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OCTOBER 2 12.H 27.M 57 S EPICENTRE 10.91 -62.79 DEPTH= 0.KM

A= 0.44903 B=-0.87351 C= 0.18800 D=-0.8894 E=-0.4572
G= 0.0860 H=-0.1672 K=-0.9822 HT= 6.4

SE= 2.85

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
TRINIDAD	1.27	100.6	0	18A	-5								
GRENADA	1.54	42.5	0	26A	-1								
ST. VINCENT	2.70	33.4	0	41A	-3								
BARBADOS	3.82	54.6	0	58	-2								
FORT FRANCE	4.12	22.7	1	0A	-4	1	45	-8					
ST. CLAUDE	5.20	11.7	1	16	-3	2	14	-6					
SAN JUAN	8.09	337.0	1	57	-3	3	24	-8					
GALERAZAMBA	12.26	270.6	2	57	0	5	37	23					
BOGOTA	12.80	241.6	3	0	-4	5	41	14					
CHINCHINA	14.00	246.1	4	15	55	6	2	6			4	26	PP
BALBOA HTS.	16.63	264.8	3	51	-3								
BERMUDA	21.44	355.6	4	55K	6	8	49	7			7	13	
SANTIAGO MA.	25.22	278.5	5	34	7								
SAN SALVADOR	25.97	278.9	5	30	-4								
HUANCAYO	25.99	209.0	5	33K	-1	10	2	1					
MERIDA	27.62	294.5	5	50K	1						11	48	SS
LA PAZ	27.74	191.1	5	52	2	10	59	29			6	44	PP
COLUMBIA	28.40	326.9	5	54	-2	10	39	-2			6	48	PP
COMITAN	28.99	283.8	5	59	-2	10	59	9					
WASHINGTON	30.65	337.8	6	13	-3	11	22	6			7	1	PP
PHILADELPHIA	30.94	341.3	6	19	1	11	25	4			7	17	PP
C.C.N.Y.	31.38	343.6	6	25	3	11	31	3					
FORDHAM	31.39	343.7	6	28	6	11	29	1					
PALISADES	31.54	343.8	6	25	1	11	27	-3			7	47	PP
MORGANTOWN	32.41	334.9	6	32	1	11	46	2					
PENNSYLVANIA	32.61	338.5	6	34	1	12	4	17			7	44	PP
PITTSBURGH	33.10	335.7	6	38	1	12	3	8			6	43	
VERA CRUZ	33.18	288.4	6	39K	1	12	7	11			16	18	
HALIFAX	33.60	359.0	6	47	5	12	8	6			8	12	PP
CINCINNATI	34.13	329.2	6	53	7								
CLEVELAND	34.62	334.9	6	51A	1	12	19	1					
PUEBLA	35.09	287.6									7	9	
TERRE HAUTE	35.89	326.6	8	3	62								
LITTLE ROCK	35.90	316.2	7	1	0								
TACUBAYA	36.08	287.9	7	5K	2	12	47	6					
OTTAWA	36.11	344.5	7	4	1								
SHAWINIGAN	36.52	348.4	7	5	-1								
SEVEN FALLS	36.73	350.8	7	2	-6								
ST. LOUIS 1	36.91	323.1	7	8K	-2	12	55	1			8	23	PP
FLORISSANT	37.10	323.2	7	10	-1	12	57	1					
CHICAGO CGS.	37.66	329.1	7	18	2	13	6	1					
FAYETTEVILLE	37.88	316.6	7	15	-3	12	56	-12	7	22	8	50	PP
TALA POZO	38.52	182.1				13	13	-5			16	3	SS
GUADALAJARA	40.09	289.1	7	43	7								
LUBBOCK	42.25	308.5	7	54	0	14	5	-9					
CHIHUAHUA	44.10	300.0	8	2K	-7	14	38	-3					
MBOUR	44.79	80.6	8	14	-1						9	59	PCP
LA PLATA	45.79	174.4	8	23	0	14	57	-8			18	45	SS
LARAMIE	48.19	316.6	8	25	-17						9	40	PP
TUCSON	48.98	303.4	8	47	-1	15	52	2			10	29	PCP
IVIGTUT	51.34	9.0	9	5	-1								
SALT LAKE C.	52.33	313.5	9	12	-1	16	35	-2			11	11	PP
BOULDER CITY	53.13	306.9	9	18	-1	16	56	9					
BOZEMAN	53.66	319.5	9	23	0						10	33	PCP
PALOMAR	54.17	303.3	9	27K	0								
SASKATOON	54.21	328.2				17	3	1					
RIVERSIDE	54.72	304.0	9	30K	-1						39	57	PKPPKP
BUTTE	54.77	319.4	9	29	-2	17	8	-2					
EUREKA	54.92	310.8	9	31	-1								
CHINA LAKE	55.28	306.1	9	35K	0						39	50	PKPPKP
PASADENA	55.40	304.0	9	36K	0	17	16	-2			21	12	SS
ISABELLA	55.94	305.7	9	39K	-1						39	55	PKPPKP
TINEMAHA	56.04	307.4	9	40	0	17	33	6					
WOODY	56.26	305.7	9	41K	-1						11	19	
HUNGRY HORSE	56.61	321.5	9	42	-2						39	19	PKPPKP
FRESNO	57.21	306.8	9	51A	2								
RENO	57.81	310.0	9	52A	-1								
BANFF	58.64	324.1	6	52	-187								
LICK	58.77	307.1	9	59A	-1						10	12	
SANTA CLARA	59.01	307.0	10	2A	1	18	8	2					

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TOLEDO	59.19	50.0	10	8	5							
BERKELEY	59.35	307.6	10	3	-1	18	11	1				
SHASTA	60.00	310.8	10	7	-1						13	48
UKIAH	60.32	308.9	10	10	0							
ARCATA	61.29	310.7	10	20	3							
CORVALLIS	61.51	314.9	10	17K	-1							
RATHFARNHAM	61.60	34.7	10	22K	3	18	53	14				
SEATTLE	61.61	318.5	10	23	4	18	57	18				
VICTORIA	62.57	319.2	10	23	-2							
HORSESHOE B.	62.71	320.2	10	24	-2							
ALBERNI	63.65	319.8	10	32	-1							
ALGIERS UNI.	64.23	54.4	10	36	0	19	14	2			20	42 SCS
KEW	64.49	37.9	10	38	0	19	12	-3				
DURHAM	64.71	34.2	10	17	-22	19	17	-1	10	44	19	44 *SS
SCORESBY SD.	64.73	14.1	10	45	5	19	16	-2				
ABERDEEN	65.19	31.6				19	17	-7			19	42 PS
CLERMONT-FD.	65.49	44.6	10	48K	3	19	27	0				
PARIS	65.64	41.2	10	42	-3	19	18	-11			13	20 PP
TAMANRASSET	65.96	69.9	10	46A	-2	19	38	5			13	20 PP
RESOLUTE	66.27	351.1	10	57K	8	19	44	7			24	38 SS
DE BILT	67.96	38.1	10	57	-3	19	57	0				
NEUCHATEL	68.30	43.7	11	0	-2							
BASLE	68.79	43.2	11	7K	2						14	36
WITTEVEEN	68.99	37.5	11	9K	2							
BENSBERG	69.00	39.5	11	8	1							
STRASBOURG	69.05	42.1	11	9	2	20	8	-2			13	40 PP
KARLSRUHE	69.52	41.7	11	12A	2						11	49
EBINGEN	69.79	42.6	11	13	2				11	31		
STUTTGART	70.01	42.0	11	9	-4	20	18	-3	11	25	20	46 PS
FLORENCE X.	71.02	47.4	11	19A	0	20	42	9			14	13 PP
HAMBURG	71.07	37.0	11	17	-2	20	31	-3				
SITKA	71.42	326.6	11	23	2							
JENA	71.76	39.9	11	19	-4				11	41		
ROME	71.85	49.4	11	26K	2	20	44	1			25	24 SS
HALLE	72.04	39.3	11	26	1	20	41	-4	11	45		
PLAUEN	72.09	40.4	11	21	-4							
CHEB	72.20	40.9	12	22	56						14	46
COLLMBERG	72.68	39.6	11	25	-4						15	18 PP
COPENHAGEN	72.74	35.0	11	32	3	20	51	-2			25	27 SS
POTSDAM	72.81	38.5	11	28	-2						20	51
TRIESTE	72.88	45.5	11	33	3	20	53	-2	11	47	21	26 PS
NORD	73.38	6.4	11	32	-1							
PRAGUE	73.52	40.9	11	34	0	20	53	-9			11	49 PCP
SKALSTUGAN	73.66	26.8	11	36	1							
MESSINA	74.21	53.3	11	37	-1	21	10	1			14	28 PP
BRATISLAVA	75.22	43.0	11	40	-4							
TARANTO	75.46	50.9				21	10	-13			19	10
UPPSALA	75.83	30.9	11	46	-1	21	17	-10				
RACIBORZ	75.95	41.0	11	47	-1						11	57 PCP
KIRUNA	77.41	22.7	11	54	-2	21	40	-5				
BELGRADE	77.63	46.3	11	59K	2						12	39 PCP
WARSAW	77.68	38.7	12	3	6	21	48	0				
COLLEGE	78.09	334.2	11	56	-4						14	58 PP
TIMISOARA	78.12	45.4	11	12	-48	21	54	2				
HELSINKI	79.52	30.5	12	5	-2							
SODANKYLA	79.80	23.2	12	7	-2							
SOFIA	79.86	48.3	12	7	-2							
ATHENS	80.66	53.1	12	14A	0							
CAMPULUNG	80.83	45.6	12	22	8							
BUCHAREST	81.68	46.4	12	23	4	22	29	-1				
BACAU	81.97	44.2	12	27	7							
PULKOVO	82.23	30.7	12	21	-1	22	32	-3				
FOCSANI	82.29	45.0	12	22	0	22	14	-22				
IASI	82.34	43.5	12	26	4							
APATITY	82.38	22.7	12	25	2	22	39	2				
KISHINEV	83.22	43.5	12	24	-3	22	40	-5				
ISTANBUL KA.	84.33	49.4	12	28	-4	22	54	-2				
SIMFEROPOL	87.23	44.9	12	45	-2	23	23	0				
HELWAN	88.18	60.1	12	51	0	23	37	4				
JERUSALEM	91.04	57.5	13	9	4							
KSARA	91.10	55.4	13	8	3	24	6	6			16	44 PP
SOTCHI	91.46	45.2	13	3	-4	23	59	-4				
LWIRO	91.98	91.9	13	9	0							
KIMBERLEY	93.06	118.5	13	13	-1							
BYRD STATION	95.23	188.4	13	25	1						17	20 PP
TIFLIS	95.60	45.8	13	29	3							
MAKHACH-KALA	97.03	43.9	13	52	20							
TIKSI	97.28	356.3									17	37 PP

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SVERDLOVSK	98.07	27.6				25	5	5					
SOUTH POLE	100.84	180.0	13	48	-1								
SCOTT BASE	108.59	189.8										18	57 PP
CAPE HALLETT	111.06	195.2	19	16	43							28	52
NAMANGAN	113.46	36.1	19	21	44								
IRKUTSK	116.11	8.8	20	7	85								
QUETTA	116.73	48.2	18	48	4							19	53 PP
MATUSIRO	128.82	338.2	19	6	-1							21	20 PP
CHATRA	132.48	37.3	19	17	3								
SHILLONG	136.14	33.9	19	18	-3								
RABAUL	144.73	278.2	19	39	3								
HONG KONG	146.87	5.1	19	44	4								
BAGUIO CITY	152.64	352.9	19	52	3								

OCTOBER 2 20.H 58.M 40.S EPICENTRE -6.37 69.73 DEPTH= 0.KM

A= 0.34436 B= 0.93234 C=-0.11025 D= 0.9381 E=-0.3465
G=-0.0382 H=-0.1034 K=-0.9939 HT= 6.9
SE= 3.57

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KODAIKANAL	18.21	25.1	4	20	4	7	50	13			4	38	PP
MADRAS	21.87	28.3	4	55A	-1	8	52	-2			5	19	PP
TANANARIVE	24.93	238.0	5	25	-1						10	17	SS
POONA	25.08	9.3	5	28	0	9	53	3			6	15	PPP
HYDERABAD	25.17	19.9	5	28A	-1	9	55	3			5	55	PP
BOMBAY	25.30	6.9	5	30	0	9	56	2			6	2	PP
VIZIANAGRAM	27.85	28.9	5	56	3								
PORT BLAIR	29.06	52.0	7	18	74								
KARACHI	32.11	355.4	6	24	-7						7	24	PP
BOKARO	33.87	27.1	6	38	-9	12	4	-7			8	1	PP
QUETTA	36.44	355.9	7	9A	0	12	48	-3			8	33	PP
DJAKARTA	36.87	91.8	7	9	-3								
CHATRA	37.08	26.4	7	13	-1						13	32	
DEHRA DUN	37.34	11.9	7	20	4	13	5	0			8	41	PP
LAHORE	37.96	6.4	7	20	-1								
SHILLONG	38.36	33.3	7	24A	-1	13	19	-1			8	56	PPP
LWIRO	41.00	273.9	7	50	3						10	24	
LHASA	41.25	28.7	7	51	2	14	4	1					
PIETERMZBURG	43.64	233.1	8	10	2								
PRETORIA	44.07	239.3	8	9	-3								
KUNMING	44.76	44.5	8	18	1	14	53	-2					
PHU-LIEN	45.19	52.4				15	3	2			17	36	
NAMANGAN	47.15	2.0	8	36	0								
KIMBERLEY	47.90	236.7	8	27	-15								
GRAHAMSTOWN	48.14	230.3	8	45K	1								
CHENGTU	49.33	39.8	8	51	-2	15	56	-4					
JERUSALEM	50.23	321.1	9	6	6								
KSARA	51.23	323.5	9	5	-3	16	32	6			10	54	PP
HELWAN	51.54	316.5	9	9	-1								
LANCHOW	52.98	34.7	9	20	-1	16	48	-2			11	18	PP
MAKHACH-KALA	53.10	339.7	9	17	-5								
BAGUIO CITY	55.16	65.1	9	38	1								
SOTCHI	56.65	334.2	9	41	-7								
ISTANBUL KA.	60.14	325.4	9	24	-48	18	20	-5					
SIMFEROPOL	60.25	331.6	9	49	-24								
NANKING	60.35	47.6	10	14	1	18	27	0					
ATHENS	61.44	319.7	10	23A	2								
MIRNY	62.20	169.7	10	26	0								
PEKING	62.92	38.7	10	32	1	19	0	0					
ULAN-BATOR	63.18	27.1	10	31	-1	19	0	-3					
SVERDLOVSK	63.42	354.4	10	32	-2								
KISHINEV	64.30	330.2	10	46	6	19	11	-6					
IRKUTSK	65.43	22.6	10	45	-2								
WILKES	66.04	163.1				19	53	14					
MESSINA	67.02	316.1	10	55	-2	19	41	-9			13	17	PP
NAGASAKI	69.05	51.5				20	11	-3					
TAMANRASSET	69.10	297.2	11	10	0	20	20	5			13	57	PP
CHANGCHUN	70.70	39.2	11	15	-5	20	28	-6					
ROME	70.85	318.3									15	41	
BRATISLAVA	71.22	325.8	12	21	58								
PULKOVO	72.93	340.4	11	41	8								
PRAGUE	73.72	326.5	12	39	61						15	2	
KYOTO	74.41	51.1				21	16	0					

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CHEB	74.86	325.8	11 43	-1				20	0	
HELSINKI	75.09	338.6	11 49	3						
COLLMBERG	75.14	327.1	11 44	-2						
PLAUEN	75.20	326.1	11 55	9						
CHARTERS TS.	75.22	108.9	11 42K	-5						
POTSDAM	75.65	328.1	11 47	-2						
JENA	75.73	326.3	11 47	-2						
HALLE	75.81	326.9	11 44	-6						
EBINGEN	75.93	323.0	11 48	-3				11	59	PCP
TUBINGEN	76.03	323.3						12	0	PCP
STUTTGART	76.06	323.6	11 50	-1	21 41	6		12	0	PCP
BASLE	76.49	322.0	11 45	-9						
NEUCHATEL	76.66	321.3	11 51	-4						
MATUSIRO	76.82	50.3	11 56	0	21 39	-4		26	49	SS
STRASBOURG	76.83	323.0	12 4	8	21 44	1		26	38	SS
COPENHAGEN	77.68	330.8						26	44	SS
UPPSALA	77.70	335.9	11 58	-2						
HAMBURG	77.87	328.2	11 59	-2						
APATITY	78.12	346.6	12 16	13						
TUKUBASAN	78.16	51.1	12 7	4				12	12	PCP
WITTEVEEN	79.30	326.6	12 17	8						
RIVERVIEW	79.37	123.1	12 13A	3						
SODANKYLA	79.68	344.4	12 12	1						
PARIS	80.13	321.8	12 16	2				12	22	
BRISBANE	81.16	116.8	12 28A	9	21 56	-33				
KIRUNA	81.72	343.1	12 19	-3						
SKALSTUGAN	81.92	337.6	12 25	2						
KEW	82.75	323.7	12 35	8	22 52	7				
SOUTH POLE	83.67	180.0	12 30	-2						
SCOTT BASE	85.30	167.8	12 41	1						
TIKSI	86.73	15.8						16	15	PP
RATHFARNHAM	86.79	324.3	12 57	9				15	31	
CAPE HALLETT	87.18	162.5	12 44	-6						
MBOUR	88.38	284.6			23 29	11				
BYRD STATION	93.59	178.4	13 22	3						
RESOLUTE	111.17	355.7			26 58	101		35	1	SS
LA PAZ	132.52	240.9	19 23	6						
HUANCAYO	140.73	242.3	19 35	3						
BOZEMAN	140.85	0.9	19 40	8				22	37	
SHASTA	144.14	15.8	19 39	1						
UKIAH	145.35	17.9	19 41	1						
CHINCHINA	145.49	269.5	19 43	3						
SALT LAKE C.	145.72	2.1	19 42	1						
RENO	145.88	13.2	19 43	2						
BOULDER	146.18	353.1	19 45	4						
EUREKA	146.64	8.0	19 44	2				23	6	
BERKELEY	146.81	17.5	19 49	6						
FAYETTEVILLE	146.95	335.7	19 42	-2						
LICK	147.48	17.0	19 49A	5						
FRESNO	148.52	14.7	19 55	10						
TINEMAHA	148.60	12.3	19 53	8						
WOODY	149.76	14.0	19 50	3						
KING RANCH	149.89	15.6	19 53	5						
ISABELLA	149.89	13.4	19 54	6						
CHINA LAKE	149.93	11.9	19 55	7						
BOULDER CITY	150.24	7.5	19 54	6						
PASADENA	151.41	13.8	20 1	11				25	20	PP
RIVERSIDE	151.74	12.5	20 1	11						
PALOMAR	152.47	12.0	20 2	11						
TUCSON	154.25	1.1	20 10	16						

OCTOBER 3 5.H 58.M 18.S EPICENTRE -4.17 133.19 DEPTH= 50.KM

DEPTH OF FOCUS= 0.003R

A=-0.68268 B= 0.72714 C=-0.07222 D= 0.7290 E= 0.6845
G= 0.0494 H=-0.0527 K=-0.9974 HT= 7.1

SE= 2.29

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KOROR	11.49	6.4	2 44	0				
RABAUL	18.93	90.8	4 20	1				4 38 PP
CHARTERS TS.	20.25	142.1	4 32A	-2	8 4	-9		
GUAM	20.95	33.0	4 43	2	8 35	8		
TRUK	21.91	58.2	4 53	2				6 48

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MANILA	22.22	327.2	5	7	13	9	11	21				
BAGUIO CITY	23.96	328.9	5	10	-1	9	37	16				
DJAKARTA	26.33	264.5	5	38	5	10	17	17				
BRISBANE	29.92	142.8	6	4K	-2	10	57	-1				
RIVERVIEW	33.92	152.6	6	39A	-1	12	2	1			12	51
MELBOURNE	35.19	163.7	6	51	0						7	9
NAGASAKI	36.83	355.3	7	5	0	12	48	3				
NOUMEA	36.90	122.2	7	5	-1							
KYOTO	39.05	3.3	7	23	-1	13	17	-2				
TUKUBASAN	40.69	8.6	7	36A	-1				7	48	9	20 PP
MATUSIRO	40.78	6.2	7	37K	-1	13	44	-1			9	18 PP
KUNMING	41.50	316.0	7	43	-1	13	54	-2				
SENDAI	42.82	8.9	7	55	0	14	20	5				
CHENGTU	44.46	323.1	8	6	-2	14	35	-4				
PEKING	46.68	342.0	8	26	0	15	14	3				
LANCHOW	48.57	328.0	8	41	1	15	39	2			10	33 PP
SHILLONG	49.80	308.7	8	51A	1							
Y.-SAKHLINSK	51.59	8.3	9	1	-2	16	22	3				
TONGARIRO	51.80	138.3	9	4	-1							
LHASA	52.54	312.6	9	10A	-1	16	32	0				
CHATRA	54.10	307.5	9	19	-3	16	50	-3				
MADRAS	55.34	288.8	9	40	9	17	26	16			11	47 PP
POONA	62.63	293.2	10	25	3							
WILKES	63.94	190.0				19	9	8				
OASIS-BUNG.	65.93	193.8	10	43	0							
LAHORE	66.25	307.0	10	43	-2							
MIRNY	68.22	196.1	10	56A	-1	19	53	0				
WARSAK DAM	69.31	308.6	11	3	-1							
NAMANGAN	71.77	315.5	11	18	-1							
CAPE HALLETT	71.82	168.8	11	24	5							
QUETTA	71.83	303.5	11	18A	-1	20	29	-6			11	27
HONOLULU	71.84	66.1	11	21	2							
KIPAPA	71.94	66.0	11	22	2							
TIKSI	75.71	358.6	11	38	-4	21	16	-2				
SCOTT BASE	75.72	173.1	11	41	-1							
SVERDLOVSK	84.03	328.2	12	26	-1	22	42	-4				
SOUTH POLE	85.86	180.0	12	33	-3							
COLLEGE	89.08	24.8	12	50	-1							
SHASTA	103.63	49.3	14	1	4							
EUREKA	108.68	49.8	14	25	777							
IVIGTUT	123.10	0.8	18	51	0						19	4
TAMANRASSET	126.18	295.2	18	59	2						20	53 PP
SEVEN FALLS	132.45	22.1	19	3	-6							
BERMUDA	147.32	28.7	19	44	8							
HUANCAYO	147.38	119.9	19	41	5						20	22
MBOUR	148.90	291.0	19	46	8							
LA PAZ	150.57	134.8	19	51	10							
CHINCHINA	151.27	87.3	19	42	0						19	50 PKP2
SAN JUAN	156.42	51.7	20	20	31							

