
TARRALEAH	86.03	210.1	12 45	1					
WESTON	86.13	3.4	12 44	0	23 26	8			
BULAWAYO	86.15	114.3	12 44K	0					
PASADENA	86.81	326.0	12 49K	1	23 44	19		23 26	SKS
LARAMIE	89.05	338.1	12 59	1	23 7	-39			
OTTAWA	89.05	0.1	12 58	0					
BREBEUF	89.18	1.6	12 57	-2					
FRESNO	89.74	326.2	13 3	1					

FLAMING GRGE	89.79	335.3	13	2	0				13	26	
RUTH	90.08	330.7	13	5K	2						
BROKEN HILL	90.11	110.2	13	2	-1						
VINEYARD	90.37	325.1	13	7	3						
MELBOURNE	90.50	211.2	13	3	-2						
EUREKA	90.65	330.1	13	6K	0				16	43	PP
SEVEN FALLS	90.89	3.5	13	7	0						
RAPID CITY	91.05	340.7	13	8	0						
CANBERRA	91.08	215.3	13	8	0						
RIVERVIEW	91.43	217.6	13	9A	0	24	12	5	23	43	SKS
BERKELEY	91.69	325.1	13	13	3	24	18	8	30	32	SS
CONCORD	91.69	325.2	13	13	2						
RENO	92.14	327.6	13	14A	1						
BOZEMAN	94.61	336.1	13	23K	-1						
BUTTE	95.37	335.3	13	28	1						
BRISBANE	96.10	222.2	13	28	-3	23	49	-18			
HUNGRY HORSE	97.91	335.4	13	39K	0						
TANANARIVE	98.81	127.0							23	26	
LWIRO	98.98	101.9	13	48	4	24	30	8	17	44	PP
TAMANRASSET	99.65	67.8	13	48	1				17	48	PP
ADDIS ABABA	113.93	100.9							19	36	PP
PORT MORESBY	114.05	227.5	19	35	54				27	26	
RABAUL	115.47	235.3	19	35	51						
OTOTT++-T	1 C65	8.		4	-				0	3	PP 0 5
BENSBERG	118.80	45.8							20	15	PP
RESOLUTE	119.11	354.3	18	51	0						
JENA	121.09	47.6	19	2	7						
HELWAN	121.94	77.8							20	31	PP
COLLMBERG	122.05	47.8	19	7	10				20	38	
COLLEGE	122.05	331.4	18	54	-3						
PRUHONICE	122.20	49.7	19	5	8				20	38	
JERUSALEM	125.77	78.3	19	6	2				21	0	PP
KSARA	127.35	76.5	19	8	1				21	10	PP
SKALSTUGAN	127.55	34.3	19	7	0						
UPPSALA	128.35	40.0	19	8	-1						
NORD	129.12	9.4	19	8	-2						
LEMBANG	129.27	184.5	19	12A	1				22	32	
DJAKARTA	129.95	183.6							20	44	
SIMFEROPOL	131.55	63.0	19	14	-1				22	41	SKP
NURMIJARVI	131.87	40.8	19	14	-2				22	39	PKS
HELSINKI	131.92	41.3	19	15	-1				22	43	PKS
KIRUNA	132.16	30.6	19	15	-1						
SODANKYLA	134.38	31.9	19	19	-1						
PULKOVO	134.39	42.8	19	26	6						
SHIRAZ	136.99	91.7	19	24	-1	25	36	-58	22	9	SKP
APATITY	137.00	32.1	19	24	-1						
MOSCOW	137.24	49.8	19	25	0				22	9	PP
TIFLIS	137.31	71.7	19	27	1				22	12	PP
GORIS	137.44	75.4	19	27	1				22	15	PP
TEHERAN	139.33	83.1	19	29	0				23	8	PP
KHEYS	139.95	10.6	19	24	-6				22	27	PP
PETROPAVLOVK	143.57	304.0	19	34	-3				22	52	SKP
BOMBAY	143.77	123.8	19	38	1				41	42	SS
POONA	144.10	125.4	19	35	-3						
KARACHI	144.33	110.2	19	38	0						
SEVERO-KUR.	144.77	299.6	19	36	-3						
ASHKABAD	145.30	84.0	19	39	-1				23	0	PP
QUETTA	147.60	102.7	19	45	1	26	41	-10	20	12	23 22 PP
MAGADAN	147.99	315.6	19	46	2						
BAGUIO CITY	149.12	212.1	19	44	-2						
TIKSI	149.84	344.7	19	51	4						
SVERDLOVSK	150.05	49.2	19	48	0						
TUKUBASAN	151.55	266.5	19	56A	6				43	55	PSS
Y.-SAKHLINSK	152.95	290.0	19	57	5						
WARSAK DAM	152.96	100.6	20	0	8						
OKHA	153.01	304.5	19	58	6						
MATUSIRO	153.05	265.7	19	58K	6				44	39	SS
DUZHANBE	153.05	89.4	19	53	1				30	36	SKKS
LAHORE	153.54	108.0	19	52	-1				23	49	PP
TASHKENT	154.38	83.9	19	55	1				27	22	PPP
CALCUTTA	154.93	143.8	20	15	21						
DEHRA DUN	155.27	114.9	20	23	28						
CHITTAGONG	156.12	150.9	19	57	1						
YAKUTSK	156.56	329.1	19	53	-4				24	5	PP
CHATRA	158.06	135.9	19	59K	0						
FRUNSE	158.62	82.9	19	59	0				24	16	PP
SHILLONG	159.07	147.7	19	54K	-6						
KUNMING	161.09	176.22	20	3	1				24	28	PP
ZO-SE	161.33	232.0	20	1	-1				24	31	PP

LHASA	162.27	139.8	20	2	-1		24 34	PP
SEMIPALATNSK	162.65	60.1	20	2	-1		24 39	PP
NANKING	163.39	228.9	20	4	0		24 42	PP
CHANGCHUN	164.70	276.6	20	3	-3		24 47	PP
CHENGTU	166.64	179.7	20	7	0		24 54	PP
SIAN	169.53	202.6	20	8	-1			
PEKING	170.16	250.1	20	9K	0		25 16	PP
IRKUTSK	171.76	359.0	20	8	-2		25 22	PP
LANCHOW	172.02	178.5	20	11	1			
ULAN-BATOR	175.65	334.1	20	10	-2		25 44	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.

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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.

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