OCTOBER 4 5.H 26.M 6.S EPICENTRE 10.97 -62.79 DEPTH= 10.KM

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SE= 2.75

	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
TRINIDAD	1.28	103.4	0	21A	-2							
GRENADA	1.49	44.0	0	26A	0							
ST. VINCENT	2.64	34.1	0	42A	-1							
BARBADOS	3.78	55.3	1	1	2							
FORT FRANCE	4.06	23.0	1	3A	0	1	43	-8				
ST. CLAUDE	5.14	11.8	1	20	2							
SAN JUAN	8.04	336.8	1	56K	-3	3	26	-4				
GALERAZAMBA	12.26	270.3	2	53	-4	5	22	8				
BOGOTA	12.83	241.4	3	1	-3	5	27	-1				
BALBOA HTS.	16.64	264.6	3	50K	-4	7	22	25				
BERMUDA	21.38	355.6	4	50K	2	8	51	11				
SANTIAGO MA.	25.22	278.3	5	29	3	10	14	26				
SAN SALVADOR	25.97	278.8	5	35	2	10	25	25				
HUANCAYO	26.04	208.9	5	33	-1	10	20	19				
MERIDA	27.60	294.4	5	54K	6	10	46	19			11	54 SS
LA PAZ	27.80	191.0	5	51	1	11	0	30			12	35 SSS
COLUMBIA	28.35	326.8	5	57A	2	10	43	4	6	30	7	5 PP

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COMITAN	28.98	283.7	6	4	4	10	56	7				
WASHINGTON	30.59	337.8	6	15A	0	11	29	14			7	11 PP
PHILADELPHIA	30.88	341.3	6	19	2	11	25	6				
FORDHAM	31.33	343.7	6	22	1	11	33	7				
PALISADES	31.49	343.8	6	22A	-1	11	26	-3	6	36	7	24 PP
MORGANTOWN	32.36	334.8	6	32	2							
PENNSYLVANIA	32.56	338.5	6	34	2	11	54	9			7	41 PP
PITTSBURGH	33.04	335.6	6	35	-1	11	59	6				
OAXACA	33.48	284.2				12	4	4				
HALIFAX	33.53	359.0	6	43K	2	12	3	2				
CINCINNATI	34.08	329.1	6	50	5						9	52
CLEVELAND	34.56	334.8	6	49	0	12	21	5				
ANTOFAGASTA	35.21	192.2	6	55	0	12	27	1				
TERRE HAUTE	35.84	326.6	6	57	-3	12	34	-2				
LITTLE ROCK	35.86	316.1	7	1	1							
OTTAWA	36.05	344.5	7	2A	0	12	50	11			8	22 PP
TACUBAYA	36.06	287.9	7	4K	2	12	44	4			8	32 PP
SHAWINIGAN	36.46	348.4	7	5A	-1	12	57	11				
SEVEN FALLS	36.67	350.8	7	2	-5	12	51	2			8	52 PPP
ST. LOUIS 1	36.86	323.0	7	9A	0	12	55	3			8	28 PP
FLORISSANT	37.05	323.1	7	11K	1	12	56	1			8	29 PP
CHICAGO CGS.	37.61	329.1	8	16K	61	14	4	61			9	52 PCP
FAYETTEVILLE	37.84	316.5	7	16A	-1	13	11	4			8	51 PP
GUADALAJARA	40.07	289.1	7	44	8						17	24
MANZANILLO	40.84	286.4	7	48	6	14	2	10			17	26
LUBBOCK	42.22	308.5	7	55	2	14	16	4				
CHIHUAHUA	44.07	299.9	8	8K	0	14	43	4			9	49 PP
MBOUR	44.78	80.6	8	15	1				8	24	10	6 PP
LA PLATA	45.85	174.4	8	20	-3	15	6	1			18	18 SS
BOULDER	47.39	315.2	8	34	-1							
TUCSON	48.95	303.3	8	47A	0	15	53	4			10	44 PP
IVIGTUT	51.28	9.0	9	5	0	16	44	23				
SALT LAKE C.	52.29	313.5	9	12A	0	16	41	6			21	5 SS
BOULDER CITY	53.09	306.9	9	18A	0	16	56	10	9	31		
BOZEMAN	53.61	319.5	9	21A	-1	17	0	7			9	44
BARRETT	53.86	302.5	9	23A	-1	17	4	8				
PALOMAR	54.14	303.3	9	26A	0						11	34 PP
SASKATOON	54.16	328.2	9	24	-2	17	8	8				
RIVERSIDE	54.69	303.9	9	30A	0	17	19	11			39	47 PKPPKP
BUTTE	54.73	319.3	9	30A	0	17	12	4				
EUREKA	54.89	310.8	9	31A	-1	17	57	47	9	49		
LISBON	55.03	50.2	9	33A	0	17	23	11			11	35 PP
CHINA LAKE	55.24	306.1	9	34A	0						40	0 PKPPKP
PASADENA	55.37	304.0	9	35A	0	17	19	2	9	49	11	51 PP
ISABELLA	55.90	305.7	9	38A	-1						11	52 PP
COIMBRA	55.96	48.7	9	38	-1	17	25	1				
TINEMAHA	56.01	307.4	9	40A	0	17	31	6				
WOODY	56.22	305.7	9	41A	0						12	3 PP
KING RANCH	56.86	305.1	9	46	0						11	51 PP
FRESNO	57.18	306.7	9	46A	-2							
RENO	57.78	309.9	9	51A	-1							
LICK	58.73	307.1	9	58A	-1							
GRANADA	58.97	53.2	9	51K	-10	17	59	-5	10	1	12	11 PP
SANTA CLARA	58.98	307.0	10	0K	-1	18	9	5				
TOLEDO	59.14	50.0	10	3A	1	18	17	11	10	22	12	16 PP
BERKELEY	59.31	307.6	10	2A	-1	18	14	6			12	20 PP
ALMERIA	59.81	53.7	10	5	-1	18	30	15			11	20 PP
SHASTA	59.96	310.8	10	5	-2							
UKIAH	60.28	308.8	10	12A	2	18	28	7			14	8 PPP
REYKJAVIK	60.29	19.3	10	7A	-3							
CORVALLIS	61.46	314.9	10	20	2							
RATHFARNHAM	61.55	34.7	10	18A	0	18	51	14				
SEATTLE	61.56	318.5	10	15	-3	18	40	3				
ALICANTE	61.60	52.3	10	11	-7	18	26	-12			10	55 PCP
RELIZANE	62.07	55.4	10	26	4						12	47 PP
LILLOOET	62.20	321.9	10	22A	-1							
VICTORIA	62.52	319.2	10	25	0	13	51	2				
HORSESHOE B.	62.66	320.2	10	22	-4	18	44	-7				
LOME	63.39	88.6	10	40	10	19	13	13			19	32 PS
ALBERNI	63.61	319.8	10	31	-1							
BARCELONA	64.04	49.3	11	13	38	19	18	10				
ALGIERS UNI.	64.19	54.5	10	30	-6	19	16	6			12	53 PP
KEW	64.44	37.9	10	34A	-3	19	15	2			12	52 PP
DURHAM	64.65	34.2	10	37	-2	19	18	2	10	44	19	46 *SS
SCORESBY SD.	64.67	14.1	10	36	-3	19	23	7			26	24 SS
ABERDEEN	65.14	31.6	10	43K	1	19	23	1			14	28 PPP
CLERMONT-FD.	65.44	44.6	10	43A	-1	19	31	5				
PARIS	65.59	41.3	10	43	-2	19	29	2			13	7 PP

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TAMANRASSET	65.94	69.9	10	48A	1	19	40	8			13	17 PP
RESOLUTE	66.21	351.1	10	49A	0	19	45	10				
BESANCON	67.63	43.4	10	56	-2						13	52 PP
DE BILT	67.91	38.1	10	59A	0	20	4	9				
MONACO	68.21	47.3	10	55A	-6						11	32 PCP
NEUCHATEL	68.25	43.7	11	0	-1	20	1	2				
OROPA	68.79	45.3	11	7	2	20	32	26				
WITTEVEEN	68.94	37.5	11	6A	0							
STRASBOURG	69.00	42.1	11	5	-1	20	11	3			13	24 PP
ZURICH	69.40	43.5	11	6	-3	20	11	-2				
KARLSRUHE	69.47	41.7	11	8A	-1	20	16	2			13	30 PP
PAVIA	69.59	45.9	11	9A	-1	20	34	19			21	36 PS
EBINGEN	69.75	42.7									13	32 PP
BERGEN	69.75	29.4				20	30	13			24	50 SS
STUTTGART	69.96	42.0	11	10A	-2	20	25	5	11	32	13	31 PP
PRATO	70.87	47.3	11	6	-12	20	16	-14				
FLORENCE X.	70.98	47.4	11	16A	-2	20	34	2	11	39	15	24 PP
HAMBURG	71.02	37.0	11	17	-1	20	32	0				
SITKA	71.37	326.6	11	19	-2	20	36	0	12	0	14	1 PP
JENA	71.71	39.9	11	20	-3	20	44	4			14	12 PP
ROME	71.81	49.5	11	22A	-1	20	49	8			25	33 SS
HALLE	71.99	39.4	11	23	-1	20	45	2			14	4 PP
PLAUEN	72.03	40.4	11	21	-3	20	42	-2			15	45 PPP
CHEB	72.15	40.9	11	23	-2	20	46	1			14	11 PP
COPENHAGEN	72.69	35.0	11	30	2	20	56	5			14	19 PP
POTSDAM	72.76	38.5	11	30	1	20	57	5				
TRIESTE	72.84	45.6	11	37	8	20	44	-9	11	50	21	27 *SS
NORD	73.31	6.4	11	35	3	21	37	39			22	14 PPS
PRAGUE	73.47	41.0	11	33	0	21	9	9			14	8 PP
SKALSTUGAN	73.60	26.8	11	32	-2				11	41		
MESSINA	74.17	53.3	11	38	1	21	10	2	11	50	14	27 PP
VIENNA-H.	74.69	42.9	11	39	-1	21	21	7			16	18 PPP
BRATISLAVA	75.18	43.0	11	40	-3	21	16	-3				
TARANTO	75.41	50.9	11	42	-2	21	22	0				
UPPSALA	75.78	30.9	11	45	-1	21	25	-1				
RACIBORZ	75.90	41.0	11	47	0						12	20 PCP
HURBANOVO	75.92	43.3	11	57	10	21	38	11	12	17	12	6 PCP
BUDAPEST	76.51	43.7	11	56	6	21	35	1			14	35 PP
KRAKOW	77.01	41.0	11	53	0				12	9	14	58 PP
SZEGED	77.28	44.9	11	58	3						22	9 SCS
KIRUNA	77.35	22.7	11	55	0	21	43	0	12	5		
BELGRADE	77.58	46.4	11	57A	1	21	56	11			22	34 PS
WARSAW	77.63	38.8	11	58K	1	21	50	4			14	59 PP
COLLEGE	78.04	334.2	11	56A	-3	22	7	17	12	14	14	55 PP
TIMISOARA	78.07	45.4	12	5	6	22	0	9			14	54 PP
SKOPJE	78.46	49.2	12	10	9	22	0	5			23	1 PS
HELSINKI	79.46	30.5	12	0	-7	21	56	-9	12	18		
LWOW	79.66	41.1	12	8	0						22	11 SCS
SODANKYLA	79.74	23.2	12	7	-1						12	29 *SP
CAMPULUNG	80.78	45.6	12	18	4							
BUCHAREST	81.63	46.4	12	26	8	22	33	5			23	17 PS
BACAU	81.92	44.2	12	23	3							
PULKOVO	82.18	30.7	12	15	-6						22	25 SCS
FOCSANI	82.24	45.0	12	30	9							
IASI	82.29	43.5	12	20	-2						18	30
APATITY	82.32	22.7	12	21	-1	22	40	5			15	17 PP
ISTANBUL KA.	84.28	49.4	12	30	-2	22	56	1				
SIMFEROPOL	87.18	44.9	12	44	-2						23	22 SCS
HELWAN	88.14	60.1	12	52	1	23	39	7				
HONOLULU	90.94	291.8	13	5	1	23	52	-5			16	45 PP
JERUSALEM	91.00	57.5	13	10K	6	24	17	19				
KSARA	91.06	55.4	13	7A	3	24	2	4			16	38 PP
LWIRO	91.98	91.9	13	10	1				13	40		
KIMBERLEY	93.09	118.5	13	14K	0							
BYRD STATION	95.29	188.4	13	23	-1	24	38	3	13	33	16	38 PP
TIFLIS	95.55	45.8	13	25	0						17	24 PP
TIKSI	97.22	356.3	13	36	3						17	29 PP
GORIS	97.42	47.5	13	36	3						24	33 SKKS
SVERDLOVSK	98.01	27.6	13	30	-6							
SOUTH POLE	100.90	180.0	13	49	0						30	2 PKKP
ASHKABAD	106.60	44.9	14	30	777						18	47 PP
PETROPAVLOVK	107.02	335.3									18	40 PP
SCOTT BASE	108.65	189.8	18	42	777							
CAPE HALLETT	111.13	195.2	19	14	42							
TASHKENT	111.79	37.0									34	54 SS
STALINABAD	113.17	39.7									19	24 PP
FRUNSE	113.76	33.0									19	36 PP
IRKUTSK	116.04	8.8									19	45 PP
QUETTA	116.68	48.2	18	43	0	25	32	0			19	44 PP

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Y.-SAKHLINSK	118.00	340.5							20	0 PP
ULAN-BATOR	120.66	8.0	19	25	34				27	24 SKKS
MIRNY	122.12	168.8							20	23 PP
DEHRA DUN	124.29	41.4							20	36 PP
VLADIVOSTOK	124.52	347.0							30	45 PS
WILKES	124.64	176.7							20	48 PP
BOMBAY	127.12	56.2							21	15 PP
POONA	128.15	55.9	19	7	2				21	6
TUKUBASAN	128.34	336.4	18	56	-10				21	8
MATUSIRO	128.76	338.3	19	5A	-1				20	58 PP
PEKING	129.25	1.0	19	6	-1				21	19 PP
LANCHOW	131.53	14.5	19	12	0				21	38 PP
LHASA	132.39	31.3	19	14	1					
HYDERABAD	132.43	54.1							22	43
CHATRA	132.43	37.3	19	12	-1				23	24
BOKARO	133.75	41.4	19	56	40				22	54
KODAIKANAL	135.22	63.3	22	5	167					
SHILLONG	136.09	33.9	19	20	0				22	6 PP
MADRAS	136.21	58.0							22	5 PP
CALCUTTA	136.31	40.3							22	54 PKS
CHENGTU	136.71	16.7	19	21	0				22	10 PP
NANKING	137.20	358.0	19	20	-2				22	8 PP
ZO-SE	138.00	354.9							22	5 PP
RIVERVIEW	141.53	228.3	19	22	-8	26	18	-18	22	38 PP
BRISBANE	142.58	238.8	19	44	12					
RABAUL	144.73	278.3	19	34	-1					
CANTON	145.94	6.5	19	38	0					
HONG KONG	146.80	5.1	19	15	-24					
CHARTERS TS.	150.64	248.6	19	43K	-2					
BAGUIO CITY	152.58	353.0	19	47	-1					
MANILA	154.34	351.5	19	55	5					
PERTH	159.08	176.7	21	22	86					

OCTOBER 4 23.H 55.M 43.S EPICENTRE 52.56 177.80 DEPTH= 0.KM

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	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	
PETROPAVLOVK	11.59	280.4	3	0	11								
COLLEGE	21.36	41.5	4	54	3	8	37	-7			5	31	
Y.-SAKHLINSK	23.18	270.1	5	13	4	9	13	-4					
TIKSI	28.56	330.0	6	0	1								
MATUSIRO	31.95	255.8	6	31K	2	11	32	-8			7	38	PP
CHANGCHUN	35.35	277.2	6	57	-2								
RESOLUTE	39.55	24.7	7	37A	3	13	33	-4					
SHASTA	41.60	81.9	7	53	2								
IRKUTSK	42.99	300.2	8	2	0	14	13	-15					
PEKING	43.10	278.6	8	5	2	14	20	-10					
BERKELEY	43.44	85.1	8	7A	1								
ULAN-BATOR	43.91	293.6	8	11	1	14	29	-13					
LICK	44.15	85.2	8	13A	1						8	51	
BOZEMAN	45.34	68.9	8	23	2								
FRESNO	45.64	84.4									9	3	
NORD	45.86	2.9	8	27	2								
ZO-SE	45.95	265.2	8	27	1	15	1	-10					
EUREKA	46.22	78.8	8	29	1						9	8	
NANKING	46.74	268.1	8	33K	1								
SALT LAKE C.	47.85	74.8	8	41	0						9	24	
PASADENA	48.38	85.9	8	46	1								
BOULDER CITY	49.17	81.6	8	51	0						9	31	
TRUK	49.71	214.7	8	54	-1								
LANCHOW	53.07	283.1				16	38	-12					
TUCSON	54.14	82.2	9	29	0						10	11	
SCORESBY SD.	56.45	7.8	9	46	0	17	6	-30			10	26	
CANTON	56.59	264.8	9	46	-1								
HONG KONG	56.64	263.4	9	46	-1								
CHENGTU	56.72	278.2	9	46	-1								
APATITY	57.27	344.6									9	51	
SODANKYLA	58.45	347.3	9	58	-2						10	48	PCP
KIRUNA	58.75	350.2	10	1	-1								
SVERDLOVSK	59.45	325.4	10	7	0	18	5	-10					
IVIGTUT	60.83	23.5	10	16	0								

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KUNMING	61.59	274.7	10	20K	-1						
REYKJAVIK	62.65	9.6	10	29	1				11	10	
SKALSTUGAN	63.65	352.8	10	34	-1						
OTTAWA	63.90	48.8	10	37K	0						
SHAWINIGAN	64.35	46.2	10	39	0				11	20	PCP
SEVEN FALLS	64.75	44.7	10	35	-7						
LHASA	65.18	286.7	10	46K	1	19	16	-11			
HELSINKI	65.52	345.5	10	45	-2				11	17	PCP
UPPSALA	66.81	349.3	10	54K	-1						
SHILLONG	67.72	283.2	11	0K	-1						
PALISADES	68.12	50.7	11	4	0	19	43	-20			
CHATRA	69.54	287.5	11	10	-2						
WARSAK DAM	72.61	303.3	11	10	-21						
DURHAM	73.04	359.6				20	47	-13			
LAHORE	73.08	299.8	11	32K	-2	20	43	-18	12	16	
HAMBURG	73.76	352.5	11	38	1						
RATHFARNHAM	74.46	2.5	11	42A	0				12	26	
HALLE	75.63	350.9	11	49	1						
MAKHACH-KALA	75.64	324.7	11	48	0	21	17	-12			
COLLMBERG	75.73	350.2	11	47	-2						
KRAKOW	76.06	345.5	11	50	-1				12	10	PCP
JENA	76.23	351.1	11	50	-2						
RACIBORZ	76.29	346.6	11	52	0						
KEW	76.34	358.8	11	52	0						
BENSBERG	76.56	353.9	11	53	-1						
PLAUEN	76.60	350.6	11	50	-4						
SONNEBERG	76.81	351.2	11	56	1						
CHARTERS TS.	77.29	210.3	11	56K	-2						
KISHINEV	77.31	338.8				21	32	-16			
SOTCHI	77.65	330.2	11	59	-1	21	38	-13			
TIFLIS	77.68	325.9	12	1	1	21	41	-11			
SIMFEROPOL	77.98	334.5	12	0	-1						
QUETTA	78.00	304.2	12	1K	0	21	42	-13	14	57	PP
STUTTGART	78.59	352.3	12	3	-2						
TUBINGEN	78.84	352.4	12	6	0						
STRASBOURG	78.88	353.3	12	8A	2	21	52	-12	23	5	PPS
PARIS	78.93	356.8	12	8	1						
EBINGEN	79.19	352.4	12	7	-1						
BERMUDA	79.44	49.8				22	1	-9	27	8	SS
ZURICH	80.03	352.6	12	13	0						
CHUR	80.46	351.9	12	14A	-1						
NEUCHATEL	80.51	353.7	12	16	1						
BRISBANE	82.59	202.0	12	25K	-1						
KSARA	87.78	329.1	12	52	0						
SAN JUAN	90.39	58.5	13	5	1						
TAMANRASSET	104.68	352.6	14	9	0				18	31	PP
LWIRO	123.63	321.8	19	0	1						
SCOTT BASE	130.32	183.1	19	11	-1				22	19	SKP
MIRNY	134.72	214.1	19	19	-2						
BYRD STATION	136.97	166.9	19	13	-12				22	40	PP
SOUTH POLE	142.37	180.0	19	27	-7				22	53	PP
PRETORIA	144.80	307.7	19	36A	-3						
PIETERMZBURG	146.86	300.9	19	49K	7						
KIMBERLEY	148.95	309.4	19	46A	1						
GRAHAMSTOWN	151.78	301.5	19	55	5						

OCTOBER 5 11.H 36.M 44.S EPICENTRE 34.44 26.64 DEPTH= 0.KM

A= 0.73875 B= 0.37065 C= 0.56290 D= 0.4484 E=-0.8938
G= 0.5031 H= 0.2524 K=-0.8265 HT= 0.3

SE= 3.40

	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	
ATHENS	4.25	327.0	1	10K	2						2	24	SG
HELWAN	6.04	137.6	1	31	-2	2	40	-4					
ISTANBUL KA.	6.89	15.5	1	48	3						4	0	SG
JERUSALEM	7.67	107.8	1	56	0	3	18	-7					
KSARA	7.68	92.0	1	55	-1	3	26	1			2	37	PG
SKOPJE	8.59	332.8	2	16K	7	4	25	37					
SOFIA	8.65	343.5	2	19	9								
TARANTO	9.59	311.6	3	46	83								
REGGIO CALA.	9.60	295.5	2	23	0	4	11	-2					
MESSINA	9.71	296.0	2	24K	0	4	9	-6			4	52	S*
BUCHAREST	9.98	357.7	2	36	8	4	29	7					

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BELGRADE	11.41	337.2	2	59K	11				5	24 *SPS
SIMFEROPOL	11.97	26.5	2	56	1	5	20	9		
TIMISOARA	12.03	341.5	3	39	43	6	17	65		
KISHINEV	12.68	6.8	2	58	-7					
IASI	12.77	2.9	3	35	29	4	35	-55		
SZEGED	12.80	339.2	3	37	31				3	56 PPP
KALOCSA	13.40	336.6	3	25	11				8	58 PCP
SOTCHI	13.65	44.2	3	17	-1	5	58	7		
BUDAPEST	14.22	338.7							4	0 PPP
HURBANOVO	14.84	337.3	3	35	2	6	48	29		
TRIESTE	14.91	322.5	3	36	2	6	13	-8		
BRATISLAVA	15.46	335.4	3	41	0	6	44	10		
TIFLIS	16.02	57.7	3	54	5					
KRAKOW	16.36	344.5	3	53	0	6	45	-10		
RACIBORZ	16.82	340.9	3	54	-5				8	51 PCP
PAVIA	17.15	313.9				7	34	21	12	28
MONACO	17.53	307.6	4	14	6					
CHUR	17.91	318.9	4	12	0	7	47	16		
PRAGUE	18.01	333.8	4	10	-4	7	33	0		
WARSAW	18.24	348.9				7	50	12		
MAKHACH-KALA	18.34	56.2	4	20	2	7	49	9		
ZURICH	18.74	319.0	4	21	-2	7	49	0		
CHEB	18.81	330.5	4	30	7				6	56
EBINGEN	19.04	321.5	4	24K	-2				4	39 PP
TUBINGEN	19.21	322.4	4	25	-3				4	40 PP
PLAUEN	19.23	331.0	4	24	-4				8	27
STUTTGART	19.30	323.1	4	28K	-1				8	22 SS
ALGIERS UNI.	19.32	283.7				8	14	12		
NEUCHATEL	19.44	316.1	4	29	-2	8	15	10		
SONNEBERG	19.53	329.3	4	29	-3					
COLLMBERG	19.54	333.7	4	30	-2					
JENA	19.79	330.9	4	32	-3	8	24	11	4	41 PP
KARLSRUHE	19.86	322.7	4	32	-4	8	29	15		
STRASBOURG	19.91	320.9	4	36	0	8	26	11	4	50 PP
HALLE	20.09	332.5	4	33	-5				8	35
BESANCON	20.13	315.7	4	37	-2	8	20	0	4	46 PP
POTSDAM	20.41	335.6	4	45	3				8	27
CLERMONT-FD.	21.18	309.3	4	48	-2					
RELIZANE	21.38	281.0	4	55	3				5	15 PP
BENSBERG	21.73	325.5	4	54K	-1	8	16	-35		
TAMANRASSET	21.83	243.4	4	56	0	8	58	5	5	20 PP
ALICANTE	22.15	288.0	5	5	6	9	9	10	5	34 PP
HAMBURG	22.47	333.4	5	0	-2					
PARIS	22.94	316.1	5	12	5	9	14	0	5	46 PP
WITTEVEEN	23.24	328.3	5	10	0					
DE BILT	23.43	325.4				9	36	14		
GRANADA	24.63	285.2	5	29A	5	9	59	16	6	25 PP
TOLEDO	24.99	291.6	5	27	0	10	23	34		
PULKOVO	25.46	4.3	5	31	0	10	5	8		
HELSINKI	25.77	358.1	5	33	-1					
KEW	25.85	319.4	5	34	-1	10	12	9	6	12 PP
UPPSALA	26.10	349.6	5	36	-1	10	14	6		
DURHAM	28.27	324.6	6	0	3	10	43	0		
RATHFARNHAM	29.93	319.2	6	20A	8	11	30	21		
SKALSTUGAN	30.50	347.4	6	14	-3					
SVERDLOVSK	32.12	35.3	6	30	-1	11	42	-2		
SODANKYLA	32.98	360.0	6	36	-3					
APATITY	33.39	4.7	6	40K	-3					
KIRUNA	33.63	355.7	6	42A	-3				19	37
QUETTA	34.17	85.7	6	50A	1	12	8	-8	8	5 PP
KARACHI	35.78	92.8	7	16	13					
LWIRO	36.55	176.4	7	9	-1				8	30 PP
LAHORE	39.81	80.4	7	37	0				9	15 PP
MBOUR	44.04	254.1				14	57	13		
SCORESBY SD.	44.45	338.9	8	14	-1	15	5	15		
NORD	49.82	352.4	8	54	-3					
CHATRA	51.97	81.0	9	12	-1					
SHILLONG	56.33	80.2	9	45A	0					
IRKUTSK	56.46	46.1	9	46	0					
TANANARIVE	56.67	156.2	9	50	2					
PRETORIA	59.87	178.4	10	10K	0					
KIMBERLEY	62.87	181.8	10	30K	0					
HALIFAX	66.95	309.1	10	55	-2					
SEVEN FALLS	70.26	314.0	11	11K	-6					
SHAWINIGAN	71.70	314.2	11	25	-1					
OTTAWA	74.05	314.3	11	39	-1					
MORGANTOWN	79.90	311.3	12	19	6					
COLLEGE	80.93	357.6	12	17	-1					
MATUSIRO	84.89	48.7	12	39	1					

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RAPID CITY	89.51	326.4	12	57	-4							
HUNGRY HORSE	90.41	335.0	13	5	0							
BUTTE	91.85	332.9	13	10	-2							
EUREKA	98.73	331.6	13	44	1							
LA PAZ	103.00	258.9	15	35	93							
SOUTH POLE	124.26	180.0	19	1	0							
CHARTERS TS.	125.14	91.4	19	8	5							
BYRD STATION	132.38	187.6	19	18	1						22	42 PKS
SCOTT BASE	133.19	169.3	19	31	13							
NOUMEA	142.85	81.8	19	22	-14							

OCTOBER 5 22.H 40.M 44.S EPICENTRE 37.55 69.35 DEPTH= 0.KM

A= 0.28024 B= 0.74374 C= 0.60689 D= 0.9358 E=-0.3526
G= 0.2140 H= 0.5679 K=-0.7948 HT= -0.8

SE= 3.36

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KULYAB	0.48	44.1	0	17	4	0	28	5					
STALINABAD	1.10	335.4	0	27	5	0	43	5					
OBI-GARM	1.18	13.3	0	27	4	0	43	3					
GARM	1.63	27.0	0	33	3	0	55	3					
KHOROG	1.79	91.6	0	35	3	0	57	1					
DZHERGETAL	2.22	40.8	0	41	3								
SAMARKAND	2.82	319.4	0	50	3								
FERGANA	3.40	33.1	0	58	3						1	54	
MURGAB	3.71	75.9	1	1	2								
TASHKENT	3.76	359.2	1	2	2	1	46	0			1	19	
LUNACHARSKOE	3.77	359.7	1	2	2	1	47	0					
NAMANGAN	3.87	27.0	1	3	1	1	50	1					
ANDIJAN	3.96	35.4	1	6	3	1	53	2			1	21	
TCHIMKENT	4.75	2.2	1	16	2	2	8	-3			1	53	
BAIRAM-ALI	5.75	272.7	1	26	-2	2	33	-3			1	40	
NARYN	6.43	50.9	1	37	-1						2	28	
FRUNSE	6.66	35.3	1	42	1	2	56	-3			1	58	
RYBACHE	7.11	44.4	1	49	2	3	20	10			2	1	
LAHORE	7.26	144.1	1	45K	-4	3	3	-11			2	19	
QUETTA	7.62	195.9	1	54	-1	3	20	-3					
FABRICHNAYA	7.78	41.5	1	56	-1								
ALMATA	8.13	43.0	2	1	-1	3	34	-1					
ALMATA-2	8.36	44.4	2	4	-1						4	19	
PRZHEVALSK	8.51	51.8	2	5	-2								
ILI	8.67	40.1	2	8	-1								
ASHKABAD	8.73	276.0	2	9	-1	5	9	79					
KURMENTY	8.75	48.4	2	7	-3								
CHILIK	9.15	46.1	2	15	-1								
DEHRA DUN	10.20	132.4	2	30	0	4	15	-12			4	29	SS
KIZYL-ARVAT	10.39	282.2	2	31	-2						3	7	
KARACHI	11.85	190.2	3	9	16	5	28	21					
SEMIPALATNSK	15.03	27.8	3	31	-4	6	34	11					
MAKHACH-KALA	17.52	294.8				7	23	2					
GORIS	18.11	283.3	4	13	-1	7	31	-3					
CHATRA	18.45	120.3	4	16	-2	7	43	1					
BOMBAY	18.83	169.8	4	21	-2	7	56	5					
TIFLIS	19.34	290.1	4	30	1	8	8	6			8	28	SS
POONA	19.36	167.0	4	29	0	8	2	0			12	11	PCS
SVERDLOVSK	20.15	346.0	4	35	-3	8	8	-12			4	54	PP
HYDERABAD	21.58	155.8	4	50K	-3	8	49	1			5	20	PP
CALCUTTA	22.17	127.1	5	14	15	8	58	-1			9	35	SS
SHILLONG	22.54	115.5	5	OK	-2	9	3	-3	5	19	9	43	*SS
VIZIANAGRAM	22.97	143.6	5	10	3								
SOTCHI	23.23	294.3	5	8	-1						9	25	
TOCKLAI	23.99	109.3	5	3	-14								
MADRAS	26.29	155.6				10	19	9					
SIMFEROPOL	27.34	296.9									6	25	PP
KSARA	27.36	272.4	6	3	15	10	53	26			12	23	SS
IRKUTSK	28.47	47.6	5	56A	-2						11	21	
ULAN-BATOR	29.20	57.2	6	2	-3								
KYAKHTA	29.30	52.1	6	1A	-5								
KABANSK	29.80	48.9	6	6A	-4	10	56	-11			11	27	
PULKOVO	33.29	324.5									8	6	PPP
LWOW	34.49	305.6	6	50	-1						14	22	SS
HELSINKI	35.95	323.4	7	3	-1	10	44	-118					

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APATITY	36.14	337.5	7	3A	-2						
WARSAW	36.53	309.5							14	59	SS
KRAKOW	37.13	305.8	7	13	-1				13	32	PCS
SODANKYLA	38.23	334.9	7	21	-2				9	9	PPP
RACIBORZ	38.25	305.9							8	54	PP
UPPSALA	39.43	321.4	7	32	-1				16	25	SS
KIRUNA	40.56	333.9	7	41	-1				9	32	PP
PRAGUE	40.68	306.0	7	59	16				9	9	PP
COLLMBERG	41.51	307.9	7	49	-1	16	52	166			
TRIESTE	41.63	299.4	8	1	10	14	24	16			
COPENHAGEN	41.76	314.6				14	9	-1			
PLAUEN	42.10	306.8	7	53	-2						
HALLE	42.15	308.3	8	2	7						
JENA	42.43	307.5	7	56	-2				9	37	PP
SKALSTUGAN	42.60	326.3	7	59	0				9	35	PP
STUTTGART	44.21	304.6	8	10	-2	14	48	2	15	3	PPS
EBINGEN	44.46	303.8	8	18	-13						
STRASBOURG	45.18	304.6	8	22	2	14	58	-2	18	16	SS
TIKSI	45.30	22.6	8	18	-3	14	52	-10	9	20	
KEW	49.74	309.8	8	54	-2						
DURHAM	49.83	314.2	9	11	15	16	19	13			
NORD	52.53	349.3	9	14	-3						
MATUSIRO	53.80	68.6	9	21A	-5	16	51	-9	19	1	
TAMANRASSET	56.14	274.1	9	41	-2	17	33	1	17	53	PS
GRANADA	56.55	293.8	10	28K	42						
TANANARIVE	59.80	204.0	10	18	9				10	45	PCP
CHARTERS TS.	92.13	113.6	13	24	12						

OCTOBER 6 0.H 54.M 6.S EPICENTRE 10.85 -62.66 DEPTH= 0.KM

A= 0.45110 B=-0.87265 C= 0.18707 D=-0.8883 E=-0.4592
G= 0.0859 H=-0.1662 K=-0.9823 HT= 6.4

SE= 2.72

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP M	SUPP S
TRINIDAD	1.14	99.1	0	23	0							
GRENADA	1.50	37.5	0	28	0							
ST. VINCENT	2.68	30.5	0	45	0	1	15	-4				
BARBADOS	3.75	52.8	1	3	2							
FORT FRANCE	4.13	20.8	1	6	0	1	50	-6				
ST. CLAUDE	5.23	10.2	1	21	-1	2	19	-5				
SAN JUAN	8.20	336.3	1	59	-4	3	21	-17				
GALERAZAMBA	12.38	270.8	3	12	11	5	54	33				
BOGOTA	12.88	242.1	3	30	23	6	17	44				
BALBOA HTS.	16.75	265.1	3	56	-2	8	38	94				
BERMUDA	21.50	355.3	5	3	10	8	56	9				
HUANCAYO	26.00	209.3	5	36	0	10	24	18				
LA PAZ	27.71	191.3	5	52	0	10	55	21			6	45 PP
PALISADES	31.63	343.7	6	32	5	11	40	4				
WESTON	32.31	348.0	6	36K	3						13	19
MORGANTOWN	32.52	334.7	6	35	0							
VERA CRUZ	33.32	288.4	6	32	-9	10	46	-76				
HALIFAX	33.65	358.8	6	52	7							
OTTAWA	36.20	344.4	7	5	-1							
TACUBAYA	36.22	288.0	7	8	1						8	24 PP
SHAWINIGAN	36.60	348.3	7	10	0							
SEVEN FALLS	36.80	350.7	7	8	-4							
FAYETTEVILLE	38.01	316.5	7	20K	-2							
TALA POZO	38.47	182.3									16	59 SS
LUBBOCK	42.38	308.5	7	58	0							
RAPID CITY	48.11	321.0	8	43	-1							
TUCSON	49.12	303.4	8	51	0							
SALT LAKE C.	52.46	313.5	9	15	-2						9	38
BOULDER CITY	53.26	306.9	9	22	-1							
BOZEMAN	53.78	319.5	9	27	0							
BUTTE	54.90	319.3	9	33	-2						10	8
PASADENA	55.54	304.0	9	38	-1	17	32	8				
HUNGRY HORSE	56.74	321.4	9	48	0							
FRESNO	57.35	306.8	10	0K	8							
LICK	58.90	307.1	10	4A	1							
GRANADA	58.94	53.1	10	21K	17							
BERKELEY	59.48	307.6	10	5	-2							
SHASTA	60.13	310.8	10	8	-4							
RATHFARNHAM	61.57	34.6	10	22K	0							
TAMANRASSET	65.86	69.9	10	51	1	19	47	11			13	7

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STRASBOURG	69.00	42.1	11	14	4	20	1	-13			24	59
EBINGEN	69.75	42.6	11	13	-1							
STUTTGART	69.97	42.0	11	12	-3							
HAMBURG	71.04	37.0	11	21	-1							
JENA	71.72	39.9	11	23	-3							
HALLE	72.00	39.3	11	6	-22						12	8
PLAUEN	72.04	40.4	11	24	-4							
COLLMBERG	72.64	39.6	11	30	-2							
PRAGUE	73.47	40.9	11	35	-1							
SKALSTUGAN	73.65	26.8	11	38	1							
KIRUNA	77.41	22.7	12	1	2							
COLLEGE	78.20	334.2	12	3	0						14	59 PP
KIMBERLEY	92.93	118.6	13	18	2							
CHARTERS TS.	150.71	248.4	19	51K	2							

OCTOBER 7 13.H 19.M 53.S EPICENTRE 51.57 159.27 DEPTH= 40.KM

DEPTH OF FOCUS= 0.001R
A=-0.58369 B= 0.22096 C= 0.78134 D= 0.3540 E= 0.9352
G=-0.7307 H= 0.2766 K=-0.6241 HT= -6.0

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	
PETROPAVLOVK	1.61	346.6	0	27	1	0	49	3			0	37	*SP
KLYUCHI	4.84	10.0	1	13	1	2	15	7			1	49	
MAGADAN	9.32	332.4	2	16	2								
KURILSK	9.88	234.5	2	20	-2	4	20	7					
UGLEGORSK	11.27	264.0	2	43	2						2	53	*SP
Y -SAKHLINSK	11.75	253.3	2	45	-3						2	55	*SP
SENDAI	18.53	231.3	4	16	1	7	49	12					
VLADIVOSTOK	20.28	256.1	4	50	16								
TUKUBASAN	20.55	229.1	4	34A	-3						4	50	PP
HONGO	21.12	228.9	4	47	4						9	12	
MATUSIRO	21.20	233.1	4	43A	-1	8	41	9					
KYOTO	23.65	234.8	5	11A	3	9	33	16					
CHANGCHUN	23.96	264.6	5	9	-2								
TIKSI	24.26	337.0	5	14	0						6	4	PPP
NAGASAKI	28.50	240.1	5	53	0						10	56	
COLLEGE	29.86	43.2	6	4	-1								
PEKING	31.74	265.8	6	20	-2	11	31	3					
IRKUTSK	33.21	293.3	6	34A	-1						7	50	PP
ULAN-BATOR	33.44	284.8	6	39	2	11	58	4					
ZO-SE	34.62	248.7	6	47A	0								
NANKING	35.33	252.4	6	53	0								
SITKA	37.23	55.2	7	14	5								
LANCHOW	41.85	270.6	7	49A	2								
KIPAPA	44.69	116.0	8	14	4								
RESOLUTE	44.93	21.2	8	12A	0	15	1	14			10	3	PP
CANTON	45.26	248.8	8	15A	0								
HONG KONG	45.35	247.2	8	19	3								
HORSESHOE B.	47.16	60.5	8	32	2								
VICTORIA	47.57	61.5	8	30	-3								
CORVALLIS	49.94	65.7	9	7	15								
KUNMING	50.15	260.4	8	53A	0								
PHU-LIEN	50.93	253.3	9	0	1						10	37	
HUNGRY HORSE	52.70	56.8	9	12	0								
SHASTA	52.89	69.0	9	10	-4								
SVERDLOVSK	53.05	317.1	9	12	-3	16	43	3					
UKIAH	53.41	71.0	9	21	3								
LHASA	54.13	273.9	9	24A	1								
APATITY	54.47	337.5	9	24A	-1	16	59	-1			9	34	*SP
BERKELEY	54.81	71.6	9	29	1	17	9	5					
BUTTE	54.95	58.3	9	43	14								
FRUNSE	55.09	296.8	9	29A	-1						19	19	SCS
RENO	55.14	68.5	9	29	-1								
LICK	55.53	71.7	9	32K	-1								
RABAUL	55.89	188.6	9	39	3								
BOZEMAN	55.98	57.8	9	41	5								
SODANKYLA	56.16	340.0	9	38	0								
SHILLONG	56.49	269.8	9	39A	-1								
FRESNO	57.00	71.0	9	36	-8								
KIRUNA	57.01	342.7	9	39A	-5	17	49	16	9	49			
EUREKA	57.39	66.2	9	45	-1								

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CHATRA	58.52	274.4	9 53	-1						
SALT LAKE C.	58.84	62.6	8 33	-84					9 44	
TASHKENT	59.07	298.6	9 56	-2					18 12	PS
PASADENA	59.76	72.1	10 1	-2	18 12	3				
BOULDER CITY	60.45	68.4	10 7	-1						
CALCUTTA	60.91	270.1	10 13	2	18 43	19			14 8	
RAPID CITY	61.14	54.7	10 8	-4					39 27	PKPPKP
PULKOVO	61.61	333.4	10 15	0	18 35	2			10 26	*SP
DEHRA DUN	61.65	283.8	10 23	7	18 55	21				
LARAMIE	61.86	58.3	10 17	0						
SKALSTUGAN	62.31	344.0	10 19	-1			10 30			
HELSINKI	62.69	336.3	10 23	0						
BOULDER	62.92	59.1	10 25	1						
LAHORE	63.01	287.4	10 22	-3	19 4	13				
UPPSALA	64.69	339.7	10 36A	0	19 29	17	10 46			
TUCSON	65.43	68.7	10 40	-1						
ASHKABAD	67.35	302.7	10 51A	-2						
QUETTA	68.35	291.4	10 59A	0	20 0	4			13 30	PP
COPENHAGEN	69.63	340.7	11 5	-2	20 17	6			11 17	PCP
WARSAW	70.75	334.3	11 10A	-4					20 47	PS
HYDERABAD	70.87	274.1	11 10A	-4	20 28	3				
TIFLIS -	71.06	313.9	11 16	0					20 50	PS
KARACHI	71.53	288.3	11 24A	6						
FAYETTEVILLE	71.68	54.9	11 17A	-2						
HAMBURG	72.11	341.3	11 24A	2						
GORIS	72.13	311.5	11 23	1						
CHARTERS TS.	72.18	192.8	11 20	-2						
OTTAWA	72.41	37.3	11 58	34						
SHAWINIGAN	72.52	34.8	11 22A	-2						
POTSDAM	72.58	339.1	11 25	0						
SEVEN FALLS	72.70	33.3	11 20	-5	20 29	-17				
SIMFEROPOL	72.84	322.6	11 26A	0					11 37	*SP
POONA	72.89	278.3	11 27	1	21 3	14				
KRAKOW	73.02	333.9	11 28	1	20 57	7			14 20	PP
MADRAS	73.15	269.7	11 27	-1	21 9	17				
IASI	73.24	327.9	11 29K	1						
RACIBORZ	73.45	335.0	11 31	1					11 59	PCP
WITTEVEEN	73.46	343.1	11 31A	1						
COLLMBERG	73.60	338.7	11 30	-1						
HALLE	73.65	339.4	11 30	-1					14 9	
JENA	74.26	339.4	11 36	2					14 21	PP
PRAGUE	74.41	337.3	11 37	2	22 37	91			14 17	PP
PLAUEN	74.54	338.9	11 33	-3						
RATHFARNHAM	74.80	351.1	11 46K	9			11 58			
BENSBERG	75.14	342.2	11 40	1						
BRATISLAVA	75.49	334.9	11 42	1	21 25	7				
MORGANTOWN	75.54	43.2	11 42	0						
BUDAPEST	75.59	333.4	11 40	-2						
CAMPULUNG	75.77	328.5	11 47	4						
KEW	75.89	347.0	11 44	0	21 43	21				
BUCHAREST	76.17	327.4	11 47	2	21 46	21				
STUTTGART	76.82	340.2	11 49K	0	21 44	12			12 0	PCP
PALISADES	76.84	38.5	11 47	-2	21 31	-1			30 3	SSS
TUBINGEN	77.07	340.2	11 51	1						
STRASBOURG	77.29	341.0	11 52A	0	21 55	18				
EBINGEN	77.42	340.1	11 53	1					12 4	PCP
BELGRADE	77.61	331.3	11 55	2					21 56	
PARIS	78.05	344.5	11 57A	1	22 5	20			14 43	PP
ISTANBUL KA.	78.07	323.8	11 55	-1	21 53	7				
ZURICH	78.28	340.1	11 58	1						
BASLE	78.33	340.8	11 29	-28					17 32	
TRIESTE	78.70	336.1	11 58	-1						
BRISBANE	78.90	185.6			21 54	0				
BESANCON	78.92	341.8	12 1K	0						
NEUCHATEL	78.97	341.1	12 1	0						
CHAPEL HILL	79.03	44.7	13 1	60						
CLERMONT-FD.	80.88	343.3	12 13K	2						
FLORENCE X.	81.07	337.1	12 11A	-1	22 39	22				
KSARA	81.55	315.4	12 16A	1	22 28	6			15 20	PP
JERUSALEM	83.57	314.8	12 27	2						
MESSINA	85.14	332.1	12 30	-3	23 13	15			15 43	PP
HELWAN	86.91	316.7	12 42	1	23 22	7				
MELBOURNE	89.90	191.3	13 9	13						
GRANADA	90.35	346.4							16 46	PP
TAMANRASSET	102.46	335.3	13 57	4	24 53	-37			18 7	PP
MIRNY	127.99	207.7	18 59	-3						
BYRD STATION	138.83	164.8	19 12	-10						
KIMBERLEY	139.28	286.2	19 26	3						
SOUTH POLE	141.38	180.0	19 21	-5						

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OCTOBER 7 16.H 48.M 53.S EPICENTRE -20.13-178.87 DEPTH= 653.KM

DEPTH OF FOCUS= 0.098R

A=-0.93946 B=-0.01853 C=-0.34216 D=-0.0197 E= 0.9998
G= 0.3421 H= 0.0067 K=-0.9396 HT= 4.6

SE= 2.21

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
SUVA	3.23	307.2	1 27	2	2 36	3		
RAOUL ISLAND	9.12	174.8	2 9	-2	3 58	1		
APIA	9.25	48.2	2 11	-2	3 57	-2		
NOUMEA	13.86	258.4	2 57	1	5 22	4		3 16 PPP
ONERAHI	16.67	199.5	3 25	2	6 11	6		
KARAPIRO	18.38	194.2	3 38	0	6 43	9		
TUAI	18.92	189.6	3 51	8	6 37	-6		
TONGARIRO	19.61	193.1	3 51	1	6 51	-3		
WELLINGTON	21.76	193.0	4 6	-3	7 20	-9		14 0 SCS
COBB RIVER	22.07	197.1	4 7	-5	7 27	-6		
KAIMATA	23.78	198.0	4 26	-1	7 56	-4		
GEBBIES PASS	24.55	194.9	4 31	-3	8 7	-5		
BRISBANE	26.69	248.7	4 51A	-1	8 44	-2		
RIVERVIEW	29.87	236.6	5 23A	4				12 50
CHARTERS TS.	32.72	264.1	5 43K	0	10 14	-4		
MELBOURNE	35.93	232.8	6 9	-1				
TRUK	39.78	310.7	6 40	-1			8 30	11 18 SCP
HONOLULU	45.92	27.4	7 27	-2				
KIPAPA	46.06	27.4	7 28	-2				
CAPE HALLETT	52.55	184.2	8 20A	3				
SCOTT BASE	58.18	183.5	8 56A	0				
BYRD STATION	65.14	170.5	9 40	0	17 39	4	11 46	
OASIS-BUNG.	67.89	205.6	9 55	-2				
TUKUBASAN	68.17	325.1	9 57K	-2			12 8	10 23 PCP
MATUSIRO	69.43	324.2	10 5K	-1	18 24	0		22 23 *SS
MIRNY	70.98	205.0	10 15K	0				22 29
HONG KONG	77.79	299.3	10 54K	1				
BERKELEY	78.46	42.4	11 0A	3				
LICK	78.54	43.1	10 57A	0				
PASADENA	79.04	47.4	11 1	1				
FRESNO	79.40	44.5	11 3	1				
SHASTA	80.08	40.1	11 6A	1				
EUREKA	83.42	43.9	11 23	1				
COLLEGE	88.03	12.7	11 43	-1			14 3	
QUETTA	120.29	293.8	17 40	1				
KIRUNA	130.78	350.5	17 55	-4				20 20 SKP
SKALSTUGAN	135.93	352.9	17 56	-13				20 41 SKP
UPPSALA	138.60	347.5	18 4	-9				20 48 SKP
COPENHAGEN	143.50	349.2	18 21	-2			21 2	
LWIRO	144.91	233.8	18 28	3				
HAMBURG	145.93	350.6	18 30	3				
KSARA	146.34	301.1	18 31	4			20 31	21 54 *SPKP
RATHFARNHAM	146.40	8.0	18 29A	2				
RACIBORZ	147.18	339.6	18 32	4				
JERUSALEM	147.36	297.7	18 35A	6				
COLLMBERG	147.53	346.1	18 31	2			21 0	
JENA	148.18	347.4	18 35	5				
PRAGUE	148.31	343.6	18 34	4				21 18
PLAUEN	148.46	346.5	18 32	2			21 2	
BRATISLAVA	149.20	338.9	18 39	8				
STUTTGART	150.70	349.1					21 7	
HELWAN	151.04	295.5	18 41	7			21 10	
TAMANRASSET	175.14	303.6	18 58	2			21 22	30 20 SKKS

OCTOBER 8 7.H 0.M 47.S EPICENTRE 38.92 20.56 DEPTH= 0.KM

A= 0.73045 B= 0.27393 C= 0.62562 D= 0.3511 E=-0.9363
G= 0.5858 H= 0.2197 K=-0.7801 HT= -1.3

SE= 3.44

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

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ATHENS	2.66	109.8	0	49	4	1	18	0	1	22	S*
TARANTO	2.99	302.3	0	48	-2				1	39	SG
SKOPJE	3.13	11.6	0	54	3				1	40	SG
REGGIO CALA.	3.93	259.6				1	36	-11	2	29	
MESSINA	3.99	261.2	1	7	3	1	45	-7	1	20	PG
SOFIA	4.33	28.2	1	14	6	2	4	4	2	31	
BELGRADE	5.90	359.3	1	28A	-3				1	53	
ROME	6.85	298.4				3	3	0	3	33	
TIMISOARA	6.85	3.9				2	51	-12	2	15	PG
ISTANBUL KA.	6.88	69.1	1	47	2	3	12	9			
BUCHAREST	6.89	35.3	0	52	-53				1	53	P
SZEGED	7.34	357.7	2	21	30	3	39	23	3	58	SG
ZAGREB	7.68	335.3	2	0	4				4	23	SG
KALOCSA	7.70	351.8							2	33	PG
FLORENCE X.	8.52	307.7	2	19	12				5	7	SG
BUDAPEST	8.63	353.3							2	44	PG
BOLOGNA	8.87	311.9	1	31	-41	4	1	7	2	48	PG
BRATISLAVA	9.58	346.0	2	25	4	4	16	4	5	43	SG
KISHINEV	10.11	34.1				4	34	9			
PAVIA	10.52	310.1							3	55	
KRAKOW	11.14	357.9	2	43	0						
RACIBORZ-	11.29	352.2	2	42	-4						
PRAGUE	11.97	340.6	2	33	-22	5	0	-10	3	40	
ZURICH	12.15	317.9	2	58	0				3	20	
EBINGEN	12.49	321.6	2	55	-7	5	28	-5	3	2	PP
TUBINGEN	12.69	322.9	2	49	-16						
BASLE	12.78	316.5							3	23	
STUTTGART	12.80	324.0	3	1	-5						
PLAUEN	13.02	335.5	3	1	-8				5	56	
STRASBOURG	13.35	320.5	3	26	12						
KSARA	13.35	107.7	3	14	0						
COLLMBERG	13.47	339.2	3	21	6				8	2	
BESANCON	13.51	312.8	3	11	-4	5	33	-14	3	37	
JENA	13.58	335.1	3	16	-1	5	21	-28			
POTSDAM	14.43	341.3	3	33	6	6	30	20			
BENSBERG	15.29	326.3	3	37	-2						
HAMBURG	16.35	337.1	3	49	-3						
ALICANTE	16.45	274.6	5	10	76						
COPENHAGEN	17.63	344.7	4	11	2						
TIFLIS	18.68	73.7	4	19	-3						
GRANADA	19.09	272.4	4	54K	27				9	2	
KEW	19.26	317.5	4	29	0						
TAMANRASSET	20.58	222.9	4	40	-3	8	33	4	5	9	PP
UPPSALA	21.04	355.9	4	44A	-3						
HELSINKI	21.46	6.0	4	49	-3						
PULKOVO	21.77	13.4	4	54	-2						
DURHAM	21.78	324.0	4	21	-35						
SKALSTUGAN	25.19	351.3	5	25	-4						
SODANKYLA	28.71	4.9	5	57	-4						
KIRUNA	28.97	359.9	5	59	-5						
SVERDLOVSK	31.70	42.3	6	25	-2						
NAMANGAN	38.79	70.2	7	25	5						

OCTOBER 10 18.H 54.M 9.S EPICENTRE 53.87-165.41 DEPTH= 79.KM

DEPTH OF FOCUS= 0.007R

A=-0.57310 B=-0.14918 C= 0.80579 D=-0.2519 E= 0.9678
G=-0.7798 H=-0.2030 K=-0.5922 HT= -6.8

SE= 2.28

	DELTA DEG.	AZ. DEG.	P M	P S	P O-C S	S M	S S	S O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
COLLEGE	14.14	31.9	3	16	-1	6	5	12					
SITKA	17.28	67.2	3	55	-2	7	12	7					
HORSESHOE B.	26.24	82.5	5	28	-1								
VICTORIA	26.55	84.3	5	29	-3	10	20	22					
SEATTLE	27.62	85.2	5	39	-3	10	21	5					
CORVALLIS	28.64	91.5	5	50	-1								
SHASTA	31.50	97.0	6	15	-1								
KIPAPA	32.88	167.2	6	27	-1						7	30	PP
HONOLULU	32.99	167.4				11	34	-7			11	57	
BERKELEY	33.44	100.8	6	31	-2	11	54	7					
RENO	33.76	96.2	6	36	0								
RESOLUTE	33.97	26.7	6	36K	-2	11	58	2					
LICK	34.16	100.9	6	38K	-1						9	14	PCP

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BOZEMAN	35.27	80.7	6 49	0				
FRESNO	35.62	99.9	6 51	-1				
EUREKA	36.07	93.0	6 54	-1	13 0 32		8 14	
SALT LAKE C.	37.69	88.0	7 8	-1				
PASADENA	38.40	101.4	7 12	-3				
BOULDER CITY	39.07	96.3	7 19	-1	13 15 1			
RAPID CITY	40.75	77.6	7 33	-1	13 44 5			
TUKUBASAN	41.22	267.4	7 37A	-1			9 51	PPP
MATUSIRO	42.11	269.3	7 44K	-1	13 43 -16		14 26	
NORD	43.73	6.3	7 56	-3			9 43	PP
TUCSON	44.05	96.7	8 0	-1			8 34	
CHANGCHUN	44.95	286.6	8 8	0				
FAYETTEVILLE	51.17	79.9	8 53	-4				
DALLAS	51.93	84.7	9 2	0				
OTTAWA	54.96	59.4	9 22	-3				
IVIGTUT	54.98	31.7	9 25	0				
SHAWINIGAN	55.65	56.6	9 26A	-4			10 26	PP
ZO-SE	56.00	277.4	9 30	-2				
GUAM	56.08	243.6	9 39	6				
SEVEN FALLS	56.20	55.0	9 27	-7				
MORGANTOWN	56.76	67.0	9 35	-3				
TRUK	57.63	232.8	11 45	121			13 17	
APATITY	58.08	351.6	9 46	-1				
KIRUNA	58.54	357.4	9 48	-2				
SODANKYLA	58.74	354.6	9 49	-3			10 39	PCP
PALISADES	59.00	62.0	9 52A	-1	17 55 3		12 13	PP
WESTON	59.35	59.2	9 55A	-1				
COLUMBIA	60.22	72.3	9 57	-5				
LANCHOW	62.22	293.7	10 13	-2				
SKALSTUGAN	62.87	1.2	10 20K	0				
SVERDLOVSK	63.44	333.7	10 17	-6				
HELSINKI	66.01	354.3	10 40	0			11 11	PCP
PULKOVO	66.01	351.4	10 41	1				
CHENGTU	66.19	289.6	10 40	-1				
UPPSALA	66.61	358.3	10 42	-2				
BERMUDA	70.36	62.0	11 7	0	20 17 5		24 35	SS
COPENHAGEN	70.80	1.3	11 9	-1				
DURHAM	70.90	9.8	11 4	-6				
KUNMING	71.25	286.8	11 13	1				
RATHFARNHAM	71.80	13.0	11 21	6				
HAMBURG	72.86	2.9	11 24	2				
WITTEVEEN	73.47	5.0	12 27K	62				
NAMANGAN	73.58	318.5	11 26	0				
LHASA	74.00	298.3	11 30	2				
KEW	74.29	9.6	11 31	1				
HALLE	74.98	1.7	11 34	0			13 47	PP
COLLMBERG	75.19	1.0	11 36	1				
BENSBERG	75.36	4.8	11 36	0				
JENA	75.54	2.0	11 37	0				
SONNEBERG	76.08	2.2	11 41	1				
PRAGUE	76.43	0.1	11 36	-6			13 3	
STUTTGART	77.63	3.6	11 49	0			12 58	
STRASBOURG	77.76	4.6	11 51A	1			12 45	
TUBINGEN	77.87	3.8	11 51	1				
EBINGEN	78.21	3.8	11 53A	1				
CHATRA	78.27	299.5	11 53	1				
BASLE	78.80	4.8	11 57K	2				
NEUCHATEL	79.30	5.3	11 58	0				
CHITTAGONG	79.42	293.3	11 59	0				
DEHRA DUN	79.87	308.2			22 15 18			
CLERMONT-FD.	80.26	8.1	12 5K	2				
LAHORE	80.52	311.6					22 34	SCS
SAN JUAN	80.69	71.7	12 5	-1			12 26	
TRIESTE	80.85	0.6	12 6	0			12 21	PCP
TIFLIS	81.31	337.6	12 9	0				
MONACO	82.58	5.2	12 15	0				
CHARTERS TS.	84.48	224.9	12 22	-3				
QUETTA	84.84	316.5	12 26	-1	22 50 3		23 8	SCS
BOGOTA	87.10	86.2			23 11 2			
KSARA	90.74	342.4	12 59	4			16 35	PP
CAPE HALLETT	127.02	189.1	18 39	-16				
SOUTH POLE	143.69	180.0	19 21	-4			23 0	PP
PRETORIA	150.14	334.8	19 43	7				
KIMBERLEY	153.81	339.4	19 42	1				

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OCTOBER 12 18.H 57.M 13.S EPICENTRE -8.30 110.31 DEPTH= 87.KM

DEPTH OF FOCUS= 0.009R

A=-0.34354 B= 0.92812 C=-0.14343 D= 0.9378 E= 0.3471
G= 0.0498 H=-0.1345 K=-0.9897 HT= 6.7

SE= 2.55

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
DJAKARTA	4.05	301.2	1	0	-1	1	52	4					
PERTH	24.08	168.4	5	8	0	9	10	-6			5	39	PP
MANILA	25.07	25.0	5	7	-11								
PORT BLAIR	26.45	318.3	6	27	56	11	27	91	6	50	12	5	*SS
BAGUIO CITY	26.58	22.5	5	32	0								
KOROR	28.66	57.9	5	49	-2						9	0	PCP
CHITTAGONG	35.45	329.6	6	35	-15						7	13	
MADRAS	36.66	305.0	7	0A	0	12	38	2			8	22	PP
CHARTERS TS.	36.66	112.4	7	0A	0	12	39	3					
CALCUTTA	37.45	325.3	7	13	7	12	50	2					
KODAIKANAL	37.52	298.8	7	11	4	12	53	4			8	59	PPP
TOCKLAI	37.97	337.1	7	15	4								
SHILLONG	38.15	332.5	7	11A	-1	12	54	-5			8	33	PP
CHENGTU	39.21	351.4	7	21A	0	13	18	3					
BOKARO	39.92	323.7	7	26	-1	13	23	-2			10	41	PP
GUAM	40.46	58.0	7	31	0						7	55	
ZO-SE	40.54	14.4	7	33	1	13	40	6			17	16	SSS
HYDERABAD	40.56	309.2	7	31	-1	13	36	1					
NANKING	40.93	11.0	7	40	5	13	48	8			17	19	SSS
CHATRA	41.51	328.0	7	38	-2	13	24	-25					
RABAUL	41.79	87.0	7	41	-1						9	21	PP
LHASA	42.04	334.6	7	45A	1	14	0	3			9	26	PP
MELBOURNE	42.93	138.6	7	50	-2						9	39	
TRUK	44.27	70.4	8	3	0						8	46	
LANCHOW	44.56	352.5	8	7A	2	14	41	8			9	49	PP
BRISBANE	44.62	120.9	8	5	0	14	36	2					
POONA	44.77	306.8	8	7	0	14	38	2			10	13	PPP
NAGASAKI	44.86	23.6	8	8	1	14	40	2					
RIVERVIEW	45.35	130.1	8	12A	1	14	52	7			18	14	
BOMBAY	45.79	306.5	8	20	5	14	59	8					
PEKING	48.39	6.0	8	37A	2	15	34	6			10	2	PCP
KYOTO	49.33	27.7	8	41A	-1								
DEHRA DUN	49.34	322.5	8	40	-2	15	36	-5			10	19	PP
MATUSIRO	51.74	28.7	8	59A	-2	16	11	-3			18	46	SCS
TUKUBASAN	52.40	30.5	9	3	-2	16	22	-1	9	10	10	16	PCP
LAHORE	52.48	320.8	9	1	-5						15	55	
CHANGCHUN	53.64	13.4	8	13	-62								
KARACHI	54.04	310.2	9	17A	-1	16	45	0			9	58	
NOUMEA	55.61	111.3	9	29	0						11	35	PP
WARSAK DAM	55.86	321.1	9	31	0	17	10	1					
ULAN-BATOR	56.06	357.2	9	31	-1	17	17	5					
QUETTA	56.54	314.6	9	33A	-3	17	18	-1			21	5	SS
OASIS-BUNG.	58.16	184.6	9	44	-3								
MIRNY	59.36	188.0	9	52K	-3	17	55	0					
FRUNSE	60.44	330.4	10	0	-3	18	12	3					
IRKUTSK	60.55	355.8	10	3	0	18	16	5					
TANANARIVE	61.64	253.0	10	11K	0						10	57	PCP
Y.-SAKHLINSK	62.10	24.5	10	13	-1								
ROXBURGH	62.61	137.3				18	38	1					
COBB RIVER	63.88	131.7	10	41	15								
GEBBIES PASS	64.41	134.6	10	43	14								
WELLINGTON	65.43	131.6	10	50	14								
TONGARIRO	65.63	129.2	10	41	4						10	53	
CAPE HALLETT	73.26	163.9	11	25K	1	20	46	2			25	31	SS
SCOTT BASE	75.16	169.5	11	34A	0	21	8	3			22	54	
SVERDLOVSK	76.57	334.5	11	43	1	21	26	6					
TIFLIS	77.76	315.8	11	50	1	21	36	3					
GRAHAMSTOWN	80.29	237.6	12	4A	1								
TIKSI	80.71	5.9	12	4	-1	22	9	5					
LWIRO	81.28	269.0	12	9	1				12	29			
SOUTH POLE	81.75	180.0	12	9	-1	22	11	-4			30	42	PKKP
JERUSALEM	81.86	303.8	12	16K	5						12	33	
KSARA	81.86	305.9	12	13A	2	22	36	20	12	28	15	20	PP
SOTCHI	81.93	316.2	12	10	-1	22	17	1					
KIMBERLEY	82.16	242.1	12	12K	-1								
HELWAN	84.65	301.1	12	26	1	22	47	3					
MOSCOW	87.23	327.3	12	39	1								
BYRD STATION	88.29	172.3	12	43	0	23	24	6			16	23	PP
ISTANBUL KA.	88.85	311.6	12	25	-21	23	27	3					

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KISHINEV	90.25	317.4	12	52	0	23	40	4			
PULKOVO	92.10	330.1	13	2	1	23	29	-24			
APATITY	92.65	338.0	13	2A	-1						
SOFIA	93.35	312.5	12	58	-8						
SODANKYLA	95.17	337.3	13	14	-1						
KIRUNA	97.58	337.5	13	25A	-1						
BRATISLAVA	98.26	317.5	13	27	-2						
UPPSALA	98.46	329.3	13	29	-1						
MESSINA	98.80	307.4	13	34	3	24	56	6		17	36 PP
TRIESTE	100.46	314.9	13	36	-3	25	29	25		24	41 SKKS
SKALSTUGAN	100.96	333.2	13	41K	0						
COLLMBERG	100.99	320.6	13	40	-1					16	38
ROME	101.31	311.0								17	51
JENA	101.90	320.3								16	32
FLORENCE X.	102.23	313.0								17	53
STUTTGART	103.52	318.1								16	45
STRASBOURG	104.47	318.0				24	41	-56		18	13 PP
TAMANRASSET	106.76	291.3	18	0	777	24	47	18		14	9 P
ALGIERS UNI.	108.74	305.9								18	39 PP
KEW	109.27	321.7				25	22	42			
DURHAM	109.31	325.3	14	23	777					18	18 PKP
RESOLUTE	112.11	7.0								28	33 PS
BERKELEY	124.31	49.5	18	51	2					19	8
LICK	124.94	50.0	18	52	2					19	6
RENO	125.56	46.8	18	54	3						
FRESNO	126.52	50.1	18	56	3						
BUTTE	127.46	36.7	18	57	2					19	13
EUREKA	128.33	45.5	18	59	2					20	58 PP
BOZEMAN	128.54	36.3	19	1	4					19	18
PASADENA	128.62	52.6	18	59	2					19	17
BOULDER CITY	130.55	49.2	19	4	3					22	14 PKS
SALT LAKE C.	130.58	42.2	19	4	3					22	24 PKS
RAPID CITY	133.96	33.6	19	9	2					22	33 PP
TUCSON	135.05	52.1	19	7	-2					22	37 PKS
LUBBOCK	141.11	45.1	19	17	-3						
SEVEN FALLS	141.31	1.2	19	18	-3						
SHAWINIGAN	141.80	3.4	19	19	-3						
OTTAWA	142.67	7.0	19	20	-3						
BREBEUF	142.78	4.6	19	21	-2						
FAYETTEVILLE	144.44	35.3	19	17	-9						
BUFFALO L.	144.68	11.4	19	28	1				19	45	
DALLAS	144.99	41.9	19	28	1						
CLEVELAND	145.33	15.7	19	30	2						
WESTON	146.03	2.2	19	32	3						
PENNSYLVANIA	146.83	11.4	19	33	3					22	55 PP
PALISADES	147.21	5.9	19	34	3					19	49 PKP2
MORGANTOWN	147.48	14.8	19	37	6						
TACUBAYA	149.35	65.8	19	40	6					25	38
CHAPEL HILL	151.21	15.9								20	46
COLUMBIA	152.37	20.6	19	48	9						
LA PAZ	155.31	183.6	19	53	10						
BERMUDA	155.59	349.7	19	50	7					23	54 PP
HUANCAYO	159.02	164.4	19	52	5					20	54 PKP2
SAN SALVADOR	160.08	72.6								25	7 PP
SAN JUAN	169.40	341.3	19	58	1					25	10 PP
FORT FRANCE	169.48	308.1	19	59	2					21	13 PKP2
BOGOTA	174.31	129.8	20	5	6					32	5 SKKS

OCTOBER 13 4.H 19.M 16.S EPICENTRE 52.51 160.20 DEPTH= 0.KM

A=-0.57508 B= 0.20706 C= 0.79146 D= 0.3388 E= 0.9409
G=-0.7447 H= 0.2681 K=-0.6112 HT= -6.3

SE= 2.68

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PETROPAVLOVK	1.13	304.1	0	27	4	0	41	2					
KLYUCHI	3.83	4.8	1	5A	3	1	53	4			1	15	*SP
MAGADAN	8.79	327.0	2	15	4	4	4	12			2	26	*SP
KURILSK	10.90	232.9	2	39	-1						3	25	
UGLEGORSK	11.97	260.5	2	59	4								
Y.-SAKHLINSK	12.59	250.7	3	3	0	5	24	-1			3	14	*SP
NEMURO	13.41	232.6									6	38	
WAKKANAI	14.06	247.1									6	22	
KUSIRO	14.25	234.3									5	9	

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OBIHIRO	14.90	236.7			3 57	23				
URAKAWA	15.67	235.5							8	58
SAPPORO	15.76	240.7	4	12	27				6	53
SUTTSU	16.54	242.0	3	50	-5				8	16
MORIOKA	18.32	233.2	4	18	1	7	46	7		
MIZUSAWA	18.78	232.1	4	23	0	7	57	7		
AKITA	18.83	235.2	4	23	0	8	7	16		
SENDAI	19.57	231.0	4	31	-1	8	8	0		
YAMAGATA	19.85	231.9	4	35	0					
HUKUSIMA	20.19	230.8	4	52	13	8	35	14		
ONAHAMA	20.63	228.7	4	41	-3	8	33	3	5	31
NIIGATA	20.74	233.7	4	45	0					
SHIRAKAWA	20.81	230.2	4	48	3	8	32	-2		
VLADIVOSTOK	21.08	254.9	4	45	-3				4	57 *SP
MITO	21.30	228.6	4	50	0	8	50	7	5	43 PP
UTUNOMIYA	21.44	229.9	4	50	-2	8	42	-4	5	27
KAKIOKA	21.56	228.9	4	56	3					
TUKUBASAN	21.60	229.0	4	52A	-1	8	48	-1		
MAEBASI	21.94	231.1	5	4	7	9	1	6	5	47 PP
KUMAGAYA	21.99	230.2	4	51	-6	8	57	1		
NAGANO	22.14	233.0	5	10	11	9	6	7	5	47
SUIHWA	22.19	267.9	4	58	-1					
TOKYO C.M.O.	22.21	228.8	4	49	-11	9	3	3	5	26
MATUSIRO	22.23	232.8	4	58A	-2	9	6	6	5	20 5 35 PP
OIWAKE	22.24	231.9	5	1	1					
TITIBU	22.27	230.5	5	1	1					
YOKOHAMA	22.46	228.6	5	15	13				6	26
MATUMOTO	22.59	232.8	5	6	3					
TOYAMA	22.61	234.8	5	7	3					
KOHU	22.80	230.8	5	8	3	9	14	3		
MERA	22.80	227.6	5	17	12					
HUNATU	22.81	230.3	5	7	1				9	22
MISIMA	23.04	229.4	5	8	0				9	38
SHIZUOKA	23.42	230.1	5	11	0	9	27	5		
TIKSI	23.63	335.7	5	13	0				5	52 PP
OMAESAKI	23.80	229.9	5	26	11					
GIHU	23.85	233.4	5	15	-1				9	3
NAGOYA	23.94	232.8	5	17	1	9	41	10		
HIKONE	24.21	234.1	5	18	-1	9	41	6		
KAMEYAMA	24.44	233.1	5	0	-21				10	10
KYOTO	24.67	234.5	5	25A	1	9	49	6		
OSAKA	25.06	234.3	5	28	1				6	12 PP
KOBE	25.21	234.9	5	29	0	10	3	11		
SUMOTO	25.62	234.9	5	35	2	10	9	10		
TOKUSIMA	26.00	235.0	5	38	2					
KOTI	26.94	235.8	5	44	-1	10	37	16		
OOITA	28.17	238.1	5	57	1	10	48	7		
HUKUOKA	28.53	240.2	5	58K	-1	10	49	2		
COLLEGE	28.79	44.3	6	1	-1	10	48	-3		
SAGA	28.85	240.0							6	50
KUMAMOTO	28.97	238.9	6	6	3					
KAGOSIMA	30.03	237.5	6	23	10	11	12	1	7	29
PEKING	32.38	265.1	6	33A	0					
IRKUTSK	33.38	292.4	6	40A	-2				7	52 PP
ULAN-BATOR	33.76	284.0	6	44	-1	12	14	5		
ZO-SE	35.50	248.4	7	0A	0					
NANKING	36.17	252.1	7	5	-1	12	53	7		
LANCHOW	42.42	270.3	7	57A	-1					
RESOLUTE	43.85	21.8	8	5	-5	14	50	9		
HONOLULU	44.65	118.0	8	15	-1	14	57	4		
CHENGTU	46.00	264.5	8	26A	-1					
NORD	46.12	359.4	8	37	9					
SEMIPALATNSK	47.44	301.2	8	36	-2					
BAGUIO CITY	47.61	236.0	8	59	19	15	39	4		
KOROR	49.72	214.4	8	54	-2					
KUNMING	50.88	260.5	9	2	-3					
HUNGRY HORSE	51.71	58.0	9	13	2					
SHASTA	52.02	70.3	9	14	1					
SVERDLOVSK	52.75	317.1	9	18	-1					
APATITY	53.83	337.6	9	26K	-1					
BUTTE	53.97	59.4	9	40	12					
BERKELEY	53.97	72.8	9	28	0	17	2	-1		
RENO	54.27	69.7	9	30	0					
SANTA CLARA	54.51	73.1				17	17	7		
LHASA	54.64	273.9	9	32	-1	17	14	2		
LICK	54.69	72.9	9	31K	-2					
BOZEMAN	55.00	58.9	9	35	0					
FRUNSE	55.18	296.8	9	35A	-2	17	20	1		

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SODANKYLA	55.48	340.1	9	36	-3						
FRESNO	56.16	72.2	9	41	-3						
KIRUNA	56.28	342.9	9	43	-2	17	50	16			
EUREKA	56.49	67.3	9	45	-1						
RABAUL	56.90	189.6	9	54	5						
SHILLONG	57.07	269.9	9	49	-1	17	38	-6			
SALT LAKE C.	57.90	63.6	9	56	0				10	19	
PASADENA	58.93	73.3	10	1	-2	18	8	-1			
CHATRA	59.02	274.5	10	1	-3				20	6	
CHITTAGONG	59.48	267.4	10	6	-1						
BOULDER CITY	59.58	69.6	10	7	-1						
RAPID CITY	60.13	55.6	10	11	-1				23	42	
LARAMIE	60.88	59.3	10	23	6						
PULKOVO	61.03	333.7	10	18	0				23	2	SS
STALINABAD	61.36	296.7	10	16	-4				18	57	PS
CALCUTTA	61.48	270.3	10	31	10						
SKALSTUGAN	61.56	344.3	10	21A	0						
WARSAK DAM	63.10	291.4	10	28	-4						
UPPSALA	64.01	340.0	10	37	-1	19	22	9			
TUCSON	64.56	69.8	10	40	-1						
ASHKABAD	67.33	303.0	10	58	-1	19	52	-2			
QUETTA	68.54	291.7	11	3A	-3	19	53	-15			
LUBBOCK	68.58	62.6	11	7	0						
LUND	68.77	340.7	11	8	0						
COPENHAGEN	68.93	341.1	11	9	0	20	30	17	20	38	PS
FAYETTEVILLE	70.67	55.8	11	18	-2						
TIFLIS	70.82	314.3	11	20	0	20	38	3	15	38	PPP
OTTAWA	71.32	38.0	11	19	-4						
HYDERABAD	71.38	274.5	11	33	9	20	35	-7	20	54	PS
HAMBURG	71.41	341.8	11	26	2				12	56	
SHAWINIGAN	71.42	35.5	11	33	9						
LWOW	71.49	331.8	11	26	2				11	35	*SP
KARACHI	71.78	288.7	11	28	2						
POTSDAM	71.90	339.5	11	28	1						
GORIS	71.94	311.9	11	25	-2				21	31	SCS
BREBEUF	72.01	36.6	11	29	1						
DURHAM	72.02	349.0	11	23	-5	20	51	2	11	44	PCP
SIMFEROPOL	72.44	323.0	11	28A	-2				21	14	PS
WITTEVEEN	72.72	343.5	11	33	1						
IASI	72.74	328.3	11	32	0						
RACIBORZ	72.84	335.5	11	34	2				11	50	PCP
COLLMBERG	72.93	339.2	11	31	-2				12	39	
HALLE	72.97	339.9	11	34	1	20	57	-3	11	51	PCP
SKALNATE PL.	73.13	333.8							19	44	
CHARTERS TS.	73.22	193.7	11	32A	-3						
POONA	73.33	278.7	11	35	0	21	3	-1	11	50	PCP
JENA	73.58	339.9	11	36	-1	21	7	0			
BOMBAY	73.66	279.8	11	38	1	21	10	2	21	24	SKS
DE BILT	73.67	344.2	11	38	1	21	14	6			
MADRAS	73.73	270.2	11	36	-2				20	21	
PRAGUE	73.76	337.8	11	37	-1	21	4	-5	14	21	PP
PLAUEN	73.87	339.4	11	36	-2				11	47	PCP
RATHFARNHAM	73.96	351.6	12	4	25						
SONNEBERG	74.18	340.0	11	41	1						
CHEB	74.22	339.1	11	40	0				21	52	SCS
BENSBERG	74.42	342.7	12	42	60						
MORGANTOWN	74.46	44.0	11	44K	2						
NOUMEA	74.69	174.0	11	41	-2						
BRATISLAVA	74.88	335.4	11	44	0						
BUDAPEST	75.00	333.9	11	48	3				14	30	PP
KEW	75.10	347.5				21	22	-2	22	11	
CAMPULUNG	75.27	329.0	11	50	3						
WESTON	75.54	36.8	11	48A	0						
BUCHAREST	75.69	327.9	11	48	-1				20	22	
PALISADES	75.75	39.2	11	48	-1	21	23	-8	14	43	PP
STUTTGART	76.12	340.7	11	51A	0	21	49	14	22	28	PS
TUBINGEN	76.38	340.7	11	54	1						
STRASBOURG	76.59	341.6	11	55	1	21	56	16	14	50	PP
EBINGEN	76.73	340.7	11	55	0						
BELGRADE	77.06	331.8	11	57A	0	21	59	14	14	54	PP
PARIS	77.29	345.1	12	0	2	21	54	6	14	56	PP
BASLE	77.63	341.4	12	1K	1	22	6	15			
ISTANBUL KA.	77.64	324.3	11	59	-1	21	56	5			
TRIESTE	78.07	336.7	12	2	0	22	1	5	15	10	PP
SOFIA	78.11	329.0	12	2	0						
BESANCON	78.20	342.4	12	3K	0				13	14	
NEUCHATEL	78.26	341.7	12	3	0						
OROPA	79.38	340.6	12	11	2				23	8	PS

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PAVIA	79.55	339.6	12	10A	0				23	13 PS
BRISBANE	79.89	186.5	12	6	-6	22	13	-2		
CLERMONT-FD.	80.14	343.9	12	15K	2	22	38	20		
PRATO	80.36	337.9	12	14	-1	23	7	47		
FLORENCE X.	80.42	337.7	12	20A	5	22	52	31	15	36 PP
KSARA	81.28	315.9	12	18	-1	22	25	-5	15	25 PP
MONACO	81.30	340.4	12	21	1					
ROME	81.91	336.3	12	23A	0	22	51	15	28	44 SS
TARANTO	81.98	332.3							21	30
ATHENS	82.26	326.7	12	23K	-2					
JERUSALEM	83.32	315.4	12	34	4					
MESSINA	84.57	332.7	12	26	-10	22	57	-6	15	37 PP
RIVERVIEW	86.34	187.5				23	25	5		
HELWAN	86.62	317.4	12	46	-1				25	17
BERMUDA	86.83	36.7	12	52	4	23	27	2	29	4 SS
TOLEDO	86.97	347.9	12	41	-7	23	24	-2		
ALICANTE	87.96	344.9	12	53	0	23	34	-2	23	19 SKS
ALGIERS UNI.	88.89	341.8				23	51	7	23	22 SKS
GRANADA	89.57	347.1				24	16	25		
ROXBURGH	97.99	173.5							26	26
TAMANRASSET	101.84	336.2	13	56	-1	25	43	7	24	37 SKS
BOGOTA	107.01	57.8				25	1	1		
CAPE HALLETT	124.71	176.3							21	17
BYRD STATION	139.58	164.6	19	26	-4				23	2 PP
SOUTH POLE	142.32	180.0	19	26	-9				23	6 PKS

OCTOBER 13 20 H 33.M 1.S EPICENTRE -60 43 150 94 DEPTH= 0.KM

A=-0.43364 B= 0.24094 C=-0.86828 D= 0.4857 E= 0.8741
G= 0.7590 H=-0.4217 K=-0.4961 HT= -9.1

SE= 1.92

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
MACQUARIE I.	7.34	39.5	1	51	0						2	2	PP
CAPE HALLETT	14.11	155.4	3	21A	-2	5	53	-9			4	49	PCP
SCOTT BASE	18.25	169.4	4	16	0								
ROXBURGH	18.46	44.4	4	21	2								
OASIS-BUNG.	22.73	233.9	5	5K	0	9	15	5					
MELBOURNE	22.93	347.8	5	6K	-1	9	17	4	5	26	5	53	PPP
COBB RIVER	23.57	44.6									5	24	
WELLINGTON	24.12	48.2									9	59	
MIRNY	25.70	231.5	5	34K	0						11	45	
RIVERVIEW	26.61	0.4	5	44A	2	10	21	5			6	22	PP
SOUTH POLE	29.74	180.0	6	10K	0								
BYRD STATION	31.17	160.3	6	21	-2								
BRISBANE	32.97	3.4	6	37	-2	12	1	4					
PERTH	36.66	305.0				12	45	-9			8	33	PP
NOUMEA	39.62	22.8	7	37	2								
CHARTERS TS.	40.51	353.2	7	39	-3	13	53	1					
SUVA	46.58	37.2	9	39	67	15	20	-1					
RABAUL	56.09	1.5	9	40	-3						11	56	
DJAKARTA	63.45	309.3	10	32	-2	19	10	4					
TRUK	67.68	1.0	11	2	1								
KOROR	68.79	342.4	11	6K	-2								
HERMANUS	77.55	219.2									37	53	PKPPKP
TANANARIVE	80.15	249.2	12	17A	3								
KIMBERLEY	80.88	225.9	12	19	1								
KODAIKANAL	90.82	289.3									24	5	
HONOLULU	91.27	46.4				24	19	13			30	9	SS
MADRAS	91.99	293.0									23	12	
KUNMING	93.79	317.3				24	1	-27					
ZO-SE	94.41	334.7				24	1	-32			17	6	PP
NAGASAKI	94.42	342.3	13	23	0	23	59	-34					
NANKING	95.84	333.0				24	12	-34			17	21	PP
KYOTO	95.92	347.5	13	30A	0	24	52	6					
CALCUTTA	96.88	304.2									25	57	
LA PAZ	97.15	142.5	13	39	3						27	17	SS
MATUSIRO	97.19	349.7	13	37	1	24	12	-45			17	34	PP
HUANCAYO	98.94	134.3				24	25	-47					
BOKARO	99.08	302.7									17	44	
LHASA	102.16	309.6				24	41	-58			17	57	PP
LANCHOW	103.63	322.3				24	45	-66					
PEKING	104.09	333.2				24	46	-69			18	22	PP
CHANGCHUN	105.99	341.0									18	30	PP

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DEHRA DUN	108.06	299.6							25	9	
BOGOTA	114.77	129.1							29	34	
TUCSON	121 42	79.3							15	44	P
EUREKA	124.79	70.2	19	5	3						
KSARA	130.99	267.6	19	16	2	26	19	-4	23	37	PP
HUNGRY HORSE	132.52	64.4	19	19	2						
RAPID CITY	134.40	76.0	19	24	4						
TAMANRASSET	135.34	228.2	19	27	5	26	59	27	22	1	PP
BERMUDA	143.51	124.0	19	43	6				29	56	SKKS
BUCHAREST	143.97	269.1	19	43	6				20	4	
SOFIA	144.08	264.6	19	37	-1				22	51	
MESSINA	144.39	251.8	19	39	1				23	10	PKS
BUFFALO L.	145.59	97.9	19	39	-1						
PALISADES	146.48	104.9	19	43	1	26	48	-1	29	40	SKKS
ROME	148.75	252.6	20	9	23				25	5	PKS
ALGIERS UNI.	148.75	235.4	19	47	1				23	44	PP
WESTON	148.77	106.0	19	53A	7						
RELIZANE	148.86	231.0	19	50	4				23	39	PP
OTTAWA	148.88	97.5	19	51	5						
BREBEUF	149.98	99.5	19	53	5						
FLORENCE X.	150.77	253.6	20	6	17				23	15	PP
KRAKOW	150.88	271.4	19	59	10				21	49	
TRIESTE	150.94	258.9	19	51	2				20	7	PKP2
SHAWINIGAN	151.14	98.8	19	56	7						
ALICANTE	151.53	232.1	19	50	0	26	56	0	48	53	SSS
GRANADA	151.67	226.3	19	29A	-21				23	45	PP
RACIBORZ	151.76	270.0	20	20	30						
MONACO	152.53	249.1							18	34	
APATITY	152.84	311.7	20	6	14						
RESOLUTE	153.00	32.3	20	0	8				33	21	SKSP
EBINGEN	155.05	257.8	20	8	13				20	27	PKP2
COLLMBERG	155.10	267.5	20	3	8						
STUTTGART	155.34	259.1	20	7	12	26	59	-1	20	23	PKP2
BESANCON	155.83	252.8							20	18	PKP2
STRASBOURG	155.91	257.2							20	21	PKP2
PARIS	158.59	251.3				25	49	-74	24	20	PP
DE BILT	159.45	261.4							44	29	SS
KEW	161.72	253.5							44	59	SS
DURHAM	164.30	261.1	20	16	11				45	18	SS

OCTOBER 15 4.H 2.M 8.S EPICENTRE 8.86 -83.90 DEPTH= 0.KM

A= 0.10498 B=-0.98263 C= 0.15303 D=-0.9943 E=-0.1062
G= 0.0163 H=-0.1522 K=-0.9882 HT= 6.7

SE= 2.50

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SANTIAGO MA.	6.42	316.2	1	42	4	5	26	153					
SAN SALVADOR	7.12	313.3	1	46	-2						1	55	
GALERAZAMBA	8.72	76.7	2	26	16	4	8	17					
CHINCHINA	9.08	114.6	2	19	3	4	6	6					
BOGOTA	10.63	112.7	2	38	1	4	43	5					
COMITAN	10.88	313.3	2	44	4								
MERIDA	13.22	336.0	3	6	-6						6	55	
TACUBAYA	18.14	306.9	4	16	1	7	37	1			4	34	PP
SAN JUAN	19.68	59.4	4	35	1								
GRENADA	22.03	79.8	5	0	2								
TRINIDAD	22.13	83.5	5	0	1								
HUANCAYO	22.45	157.6	5	OK	-2	9	7	2					
ST VINCENT	22.62	77.1	5	7	3								
ST. CLAUDE	22.81	69.6	5	1	-5								
FORT FRANCE	23.01	73.2	5	1	-7								
ANTIGUA	23.61	67.6	5	11	-2								
BARBADOS	24.22	77.8	5	23A	4								
CHAPEL HILL	27.30	8.6	6	50	62								
FAYETTEVILLE	28.68	342.5	6	3	2								
BERMUDA	29.41	34.6				10	52	-9					
LA PAZ	29.64	148.2	6	10	1	11	20	15			7	9	PP
MORGANTOWN	30.84	6.0	6	22	2								
CLEVELAND	32.55	3.3									14	1	
PALISADES	33.22	13.9	6	42	1								
TUCSON	34.12	316.8	6	48	-1						8	59	PCP
WESTON	35.17	16.3	7	0	2								
OTTAWA	37.08	9.6	7	15A	1								

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BREBEUF	37.57	11.9	7 19	1		
SHAWINIGAN	38.74	12.3	7 28K	0		
RAPID CITY	38.90	337.7	7 35	6	9 5	PP
BOULDER CITY	39.01	318.5	7 29	-1		
SEVEN FALLS	39.72	14.0	7 35A	-1		
PASADENA	40.29	313.8	7 40	-1	8 33	
SALT LAKE C.	40.31	326.6	7 41	0		
EUREKA	41.84	322.0	7 55	2		
FRESNO	42.78	316.1	8 0	-1		
BOZEMAN	43.47	332.3	8 9	2		
RENO	44.28	319.5	8 13	0		
LICK	44.33	315.7	8 12	-2		
BUTTE	44.44	331.5	8 16	1		
BERKELEY	45.02	316.0	8 19	0		
SHASTA	46.57	319.3	8 29	-2		
HUNGRY HORSE	46.83	332.7	8 33	-1		
CORVALLIS	49.25	323.2	8 58	6		
VICTORIA	51.60	327.3	9 8	-2		
HORSESHOE B.	52.04	328.3	9 11	-3		
RESOLUTE	66.08	356.8	10 46A	-5		
COLLEGE	71.10	336.1	11 21	-1		
GRANADA	76.99	53.9	11 55K	-1	17 0	PPP
DURHAM	78.39	35.9	12 0	-4		
KEW	79.13	39.3	12 8	0		
RELIZANE	80.40	55.2	11 38	-37		
PARIS	81.03	41.9	12 16	-2		
WITTEVEEN	83.36	37.7	12 31	1		
BENSBERG	83.87	39.5	12 33	0		
STRASBOURG	84.53	41.8	12 37	1	13 16	
SKALSTUGAN	84.88	26.5	12 38A	0		
EBINGEN	85.38	42.1	12 40	-1		
STUTTGART	85.45	41.5	12 40K	-1		
TAMANRASSET	86.09	67.7	12 46	2		
JENA	86.63	39.1	12 46	-1		
HALLE	86.76	38.5	12 48	1		
COLLMBERG	87.45	38.6	12 51	0		
APIA	90.04	256.1			18 38	PPP
QUETTA	132.13	34.7	19 16	0		
SHILLONG	145.54	6.8	19 41K	1		

OCTOBER 15 5.H 55.M 33.S EPICENTRE -30.24-179.04 DEPTH= 244.KM

DEPTH OF FOCUS= 0.033R

A=-0.86527 B=-0.01456 C=-0.50110 D=-0.0168 E= 0.9999
G= 0.5010 H= 0.0084 K=-0.8654 HT= 1.7

SE= 2.04

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
WELLINGTON	12.10	202.8	2 48	2	4 48	-9			
COBB RIVER	12.71	209.5			5 4	-7			
KAIMATA	14.45	209.4			5 42	-8			
GEBBIES PASS	14.97	203.9	3 18	-4	5 52	-9			
NOUMEA	15.22	297.9	3 23	-1	6 26	19			
BRISBANE	24.60	269.5	5 3K	3				9 30	
RABAUL	37.55	308.0						9 6	PCP
CAPE HALLETT	42.50	184.8	7 36A	3					
TRUK	46.76	318.5	8 6	-1				9 38	PCP
SCOTT BASE	48.13	184.0	8 20K	3				9 42	PCP
GUAM	55.72	315.9	9 11	-2			9 57	11 12	PP
OASIS-BUNG.	58.83	207.9	9 34	-1					
SOUTH POLE	59.93	180.0	9 39	-4	17 43	9	10 22	10 45	*SP
MIRNY	61.87	207.0	9 54	-2					
BAGUIO CITY	74.36	300.0			20 35	10			
TUKUBASAN	76.44	327.0	11 24A	-1				11 33	PCP
MATUSIRO	77.60	326.0	11 30K	-1				23 1	
PASADENA	86.02	46.6	12 13	-1				12 56	
LICK	86.04	42.3	12 15K	1					
BERKELEY	86.05	41.6	12 14K	0					
SHASTA	87.92	39.5	12 23	0					
RENO	88.59	41.7	12 26	-1					
BOULDER CITY	89.29	46.9	12 30	0					
TUCSON	89.65	51.9	12 33	1				13 50	
EUREKA	90.80	43.6	12 36	-1			13 19		

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HUANCAYO	95.55	107.3	13	2	3						
COLLEGE	97.88	12.9	13	8	-1						
OTTAWA	119.74	52.1	18	22A	1						
QUETTA	123.75	288.0	18	30	1						
SODANKYLA	139.81	344.9	18	51	-8						
KIRUNA	140.65	348.5	18	53	-8						
TIFLIS	143.09	300.3	19	27	22						
SKALSTUGAN	145.87	351.0	19	10	0						
HELSINKI	146.02	338.7	19	13	3						
UPPSALA	148.33	344.0	19	17	3						
SIMFEROPOL	150.14	308.7	19	25	8						
KSARA	150.27	286.1	19	23	6						
JERUSALEM	150.67	281.9	19	31A	14						
DURHAM	155.42	3.5	19	17	-7						
KRAKOW	155.60	329.5	19	52	28					23	32 PP
RACIBORZ	156.31	331.6	19	55	30						
HALLE	157.24	342.1	19	59	33						
PRAGUE	157.75	336.7	19	3	-24						
JENA	157.86	342.0	20	1	34						
BRATISLAVA	158.24	329.9	20	3	35						
BENSBERG	158.79	349.1	20	6	38						
STUTTGART	160.46	343.5	20	14A	44					20	59
PARIS	161.42	356.8	20	18	47						
TRIESTE	161.64	330 5	19	31	0					20	18 PKP2
BESANCON	162.58	348.5	20	22K	50						
FLORENCE X	164.20	331 6	20	0	26						
MONACO	165.59	340.9	20	36	61						
TAMANRASSET	171.52	209.8	19	43	4			20	28	21	6 PKP2

OCTOBER 17 14.H 37.M 34.S EPICENTRE 46.53 -27.33 DEPTH= 0.KM

A= 0.61336 B=-0.31693 C= 0.72343 D=-0.4591 E=-0.8884
G= 0.6427 H=-0.3321 K=-0.6904 HT= -4.1

SE= 2.79

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LISBON	15.47	113.8	3	38K	-3	6	26	2					
JERSEY	17.11	71.9	4	8	6								
DURHAM	18.21	53.7	4	17	2								
GRANADA	19.93	109.5	4	51K	15						5	12	PP
ALMERIA	20.86	108.7	4	46	0								
TORTOSA	20.86	95.8	4	50	4								
CLERMONT-FD.	21.05	80 9	4	45	-3						9	26	SS
ALICANTE	21.36	102.8	4	55	4	8	50	6					
BESANCON	22.68	76.0	5	2	-2						5	35	PP
WITTEVEEN	22.73	61.4	5	10	6								
BENSBERG	23.04	66.2	5	8K	1						6	13	
RELIZANE	23.48	107.3	5	14	2	9	33	11			5	47	PP
STRASBOURG	23.65	72.1	5	14	1						5	45	PP
BASLE	23.70	74.8									13	23	
EBINGEN	24.50	72.8	5	20	-2								
STUTTGART	24.56	71.3	5	20	-2								
MONACO	24.56	83.8	5	24	2								
ALGIERS UNI.	24.57	102.5	5	19	-3	9	24	-17			5	47	PP
HAMBURG	24.74	59.7	5	25	1								
HALIFAX	25.33	279.0	5	29	-1								
JENA	25.82	65.8	5	32	-2								
PRAGUE	27.74	67.2	5	50	-2	10	39	5			7	54	
TRIESTE	28.28	76.6	5	55	-2						6	50	PP
ROME	28.68	84.7									8	4	
SEVEN FALLS	29.49	287.3	6	4	-4								
SHAWINIGAN	30.93	286.9	6	24K	4								
KIRUNA	32.28	31.7	6	36	4						13	31	SS
OTTAWA	33.24	286.0	6	46	5								
TAMANRASSET	35.53	120.5	7	1	1	12	38	2			8	29	PP
PULKOVO	35.81	46.9	7	7	4								
RESOLUTE	39.88	337.5	7	34A	-3								
SAN JUAN	42.46	241.8	8	4	6								
HELWAN	47.90	88.8	8	41	0						10	32	
KSARA	48.71	81.5	8	47	-1	15	42	-8			15	51	PS
FAYETTEVILLE	49.91	283.2	8	55	-2								
RAPID CITY	51.47	296.7	9	6	-3								
BOULDER	54.98	293.5	9	35	0								
BOZEMAN	55.34	302.1	9	37	-1								
HUNGRY HORSE	55.57	306.2	9	37	-2						10	43	

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COLLEGE	59.70	334.8	10	5	-3
EUREKA	61.92	298.7	10	22	-1
EUREKA	61.92	298.7	10	22	-1
TUCSON	63.23	289.4	10	33	1
BOULDER CITY	63.42	295.0	10	33	0
RENO	64.18	300.9	10	38	0
FRESNO	65.97	298.6	10	49	-1
PASADENA	66.68	295.4	10	59	5
LICK	66.70	300.1	10	55	0
LWIRO	69.13	117.4	11	9	-1
QUETTA	71.50	65.6	11	21	-3
HUANCAYO	72.43	229.7	11	30	0
LA PAZ	72.71	221.0	11	26	-5
MIRNY	143.37	144.6	19	33	-3
OASIS-BUNG.	146.51	144.6	19	40	-1
SCOTT BASE	148.09	185.6	19	47	3
CAPE HALLETT	152.88	191.7	19	46	-5

OCTOBER 18 1.H 50.M 49.S EPICENTRE 38.37 21.94 DEPTH= 0.KM

A= 0.72919 B= 0.29366 C= 0.61810 D= 0.3736 E=-0.9276
G= 0.5734 H= 0.2309 K=-0.7861 HT= -1.1

SE= 3.35

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	1.46	105.1	0	26K	-1	0	44	-3					
SKOPJE	3.63	353.7	1	59A	61	2	46	63					
TARANTO	4.19	301.5	1	4	-2	1	50	-7			1	20	
SOFIA	4.46	13.3	0	13	-57						1	27	SG
REGGIO CALA.	4.96	268.9	1	23	6						2	14	
MESSINA	5.03	270.1	1	17	-1	2	11	-7			1	36	PG
ISTANBUL KA.	6.13	61.6									1	43	PG
BELGRADE	6.54	350.7	1	40A	1						2	10	*SPG
BUCHAREST	6.81	26.0	2	13	30	3	15	13			2	37	PG
TIMISOARA	7.40	356.1									3	31	
SZEGED	7.99	350.9	2	29	29	3	27	-5			4	9	
ROME	8.06	299.0	2	0	-1	3	34	0			3	15	P*
KALOCSA	8.45	346.0	2	54	48								
ZAGREB	8.66	331.2	2	51	42						4	3	
BUDAPEST	9.35	347.9	2	44	25	5	1	55			3	0	PG
TRIESTE	9.49	322.7	2	16	-5	4	2	-7			2	28	
FLORENCE X.	9.71	307.2				4	22	7			5	55	
PRATO	9.85	307.4	1	43	-43	4	48	30					
HURBANOVO	9.88	345.2				4	30	12			5	50	
KISHINEV	10.02	28.2									2	42	
BOLOGNA	10.04	311.0				4	14	-9			5	25	
BRATISLAVA	10.41	341.8	2	32	-1	4	23	-9			5	32	SG
SIMFEROPOL	11.23	50.3									6	28	
HELWAN	11.50	134.7	2	33	-15	4	45	-13					
PAVIA	11.71	309.6				4	56	-8			6	17	
KRAKOW	11.77	353.6	2	57	5								
RACIBORZ	12.01	348.4									6	9	
KSARA	12.15	107.7	3	0	3	5	17	3					
MONACO	12.19	300.7	3	0	3								
JERUSALEM	12.70	117.1	3	3	-1								
PRUHONICE	12.76	337.9	3	4	-1	5	40	11			3	24	
PRAGUE	12.87	337.8	3	10	3	5	59	27			3	35	
ZURICH	13.29	316.9				5	36	-6					
CHEB	13.55	332.8	3	22	6						4	32	
EBINGEN	13.60	320.3	3	14	-2	5	37	-12			3	27	PP
TUBINGEN	13.78	321.6	3	15	-4	5	45	-9					
WARSAW	13.88	357.7									6	30	SSS
STUTTGART	13.89	322.6	3	17	-3	5	51	-5			3	29	PP
BASLE	13.92	315.7	2	22	2	5	50	-6					
NEUCHATEL	13.98	312.9									5	46	
PLAUEN	13.98	333.3	3	17	-4						3	27	PP
COLLMBERG	14.39	336.9	3	25	-2								
KARLSRUHE	14.43	321.8	3	37	10						6	39	
STRASBOURG	14.47	319.4	3	35	7	6	18	8			6	35	SS
JENA	14.54	333.1	3	28	-1	5	52	-20			3	36	
BESANCON	14.67	312.3	3	29A	-1	6	11	-4			3	44	PP
ALGIERS UNI.	15.06	269.8	3	35	0						3	47	
POTSDAM	15.32	339.0	3	44	5	6	46	16					
CLERMONT-FD.	15.79	303.9	3	49	4								

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RELIZANE	17.27	267.9	4 10 6			4 37 PPP
HAMBURG	17.29	335.4	4 5 1			
PARIS	17.48	312.9	4 3 -3			
TIFLIS	17.81	71.9	4 16 6			
GRANADA	20.21	274.6	4 58 19			
KEW	20.39	317.2	5 3 22			
TAMANRASSET	20.95	226.8	4 47 1	8 56 20		8 47 PCP
UPPSALA	21.68	354.1	4 52K -2			
HELSINKI	21.91	4.1	4 52 -4			
PULKOVO	22.08	11.3	5 2 4			
DURHAM	22.86	323.5	4 42 -24	8 37 -35		5 39
LISBON	24.26	280.6	5 19K 0			
SKALSTUGAN	25.91	350.1	5 33 -2			6 1
SODANKYLA	29.17	3.7	6 3 -2			
KIRUNA	29.53	358.8	6 6 -2			
APATITY	29.94	8.8	6 7 -5			
LWIRO	40.91	169.5	8 44 59			
NORD	45.44	352.6	8 20 -2			
HALIFAX	61.55	305.9	10 19A -2			
SEVEN FALLS	64.81	311.1	10 39 -3			
SHAWINIGAN	66.25	311.3	10 49K -3			
WESTON	67.54	306.8	10 58 -2			
OTTAWA	68.60	311.4	11 5A -1			
COLLEGE	76.79	355.5	11 53 -2			
RAPID CITY	84.12	323.7	12 33 -1			
HUNGRY HORSE	85.21	332.3	12 38 -1			
FAYETTEVILLE	85.29	313.1	12 39 -1			
BOZEMAN	86.28	329.1	12 45 1			
NOUMEA	145.69	72.5	19 41 1			

OCTOBER 19 18.H 29.M 0.S EPICENTRE 23.57 121.31 DEPTH= 62.KM

DEPTH OF FOCUS= 0.005R

A=-0.47686 B= 0.78389 C= 0.39764 D= 0.8543 E= 0.5197
G=-0.2067 H= 0.3397 K=-0.9175 HT= 3.8

SE= 3.38

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HSINKONG	0.47	173.6	0 10	-4	0 19	-5		
ALISHAN	0 47	263.8	0 12	-2	0 21	-3		
HWALIEN	0.49	35.3	0 1	-13				
TAICHUNG	0.82	314.9	0 17	0	0 30	0		
TAITUNG	0.83	190.4	0 17	0	0 28	-2		
TAINAN	1.15	240.7	0 26	5	0 42	5		
ILAN	1.26	18.4	0 17	-5	0 32	-7		
HSINCHU	1.26	345.7	1 1	38	1 11	32		
TAWU	1.27	197.5	0 20	-3	0 44	4		
KAOHSIUNG	1.35	225.6	0 24	0	0 46	5		
TAIPEI	1.46	7.4	0 24	-1	0 42	-2		
PENGHU	1.62	268.9	0 26	-1	0 48	0		
HENGCHUN	1.65	198.5	0 30	2	0 38	-10		
HONG KONG	6.70	260.5	1 38A	0				
BAGUIO CITY	7.15	185.7	1 43	-1	3 6	1		
CANTON	7.40	267.8	1 47A	-1	3 15	4		
ZO-SE	7.50	359.1	1 41	-8	3 4	-10		
NANKING	8.73	345.8	2 0	-6	3 40	-4		
FUTZELING	8.89	331.1	2 9	1				
MANILA	8.95	182.1	2 5	-4	3 41	-8		
YAKUSIMA	10.67	48.1	2 28	-5	4 30	-1		
TOMIE	11.16	34.5	2 34	-5	4 30	-13	5 15	
KAGOSIMA	11.42	43.8	2 41	-2	5 6	16	4 54	
NAGASAKI	11.84	37.7	2 44	-4			6 7	
MIYAZAKI	12.21	44.9	2 50	-3	5 13	5		
KUMAMOTO	12.38	39.8	2 52	-3	5 23	11		
SAGA	12.46	37.3	2 55	-2				
TSINGTAU	12.49	356.3	2 56	-1				
ASOSAN	12.65	40.6	2 58	-1				
ITUHARA	12.68	31.6	2 56	-3			6 16	
HUKUOKA	12.78	36.7	2 56K	-5	5 22	0	3 33	
OOITA	13.21	41.0	3 6	-1	5 30	-2		
SIMONOSEKI	13.33	37.0	3 6	-2				
SIMIDU	13.77	45.7	3 17	3	5 53	7		
UWAZIMA	13.79	43.3	3 16	2	5 50	4		

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PHU-LIEN	13.88	261.4	3	16A	1	7	4	76		
MATUYAMA	14.31	41.9	3	22	1	5	56	-2	6	52
HIROSIMA	14.49	39.6	3	21	-2	6	6	3	3	57
KOTI	14.62	44.4	3	36	11	6	12	6	6	49
HAMADA	14.67	37.3	3	19	-6	6	5	-2		
MUROTO	14.86	46.7	3	34	6	6	55	44		
SIAN	15.18	317.2	3	30	-2					
DAIREN	15.28	0.9	3	34	1					
TAKAMATU	15.44	43.3	3	34	-1	6	23	-2		
OKAYAMA	15.60	42.0	3	52	15	6	51	23		
TOKUSIMA	15.62	45.0	3	42	4	6	59	30	9	10
MATSUE	15.63	38.1	3	39	1	6	24	-5		
HIMEJI	15.78	43.4	3	49	9	7	5	32		
SUMOTO	15.99	44.8	3	42	0	7	8	31	4	1
TAIYUAN	16.02	334.2	3	48	5					
SIOMISAKI	16.06	49.0	3	44	1	7	58	79		
SAIGO	16.32	36.8	4	8	21					
KOBE	16.39	44.4	3	57	10	7	26	39		
OSAKA	16.60	45.1	4	2	12				5	6
OWASE	16.70	47.9	3	48	-3	7	19	25		
TOYOOKA	16.71	41.5	3	52	1	7	0	6		
CHENGTU	16.93	298.4	3	54A	0					
KYOTO	16.96	44.5	3	40K	-14	6	46	-14		
PEKING	16.97	346.4	3	55A	0	7	4	4		
KUNMING	17.05	278.7	3	56A	0				4	14 PP
KWANTING	17.29	345.1	3	59	0					
TU	17.30	46.6	4	22	23					
KAMEYAMA	17.34	46.2	4	4	5	7	38	30		
HIKONE	17.45	44.7	4	5	4	7	27	16		
TIENSHUI	17.45	312.4	4	2	1					
IBUKISAN	17.60	44.6	4	39	37					
TATUNG	17.82	339.5	4	7	2					
NAGOYA	17.86	46.1	4	10	4				9	6
GIHU	17.86	45.2	4	9	3	7	41	21		
HUKUI	17.95	42.8	4	14	7					
OMAESAKI	18.39	49.5	4	26	14	7	43	11		
KANAZAWA	18.49	42.2	4	57	44					
SHIZUOKA	18.71	48.8	4	14	-2	7	47	8		
TOYAMA	18.94	42.7	4	28	9				10	24
MATUMOTO	19.15	44.9	4	17	-4	8	16	28		
MISIMA	19.17	49.1	4	25	4	7	50	1		
KOHU	19.19	47.3	4	30	9				8	8
WAZIMA	19.19	40.6	4	17	-4				9	48
HUNATU	19.25	47.9	4	20	-2	7	58	7		
OSIMA	19.29	50.6	4	14	-8	7	28	-23		
PAOTOW	19.44	333.4	4	22	-2					
MATUSIRO	19.49	44.6	4	16K	-9	7	50	-6	5	9
NAGANO	19.55	44.3	4	29	4				5	32
OIWAKE	19.58	45.6	4	30	5				10	39
LANCHOW	19.60	313.5	4	26A	0	8	5	7		
YINCHUAN	19.62	322.7	4	22	-4					
MERA	19.69	50.8	4	12	-15	8	2	2		
TITIBU	19.73	47.2	4	24	-3					
YOKOHAMA	19.82	49.3	4	37	9				8	32
TAKADA	19.84	43.3	4	49	21					
MAEBASI	19.96	46.1	4	28	-2				8	20
TOKYO C.M.O.	20.02	48.8	4	31	1	8	3	-4	5	42
KUMAGAYA	20.02	47.1	4	26	-4				9	26
HONGO	20.05	48.7	4	36	5	8	27	20	6	41
AIKAWA	20.42	41.3	4	46	12	8	45	30	10	43
CHANGCHUN	20.47	8.3	4	30A	-5	8	16	0		
KOROR	20.51	139.8	4	33K	-2	8	34	18	6	25 PCP
TUKUBASAN	20.55	47.9	4	28	-8	8	12	-5	4 36	4 49 PP
UTUNOMIYA	20.58	46.8	4	37	1	7	58	-20	5	43
KAKIOKA	20.61	48.0	4	36	0				9	38
NIIGATA	20.85	42.6	4	56	17	8	25	2	9	7
MITO	20.89	48.0	4	40	1				5	59
SHIRAKAWA	21.13	45.9	4	40	-2	8	24	-4		
SINING	21.27	312.1	4	44	1					
VLADIVOSTOK	21.37	21.7	4	44	0	8	36	3	5	10 PP
WUWEI	21.44	316.2	4	47	2					
ONAHAMA	21.49	47.2	4	53	8	8	38	3	6	51
HUKUSIMA	21.65	44.8	4	48	1					
YAMAGATA	21.87	43.6	4	49	0					
SENDAI	22.23	44.2	4	48	-5	8	38	-10		
AKITA	22.62	40.2				9	9	14	5	49
MIZUSAWA	22.88	42.7	4	58	-1	9	14	14	9	30
MORIOKA	23.25	41.6	4	58	-5	9	0	-6		
SUIHWA	23.45	9.9	5	12	8					

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MIYAKO	23.71	42.6	4	59	-8	9	22	8		
AOMORI	23.73	38.9							5	51
HATINOHE	23.98	40.4							5	58
TOCKLAI	24.22	283.1	5	23	11				9	33
GUAM	24.35	110.2	5	10A	-3	9	37	12		
MORI	24.46	36.4	5	28	14				6	10
SUTTSU	24.76	34.7							5	57
SAPPORO	25.54	35.6				9	35	-10	6	8
URAKAWA	25.73	38.8	5	34	8	9	49	1		
YUMEN	26.39	314.9	5	33	1					
ASAHIGAWA	26.57	35.6	5	34	0					
SHILLONG	26.83	280.4	5	47A	11	10	15	9	6	23 PP
ULAN-BATOR	26.87	338.3	5	35	-2	10	20	13		
CHITTAGONG	27.16	273.3	5	41A	1					
KUSIRO	27.18	39.0	5	48	8	10	15	3		
WAKKANAI	27.36	32.2							6	46
LHASA	27.69	289.2	5	46A	2	10	28	8		
NEMURO	28.08	39.6	5	57	9					
Y.-SAKHLINSK	28.97	31.1							7	5 PPP
MADANG	29.82	123.9	7	6	63					
CALCUTTA	30.32	274.7	6	11A	3	11	31	29	7	24 PP
CHATRA	31.01	283.2	6	15	1	11	42	29		
IRKUTSK	31.47	339.9	6	14A	-4	11	20	0	7	27 PP
BOKARO	32.47	277.7	6	26	-1	11	39	3		
DJAKARTA	32.78	207.3	6	29	0	11	56	15		
TRUK	33.38	113.7	6	34K	-1					
VIZIANAGRAM	35.73	268.5	6	58A	3					
DEHRA DUN	38.97	289.6	7	23	1	13	19	3	8	26 PP
MADRAS	40.32	262.3	7	36A	3	14	4	28	9	18 PP
HYDERABAD	40.50	269.6	7	38A	4	14	8	30	9	11 PP
PETROPAVLOVK	40.80	34.0	7	36	-1				9	41 PPP
RABAUL	40.83	128.5	7	36K	-1	13	48	5	9	15 PP
MAGADAN	41.50	22.2	7	42	-1					
SEMIPALATNSK	41.56	320.7	7	42	-1				9	21 PP
LAHORE	42.14	291.5	7	48A	0	14	18	15		
KODAIKANAL	43.82	260.0	8	8	6	15	2	35	9	56 PP
POONA	44.43	272.8	8	8A	2	14	57	21	9	52 PP
WARSAK DAM	44.46	295.1	8	9	2	14	57	20		
BOMBAY	45.27	273.7	8	16	3	15	7	19	10	4 PP
TASHKENT	46.63	305.2	8	25	1	15	19	11	10	16 PP
STALINABAD	46.82	301.4	8	27	2	15	15	5		
TIKSI	48.28	3.2	8	31	-6				19	0 SS
QUETTA	48.56	290.2	8	40A	1	15	42	7	10	35 PP
KARACHI	49.07	284.4	8	30	-13					
CHARTERS TS.	49.68	148.7	8	46A	-2	15	53	3		
SVERDLOVSK	54.61	324.0	9	23	-1				19	3 SCS
ASHKABAD	55.02	300.8	9	28A	1	17	13	10	13	9
PERTH	55.46	185.7	9	36	5				9	45
BRISBANE	59.27	147.1	9	55A	-3	18	1	2		
NOUMEA	63.29	132.7	10	23	-2	18	52	2	19	13 PS
RIVERVIEW	63.76	152.5	10	26A	-2	19	2	6	10	37 23 22 SS
GORIS	64.16	303.9	10	32	2				20	16 SCS
TIFLIS	64.92	306.5	10	35	0	19	18	8	20	18 SCS
MELBOURNE	65.00	159.5	10	34A	-2				10	45 PP
APATITY	67.66	335.5	10	49A	-4	19	41	-2	13	27 PP
COLLEGE	69.29	27.2	10	57	-6					
SUVA	69.48	121.5	11	12	8	20	8	3	24	54 SS
SODANKYLA	70.27	335.8	11	6	-3	20	11	-3	20	37 PS
PULKOVO	70.43	327.5	11	8	-2				20	41 PS
SIMFEROPOL	71.83	311.7	11	18A	0				25	0 SS
KIRUNA	72.41	337.0	11	19A	-2	20	39	0	20	54 PS
HELSINKI	72.92	328.7	11	22	-2	20	44	-1	21	23 PS
NORD	72.96	354.1	11	20A	-5					
HONOLULU	73.53	73.6				20	57	5	11	42
KIPAPA	73.56	73.5	11	28	0					
KSARA	73.67	300.1	11	30	1	20	58	5	14	15 PP
JERUSALEM	74.83	298.3	11	38K	2				12	1
IASI	75.52	315.4	11	38	-1				12	35
UPPSALA	76.49	329.7	11	43A	-2	21	22	-2		
LWOW	76.85	318.7	11	46	-1				21	41 SCS
SKALSTUGAN	77.19	334.3	11	48	-1					
BUCHAREST	77.43	313.0	11	51	1	21	55	20	14	47 PP
SITKA	77.46	33.0	11	48	-2					
WARSAW	77.72	321.7	11	51A	-1	21	51	13	22	50 PPS
CAMPULUNG	77.84	314.1	11	53	1					
KRAKOW	79.21	320.0	11	51	-9	22	14	21	15	9 PP
RESOLUTE	79.25	9.2	11	55A	-5	21	56	2	14	58 PP
DABROWA	79.51	320.4	12	6	4					

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SOFIA	79.94	312.1	12	5	1	22	4	3	15	21	PP
TIMISOARA	80.14	315.6	12	9	4	22	16	13	15	18	PP
RACIBORZ	80.21	320.5	12	6	1				22	35	SCS
TONGARIRO	80.41	140.3	12	6	0						
SZEGED	80.63	316.4	12	11	3	22	26	18	23	3	PS
BUDAPEST	80.78	317.8	12	9	1				22	34	SCS
COPENHAGEN	80.81	327.1	12	10	1	22	13	3	15	14	PP
BELGRADE	81.01	315.0	12	9A	-1				15	26	PP
HURBANOVO	81.15	318.4	12	11	1	22	23	9	15	23	PP
KALOCSA	81.24	317.0							12	16	PCP
WELLINGTON	81.35	142.2	12	9	-2	22	20	4	28	10	SS
ROXBURGH	81.47	148.1	12	18	6	22	17	0	15	30	PP
ATHENS	81.50	307.6	12	10K	-2	22	25	8			
SKOPJE	81.54	312.0	12	16A	4	22	34	16	17	33	PPP
BERGEN	81.64	333.2							22	28	
BRATISLAVA	81.69	319.0	12	12	-1	22	21	2	15	21	PP
POTSDAM	82.06	324.0	12	14	-1	22	25	2	15	35	PP
PRUHONICE	82.37	321.4	12	15	-2	22	25	-1	15	18	PP
PRAGUE	82.39	321.5	12	14	-3	22	19	-7	15	25	PP
COLLMBERG	82.62	323.1	12	16	-2				22	47	SKS
SCORESBY SD.	82.68	348.3	12	18	0	22	37	8	22	31	SKS
HALLE	83.10	323.6	12	21	1	22	29	-5	22	51	SCS
HAMBURG	83.10	326.0	12	20A	0	22	36	2	15	35	PP
TANANARIVE	83.41	246.2	12	23K	1				14	36	
ZAGREB	83.42	317.2	12	21	-1	22	57	20			
PLAUEN	83.47	322.6	12	19	-3				14	33	
CHEB	83.55	322.2	12	20	-3	22	43	5	23	29	PS
JENA	83.58	323.2	12	22	-1	22	38	0	15	45	PP
TRIESTE	84.88	317.8	12	28	-1	22	56	5	15	46	PP
TARANTO	85.01	312.0	12	26	-4	23	1	8	15	46	PP
WITTEVEEN	85.19	326.4	12	32A	1						
KERGUELEN I.	85.71	210.8	12	39	6						
STUTTGART	86.01	322.1	12	33A	-2	23	5	3	15	54	PP
TUBINGEN	86.20	321.9	12	36	0						
RAVENSBURG	86.28	321.1	12	33	-3						
KARLSRUHE	86.32	322.6	12	36A	0	23	18	13	22	58	SKS
DE BILT	86.35	326.3	12	37A	0	23	10	5	15	58	PP
EBINGEN	86.45	321.7	12	34	-3				12	45	PCP
ABERDEEN	86.66	332.9	12	39	1	23	14	6	16	4	PP
ALBERNI	86.72	36.9	12	37	-1						
STRASBOURG	86.91	322.4	12	38A	-1	23	15	4	15	56	PP
BOLOGNA	86.94	317.7	12	52	13	23	35	24	16	22	PP
ZURICH	87.10	321.1	12	33	-7						
REGGIO CALA.	87.20	310.5	12	47	6	23	22	8			
MESSINA	87.22	310.6	12	39	-2	23	14	0	22	58	SKS
FLORENCE X.	87.35	317.1	12	40A	-1	23	26	11	12	52	*PP
PRATO	87.40	317.2	13	20	38	23	36	21			
HORSESHOE B.	87.50	36.2	12	40A	-2	23	19	3			
ROME	87.51	315.0	12	41A	-1	23	19	3	16	5	PP
VICTORIA	87.90	37.0	12	42A	-2	23	4	-16	23	32	
PAVIA	87.91	319.0	12	44A	0	23	44	24	16	6	PP
EDINBURGH	87.93	332.3				23	45	25	23	23	SKS
DURHAM	87.97	330.9	12	53	9	24	1	40	16	30	PP
NEUCHATEL	88.23	321.4	12	44	-2	23	28	5			
OROPA	88.39	319.9	12	45	-1	23	47	22			
BESANCON	88.65	322.0	12	46K	-2				16	31	PP
SEATTLE	89.01	37.3	12	50A	1	23	37	7			
KEW	89.47	327.8	12	50	-1	23	35	0	23	21	SKS
PARIS	89.66	324.6	12	45	-7	23	52	16	23	26	SKS
MONACO	89.74	318.5	13	1	8				16	26	PP
WILKES	89.87	184.4	12	54A	1	23	34	-4	16	34	PP
CORVALLIS	90.17	40.2	12	53	-2						
OASIS-BUNG.	90.82	188.2	12	56A	-2						
RATHFARNHAM	91.03	331.6	12	59A	0				16	39	PP
CLERMONT-FD.	91.11	321.9	12	59	0	24	6	17	23	32	SKS
JERSEY	91.81	326.8							16	3	
MIRNY	92.36	191.0	13	2	-3						
SHASTA	92.91	43.0	13	6	-1						
HUNGRY HORSE	92.97	33.3	13	8	0	24	0	-6	30	17	PKKP
LWIRO	93.19	268.9	13	9	0				16	56	PP
UKIAH	93.26	44.7	13	18	9						
BERKELEY	94.59	45.3	13	15	0	24	27	7	23	44	SKS
RENO	95.19	42.8	13	17	-1						
BUTTE	95.26	34.4	13	17	-1				24	0	SKS
LICK	95.30	45.5	13	18A	0				16	36	PP
BOZEMAN	96.28	34.0	13	21	-2						
ALGIERS UNI.	96.42	314.6	13	24	1	24	16	-19	17	20	PP
FRESNO	96.83	45.1	13	24	-1						

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EUREKA	97.59	41.1	13	28	-1				30	34	PKKP
RELIZANE	98.65	315.0	13	33	-1	24	36	-18	17	43	PP
TOLEDO	98.90	320.6	13	30	-5				17	35	PP
SALT LAKE C.	99.16	38.0	13	37	1						
PASADENA	99.45	46.4	13	38	1	24	10	-51	17	39	PP
ALMERIA	99.89	317.4	13	30	-9				17	43	PP
GRANADA	100.38	318.3	13	39A	-2	25	23	15	24	35	SKS
CAPE HALLETT	101.21	166.4	13	42	-3				18	14	PKP
RAPID CITY	101.30	31.0	13	47	2	25	16	0	17	1	
TAMANRASSET	102.44	301.7	13	50	-1	25	32	6	24	32	SKS
PRETORIA	102.53	247.3							17	45	PP
SCOTT BASE	104.61	171.0							18	15	PP
TUCSON	105.42	43.9	14	12	777	25	56	6	25	6	SKS
KIMBERLEY	106.38	245.4							18	33	PP
OTTAWA	109.63	12.7				25	20	28	19	3	PP
LUBBOCK	109.87	37.4							18	59	PP
FLORISSANT	111.22	26.1	14	29	-238	26	28	86	19	3	PP
ST. LOUIS 1	111.41	26.1				25	2	0	19	4	PP
FAYETTEVILLE	111.83	30.4				26	51	107	19	10	PP
CLEVELAND	111.90	18.3							25	52	
HALIFAX	111.99	3.8							19	18	PP
HERMANUS	112.49	241.0							34	42	SS
WESTON	113.35	10.2							28	48	SP
SOUTH POLE	113.43	180.0	18	13	-18				18	40	
PENNSYLVANIA	113.52	15.8							19	25	PP
WAYNESBURG	113.75	17.9	19	26	54				28	54	
PALISADES	114.21	12.6	14	28	-244	25	32	19	19	16	PP
FORDHAM	114.37	12.6							19	30	PP
PHILADELPHIA	114.96	13.9							19	45	PP
WASHINGTON	115.51	15.8							28	47	PS
COLUMBIA	118.93	21.2	18	53	11				20	16	PP
BERMUDA	124.07	6.1							20	35	PP
MBOUR	124.44	308.6							20	47	PP
SAN JUAN	137.68	10.5	19	27	10				22	5	PP
TRINIDAD	145.86	5.0	19	33	1						
CHINCHINA	147.17	32.4	19	36	2				23	13	PP
BOGOTA	148.21	30 1	19	41	5				42	12	SS
HUANCAYO	160.47	56.9	19	56	4				20	39	PKP2
LA PAZ	168.68	53.3	20	2A	3				31	50	SKKS
TALA POZO	173.44	131.3							32	5	SKKS

OCTOBER 19 21.H 42.M 0.S EPICENTRE 44.20 146.08 DEPTH= 146.KM

DEPTH OF FOCUS= 0.018R

A=-0.59686 B= 0.40143 C= 0.69471 D= 0.5581 E= 0.8298
G=-0.5765 H= 0.3877 K=-0.7193 HT= -3.2

SE= 1.91

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
NEMURO	0.94	202.7	0	24A	0	0	41	-2				
ABASHIRI	1.31	262.8	0	29A	1	0	49	0				
KURILSK	1.64	50.4	0	34	3	0	58	2				
KUSIRO	1.72	225.6	0	33	1	0	56	-1				
OBIHIRO	2.45	239.6	0	43	2	1	13	1				
ASAHIGAWA	2.71	262.4	0	47K	3	1	21	3				
URAKAWA	3.16	230 8	0	50	0	1	25	-3				
RUMOE	3.22	267.2	0	52	1	1	34	4				
WAKKANAI	3.36	292.9	0	56	3	1	38	5				
SAPPORO	3.61	253.5	0	57K	1	1	38	-1			1	14
Y.-SAKHLINSK	3.62	320.6	0	58A	2	1	41	2				
TOMAKOMAI	3.68	244.5	1	0A	3	1	40	-1				
MURORAN	4.17	245.2	1	2	-1	1	46	-6				
SUTTSU	4 48	253.8	1	8K	1	2	0	1				
MORI	4.54	244.4	1	9K	1	1	54	-7				
HAKODATE	4.61	240.3	1	9K	0	1	56	-7			1	22
HATINOHE	4.98	224.1	1	13K	-1	2	4	-7				
AOMORI	5.17	231.1	1	16K	-1	2	9	-7				
MIYAKO	5.48	215.4	1	18	-3	2	13	-10				
UGLEGORSK	5.61	332.0	1	23A	1	2	26	0				
MORIOKA	5.79	220.8	1	23A	-2	2	20	-11			2	11
MIZUSAWA	6.27	217.9	1	30	-1	2	34	-8				
AKITA	6.31	226.9	1	31K	-1	2	39	-4				
ISINOMAKI	6.78	213.5	1	36	-2	2	46	-8				
SAKATA	7.07	223.6	1	42	0	2	57	-4				

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SENDAI	7.09	215.1	1	42	0	2	54	-8		
YAMAGATA	7.34	217.9	1	44	-2	3	0	-8		
HUKUSIMA	7.71	215.3	1	49	-2	3	8	-9		
NIIGATA	8.21	222.6	1	58	1	3	28	-1		
ONAHAMA	8.24	210.3	1	55	-3	3	21	-8		2 5
SHIRAKAWA	8.35	214.2	1	52	-7	3	23	-9		
AIKAWA	8.54	226.4	2	1	-1	3	30	-7		
MITO	8.90	210.6	2	5	-1	3	36	-9		3 21
UTUNOMIYA	8.98	213.9	2	7	-1	3	39	-8		2 26
KAKIOKA	9.14	211.5	2	8	-2	3	41	-10		
TUKUBASAN	9.18	211.8	2	7	-3	3	42	-10	2 18	
TAKADA	9.25	222.6	2	12	1	3	50	-4		
MAEBASI	9.45	216.8	2	12	-2	3	50	-8		
KUMAGAYA	9.53	214.8	2	14	-1	4	13	13		
NAGANO	9.62	221.3	2	16	0	3	59	-3		
MATUSIRO	9.70	220.8	2	17K	0	3	59	-5		2 34
WAZIMA	9.73	228.7	2	18	1	4	0	-5		
OIWAKE	9.73	218.7	2	22	5	3	58	-7		
HONGO	9.76	211.8	2	18	0	3	57	-9		4 38
TOKYO C.M.O.	9.79	211.8	2	19	1	3	59	-7		
TITIBU	9.80	215.5	2	20	2	3	58	-9		
YOKOHAMA	10.05	211.6	2	26	4	4	9	-4		4 49
MATUMOTO	10.07	220.7	2	17	-5	4	14	1		
TOYAMA	10.09	225.1	2	21	-1	4	7	-6		
KOHU	10.31	216.5	2	26	1	4	7	-12		
VLADIVOSTOK	10.33	268.9	2	25A	0					
HUNATU	10.34	215.3	2	27	2	4	12	-7		3 30
MERA	10.44	209.6	2	23	-4	4	11	-11		
KANAZAWA	10.50	226.4	2	28	0	4	20	-3		
MISIMA	10.59	213.6	2	29	0	4	13	-12		
AJIRO	10.60	212.8				4	20	-5		
OSIMA	10.74	211.0				4	19	-10		
SHIZUOKA	10.95	215.3	2	35	2	4	25	-9		
HUKUI	11.06	226.0	2	35	0	4	32	-4		
GIHU	11.32	222.3	2	38K	0	4	38	-5		3 49
OMAESAKI	11.34	215.0				4	44	1		3 6
NAGOYA	11.42	220.9	2	40	0	5	1	16		
IBUKISAN	11.53	223.5	2	44	3	4	50	3		
HIKONE	11.68	223.6	2	43K	0	4	49	-2		15 18 SCS
KAMEYAMA	11.91	221.7	2	46	0					3 57
MAIZURU	11.92	226.6	2	47	1	4	54	-3		
TU	11.99	221.2	2	54	7					
KYOTO	12.14	224.5	2	50K	1	5	5	3		
PETROPAVLOVK	12.19	38.4	2	48	-2					3 28 *SP
TOYOOKA	12.23	228.8	2	49	-1	4	59	-5		
OSAKA	12.53	224.1	2	58	4	5	24	13		
SAIGO	12.59	235.0	2	55	0					
OWASE	12.68	220.4	2	54	-2	5	30	16		
KOBE	12.69	225.2	2	55	-1	5	37	23		
SUMOTO	13.10	225.1	3	0K	-1	5	30	6		15 18 SCS
MATSUE	13.26	233.2	3	2	-1	5	24	-4		
SIOMISAKI	13.39	220.2	3	6	1	5	46	15		
TOKUSIMA	13.47	225.2	3	5K	-1	5	36	3		
TAKAMATU	13.55	227.4	3	5	-2	5	31	-4		
SUIHWA	13.63	286.9	3	8	0					
HAMADA	14.23	234.0	3	12	-4	5	43	-7		
MUROTO	14.32	224.3	3	16	-1					
HIROSIMA	14.40	231.7	3	18K	0	5	53	-1		15 23 SCS
KOTI	14.42	226.8	3	18	0	6	7	12		? 42
MATUYAMA	14.63	229.5	3	19	-2	5	52	-7		
CHANGCHUN	14.95	275.8	3	22K	-3					
UWAZIMA	15.19	228.4	3	27	-1	6	22	10		
KLYUCHI	15.30	32.4	3	27	-2					6 41
SIMIDU	15.31	226.3	3	28K	-1	6	14	-1		
SIMONOSEKI	15.57	234.0	3	32	-1					
MAGADAN	15.64	8.9	3	33	-1					
OOITA	15.70	230.7	3	36K	2	6	37	13		
HUKUOKA	16.13	234.2	3	40K	0	6	32	-2		3 56
ITUHARA	16.38	238.1	3	41	-2	6	42	1		
SAGA	16.43	233.6	3	46K	3					
KUMAMOTO	16.52	231.7	3	43K	-1	6	41	-4		
MIYAZAKI	16.80	228.1	3	48K	0	7	4	12		
NAGASAKI	17.05	233.3	3	53	2	6	54	-4		
KAGOSIMA	17.54	229.3	3	57K	0	7	12	5		5 6
TOMIE	17.78	235.3	4	0	1	7	12	1		
YAKUSIMA	18.44	227.1	4	6	-1	7	31	7		
DAIREN	19.02	262.3	4	13	0					
PEKING	22.51	269.8	4	48	0	8	38	-2	5 19	5 23 PP

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KWANTING	22.85	270.6	4	51	0						
ZO-SE	23.55	244.7	4	59K	1	8	59	1		5	30 PP
NANKING	24.53	249.6	5	8K	1	9	15	1		5	39 PP
TATUNG	24.56	271.9	5	10	2						
TAIYUAN	25.95	267.4	5	23	3						
FUTZELING	26.68	251.2	5	27	0						
PAOTOW	26.73	274.9	5	29	1						
ULAN-BATOR	27.24	291.8	5	33	1	10	0	1			
IRKUTSK	28.62	301.3	5	42	-3	10	18	-3		6	41 PP
TIKSI	28.75	348.8	5	41	-5					12	6 SS
SIAN	30.23	263.6	5	59	0						
GUAM	30.64	182.5	6	16	13	11	51	58	7 1	12	21 *SS
TIENSHUI	32.33	266.7	6	18	1						
LANCHOW	33.01	270.5	6	23K	0	11	29	-1	6 53	12	28 *SS
WUWEI	33.04	274.4	6	24	1						
CANTON	34.15	242.7	6	34K	1	11	49	2	7 5		
HONG KONG	34.15	240.7	6	34K	1	12	0	13			
SINING	34.23	272.8	6	35	1						
BAGUIO CITY	35.09	225.9	6	40	-1	12	0	-2			
CHENGTU	35.65	262.2	6	45K	-1	12	7	-3	7 17	8	10 PP
YUMEN	36.09	281.3	6	51	2						
MANILA	36.44	223.7	6	51	-1	12	20	-2			
TRUK	36.93	170.4	6	59K	3					9	5 PCP
KOROR	38.10	198.9	7	7	1				7 37		
KUNMING	39.95	256.0	7	22K	1	13	13	-2	7 54	8	56 PP
PHU-LIEN	40.10	247.4	7	24K	1	13	20	2			
COLLEGE	41.18	36.4	7	31	-1						
SEMIPALATNSK	43.75	302.4	7	52	0						
TOCKLAI	44.51	264.6	8	3K	5						
LHASA	45.52	270.6	8	8K	2	14	39	3		9	57 PP
SHILLONG	47.30	265.5	8	31K	11	15	0	-2	9 3	10	32 PP
RABAUL	48.49	171.9	8	32	2				9 1		
SITKA	48.74	45.5	8	33	1						
CHITTAGONG	49.33	262.1	8	37K	1						
CHATRA	49.92	270.2	8	41	0	15	39	1			
CALCUTTA	51.71	265.0	8	58	4	16	4	1			
SVERDLOVSK	52.29	316.2	8	57	-1	16	5	-6			
NORD	54.12	356.9	9	8A	-4						
DEHRA DUN	54.43	279.7	9	14	0	16	38	-1			
TASHKENT	54.50	295.7	9	14	-1	16	42	2	9 51		
RESOLUTE	54.77	16.5	9	12A	-5	16	40	-4		10	16 PCP
STALINABAD	56.28	293.1	9	28	0	17	5	1			
LAHORE	56.35	283.1	9	27K	-1	17	4	-1		10	20
APATITY	57.65	335.2	9	33A	-4	17	17	-5	10 24	12	22 PP
ALBERNI	57.84	50.7	9	40A	2						
HORSESHOE B.	58.63	49.9	9	43A	-1						
VICTORIA	59.02	50.8	9	45A	-2						
SODANKYLA	59.75	337.0	9	48	-4	17	47	-2		14	23 SCP
SEATTLE	60.13	51.2	9	56A	2						
KIRUNA	61.08	339.4	9	58A	-3	17	58	-8		19	34 SCS
CORVALLIS	61.29	54.6	10	3A	1						
QUETTA	62.29	286.2	10	8K	-1	18	21	0		12	29 PP
ASHKABAD	63.38	297.9	10	15K	-1	18	36	1		19	36 *SS
MADRAS	63.79	262.6	10	16	-3	18	43	3		12	40 PP
PULKOVO	63.83	329.5	10	17	-2	18	38	-3		12	51 PP
CHARTERS TS.	63.89	179.8	10	20	1						
SHASTA	64.11	57.7	10	22A	1						
HUNGRY HORSE	64.21	46.9	10	23	2	18	47	2		39	12 PKPPKP
UKIAH	64.55	59.5	10	24	0				10 56		
POONA	64.67	271.6	10	23	-1	18	49	-2			
KARACHI	64.89	282.3	10	15K	-11	18	42	-12			
BOMBAY	65.17	272.7	10	29	1	18	58	1			
SCORESBY SD.	65.31	355.6	10	25	-3						
HELSINKI	65.43	331.9	10	28	-1	18	57	-3			
BERKELEY	65.91	60.1	10	33A	1						
RENO	66.39	57.3	10	36A	1						
BUTTE	66.45	48.2	10	36	0					13	5 PP
SKALSTUGAN	66.51	339.4	10	34	-2						
LICK	66.63	60.2	10	38A	1						
BOZEMAN	67.48	47.7	10	42	0				11 7	12	19
UPPSALA	68.04	334.8	10	43A	-3	19	26	-6		20	26 *SS
FRESNO	68.13	59.7	10	47A	1						
EUREKA	68.72	55.3	10	51	1	19	50	10			
GORIS	69.76	305.6	10	58	2	19	55	3			
SALT LAKE C.	70.27	52.1	11	12	13				11 43		
PASADENA	70.83	60.9	11	3A	0	20	7	3	11 36	11	52 *SP
BOULDER CITY	71.69	57.5	11	10	2	20	20	6			
SIMFEROPOL	72.65	316.4	11	14A	1	20	25	0		11	28 PCP

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RAPID CITY	72.65	44.9	11	14	1	20	28	3			13	55	PP
WARSAW	72.92	328.2	11	14A	-1	20	27	-1					
COPENHAGEN	73.06	334.6	11	15A	-1	20	28	-1					
LARAMIE	73.36	48.3	11	12	-6				11	23			
LWOW	73.61	325.1	11	19	0	20	35	-1			21	13	SCS
IASI	74.09	321.5	11	22	0	20	41	0					
BACAU	74.87	321.4	11	41	15	21	3	13					
KRAKOW	75.07	327.4	11	27A	0	20	51	-1			21	43	PS
DABROWA	75.12	328.0	11	29	1	20	53	1					
FOCSANI	75.40	320.6	11	35	6								
HAMBURG	75.61	334.7	11	32A	2	21	0	2					
POTSDAM	75.63	332.4	11	30	-1	20	57	-1	12	8	21	36	
RACIBORZ	75.71	328.3	11	32	1	20	56	-3			21	31	
COLLMBERG	76.57	331.9	11	36	0	21	6	-2			14	15	PP
TUCSON	76.65	58.0	11	37	1						12	26	*SP
CAMPULUNG	76.71	321.6	11	40	3	21	14	4					
HALLE	76.75	332.6	11	35	-2	21	8	-2			13	5	
BUCHAREST	76.88	320.4	11	58	21	21	14	2					
PRAGUE	77.10	330.4	11	40A	1	21	15	1	12	7	21	40	*SS
PRUHONICE	77.13	330.3	11	38	-1	21	12	-2	12	21	22	10	*SS
WITTEVEEN	77.25	336.1	11	40	0								
JENA	77.36	332.4	11	40	0	21	16	-1	12	13			
BUDAPEST	77.48	326.3	11	42	1	21	20	2					
HURBANOVO	77.51	327.0	11	44	3	21	23	5			14	14	
PLAUEN	77.53	331.9	11	40	-1	21	16	-3	12	11	21	43	SKS
DURHAM	77.64	341.5	11	42	0	21	19	-1			21	37	SKS
BRATISLAVA	77.69	327.8	11	42	0	21	22	2			12	45	
RIVERVIEW	77.79	175.7				21	29	8					
CHEB	77.81	331.5	11	42	-1	21	21	-1			22	39	*SS
TIMISOARA	77.99	324.0	11	39	-5	21	26	3					
KALOCSA	78.29	325.8				21	26	-1					
DE BILT	78.32	336.6	11	46A	1	21	20	-7					
BENSBERG	78.74	334.9	11	48A	0	21	31	0					
BELGRADE	79.06	323.9	11	50A	1	21	37	2					
SOFIA	79.48	320.9	11	52	0	21	42	3			14	48	PP
KSARA	79.74	307.4	11	55	2	21	42	0	12	28	22	49	*SS
STUTTGART	80.00	332.7	11	54A	-1	21	41	-4			12	8	PCP
RATHFARNHAM	80.03	343.6	11	55K	0	21	40	-5	12	37			
KARLSRUHE	80.05	333.2	11	56A	1	21	48	3			14	28	
TUBINGEN	80.25	332.6	11	56	0								
KEW	80.37	339.4	11	57	1	21	50	1			12	17	PCP
EBINGEN	80.59	332.5	11	56A	-2						12	12	PCP
STRASBOURG	80.63	333.4	11	58	0	21	52	1	12	34	22	47	*SS
SKOPJE	80.92	321.6	12	2A	3	21	58	4					
LUBBOCK	80.98	51.6	12	1	1								
TRIESTE	81.06	328.3	12	0	0	21	54	-2			22	12	SCS
ZURICH	81.43	332.3	12	3	1	21	59	0					
PARIS	82.03	336.7	12	6	1	22	6	0	12	40	15	20	PP
NEUCHATEL	82.29	333.1	12	6	0	22	8	0					
BESANCON	82.38	333.8	12	7	0				12	41	15	6	PP
JERSEY	82.93	339.6	12	12	2	22	15	0					
BOLOGNA	82.94	329.2				22	20	5			22	51	
FLORISSANT	82.94	41.0	12	11A	1	22	16	1			15	25	PP
ATHENS	83.03	317.7	12	9A	-1	22	16	0			22	7	SKS
PAVIA	83.13	330 9				22	43	26					
ST LOUIS 1	83.14	41.0	12	12A	1	22	17	0	12	45	15	26	PP
FAYETTEVILLE	83.20	45.1	12	12	1	22	17	0					
SHAWINIGAN	83.33	25.8	12	12A	0								
OTTAWA	83.39	28.2	12	12A	0								
SEVEN FALLS	83.41	24.4	12	11A	-1								
FLORENCE X	83.59	328.9	12	13A	0	22	21	0	12	26			
TARANTO	83.97	323.3	11	46	-29	22	16	-9			33	16	
BREBEUF	84.00	26.9	12	15	0								
CLERMONT-FD.	84.59	334.9	12	19A	1	22	35	4					
ROME	84.73	327.1	12	18	-1	22	32	0			23	16	PS
MONACO	85.00	331.3	12	20	0								
LITTLE ROCK	85.16	44.7	12	22	1	22	39	2					
MESSINA	86.58	323.1	12	25	-3	22	48	-2	13	6	15	45	PP
PENNSYLVANIA	86.62	31.9	12	27	-1	22	39	-12					
REGGIO CALA.	86.63	323.0				22	54	3					
MORGANTOWN	86.81	33.8	12	30A	1	22	34	-18					
WESTON	87.53	26.8	12	34A	2								
HALIFAX	87.71	20.7	12	34A	1								
PALISADES	87.88	29.1	12	34A	0	23	4	2	13	20	22	44	SKS
FORDHAM	88.03	29.2	12	35	0								
PHILADELPHIA	88.36	30.5				22	50	-17			24	18	PS
CHAPEL HILL	90.35	35.1	12	46	0								
COLUMBIA	91.15	37.5	12	51	2	23	34	2			23	6	SKS
TOLEDO	92.08	337.4	12	53A	-1	23	44	4	13	28			

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ALICANTE	92.45	334.3	12	47	-8	23	29	-14				
ALGIERS UNI.	92.72	331.1	12	56	-1	23	46	0				
ALMERIA	94.44	335.2	13	4	0							
RELIZANE	94.49	332.5	13	4	-1	23	59	-2			16	36 PP
TAMANRESSET	104.19	322.8	13	48	0	24	16	3			17	53 PP
TANANARIVE	108.96	261.8	18	42	777							
SAN JUAN	111.12	32.8									18	57 PP
PRETORIA	127.13	268.7	18	49	2							
KIMBERLEY	131.34	267.9	18	59	4							
HUANCAYO	132.21	60.9	19	1	4						22	13 SKP
GRAHAMSTOWN	132.57	261.7									22	12
BYRD STATION	133.92	166.0	19	2K	2				19	37	22	11 SKP
SOUTH POLE	134.00	180.0	19	1	1						22	16 SKP
LA PAZ	140.06	57.2	19	16	5							

OCTOBER 20 12.H 4.M 38.S EPICENTRE 10.76 -42.13 DEPTH= 132.KM

DEPTH OF FOCUS= 0.016R

A= 0.72874 B=-0.65920 C= 0.18546 D=-0.6708 E=-0.7416
G= 0.1375 H=-0.1244 K=-0.9827 HT= 6.4

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	
BARBADOS	17.25	279.6	3	54	0								
ST VINCENT	18.88	279.2	4	9	-3								
FORT FRANCE	18.96	284.0	4	10	-3	7	50	14					
TRINIDAD	19.05	271.5	4	13K	-1								
GRENADA	19.26	275.7	4	14	-2								
ANTIGUA	19.46	290.8	4	22	4								
ST CLAUDE	19.74	287.5	4	24	3	8	10	19					
SAN JUAN	24.40	290.9	5	6	-1	9	32	18					
MBOUR	24.81	79.0	5	6	-5	9	33	12			5	49	PP
BERMUDA	29.92	319.4	6	2	5	11	0	17			7	1	PP
BOGOTA	32.21	261.6	6	18	1								
CHINCHINA	33.65	262.8	6	27	-3	11	56	14					
BALBOA HTS.	36.90	270.6	6	56	-1								
LA PAZ	37.35	223.9	7	2A	1	12	59	21			7	30	PP
HALIFAX	38.47	335.2	7	9A	-1	13	8	13			8	45	PP
HUANCAYO	40.01	236.4	7	22	-1	13	35	17			8	56	PP
LISBON	40.51	41.0	7	27K	0	13	40	14			9	4	PP
WESTON	40.52	326.2	7	32	5	13	40	14					
PALISADES	41.11	322.7	7	31	-1	13	46	11			9	10	PP
PHILADELPHIA	41.25	320.5	7	35	2	13	52	15			9	28	PP
CHAPEL HILL	41.75	312.9	7	36	-1								
COIMBRA	41.81	39.6	7	36	-2	13	47	2					
WASHINGTON	41.88	318.0	7	42	4	13	50	4			9	46	PCP
COLUMBIA	42.39	309.3	7	41	-1	14	11	18			9	18	PP
LOME	43.10	92.5	7	51	3	14	16	12			9	25	PP
PENNSYLVANIA	43.43	319.8	7	56	5	14	28	20			9	45	PP
GRANADA	43.49	46.3	7	57K	6	14	50	41	8	11	11	4	PP
SEVEN FALLS	43.60	331.6	7	51K	-1	14	32	21			14	47	PS
BREBEUF	43.85	328.0	7	53	-1								
ANTOFAGASTA	43.99	218.7	7	59	4	14	28	11					
SHAWINIGAN	44.13	329.7	7	56K	0								
ALMERIA	44.15	47.3	7	57	0	14	36	17					
MORGANTOWN	44.17	317.2	7	56	-1								
TOLEDO	44.47	42.7	7	57	-2	14	39	16			9	42	PP
OTTAWA	44.90	326.5	8	1	-2	14	50	20			9	44	PP
RELIZANE	45.93	50.1	8	11	0								
CLEVELAND	46.14	318.6	8	5	-7	15	2	15					
ALICANTE	46.22	46.4	7	54	-19	14	55	7			9	47	PCP
MERIDA	46.64	288.6	7	49	-27	14	43	-11			9	36	PCP
TAMANRASSET	46.97	68.9	8	16	-3	15	8	9			10	7	PP
LA PLATA	47.81	197.6	9	16	51	15	16	5			18	58	SS
ALGIERS UNI.	48.19	49.8	8	28	0	15	30	14			10	21	PP
COMITAN	48.83	282.2				15	52	27			11	34	PPP
BARCELONA	49.35	43.8				15	46	14					
CHICAGO CGS.	50.32	316.1	8	48	3	16	4	18					
JERSEY	50.68	33.1	8	50	3	16	8	17			18	39	SS
RATHFARNHAM	51.22	26.8	8	50K	-1	16	20	22			10	11	PP
CLERMONT-FD.	51.93	39.2	8	56A	-1	16	22	14			11	1	PP
VERA CRUZ	52.66	285.9									10	46	PP
KEW	52.93	31.5	9	7	3	16	33	12			20	11	SS

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PARIS	53.02	35.5	9	2	-3	16	28	5		10	10 PP
FAYETTEVILLE	53.26	307.1	9	0	-7	16	51	25			
MONACO	53.86	43.1	9	12	1						
DURHAM	54.28	27.6	9	15	1	16	53	13		11	17 PP
BESANCON	54.36	38.6	9	15	0					10	13 PCP
NEUCHATEL	54.85	39.2	9	19	1					19	19
BASLE	55.46	38.9	9	23	0	16	53	-2			
PAVIA	55.55	42.0	9	23A	0	17	21	24		20	58 SS
TACUBAYA	55.56	286.1	9	24	1	17	4	7		11	20
ABERDEEN	55.57	25.1								12	37
ZURICH	56.01	39.4	9	18	-9						
STRASBOURG	56.01	37.8	9	23	-4	17	17	14		10	24 PCP
DE BILT	56.15	33.1	9	29A	1	17	18	13			
FLORENCE X.	56.47	44.2	9	30A	0	17	26	17	9 34	11	42 PP
EBINGEN	56.58	38.6	9	29	-2						
KARLSRUHE	56.58	37.5	9	30	-1	17	16	6		20	52 SS
BENSBERG	56.71	35.0	9	30	-2	16	40	-32			
ROME	56.75	46.7	9	31A	-1	17	25	13		11	31 PP
BOLOGNA	56.76	43.4	9	50	18	17	29	16		19	10 PS
TUBINGEN	56.78	38.3	9	34	2						
STUTTGART	56.96	38.0	9	30	-3	17	29	14		11	32 PP
WITTEVEEN	57.30	32.9	9	42	6						
MESSINA	58.12	51.6	9	36	-6	17	34	4		11	52 PP
REGGIO CALA	58.18	51.8	9	40	-2						
TRIESTE	58.75	42.8	9	45	-1	17	50	11		10	42 PP
LUBBOCK	58.95	302.7	9	45	-2						
JENA	59.23	36.4	9	47	-2	18	4	19		12	4 PP
CHEB	59.38	37.6	9	50	0	17	51	4			
PLAUEN	59.40	37.0	9	49	-1						
HAMBURG	59.42	33.1	9	51	1	17	51	4			
GUADALAJARA	59.43	287.7								15	10 SCS
HALLE	59.66	35.9	9	51	-1					10	37 PCP
TARANTO	59.89	49.4	10	41	47	17	22	-31			
COLLMBERG	60.20	36.4	9	55	-1	18	12	15		13	55 PPP
BERGEN	60.59	24.8								18	19 PS
PRAGUE	60.61	38.1	10	1	2	18	30	28		11	13 PCP
POTSDAM	60.64	35.3	10	0	1						
PRUHONICE	60.65	38.2	9	57	-2	18	8	5		10	41
COPENHAGEN	61.61	31.6	10	8	3	18	28	13		20	4 SCS
BRATISLAVA	61.69	40.8	10	5	-1	18	26	10			
RAPID CITY	61.89	314.3	10	5	-2	18	34	15		12	10 PP
MAZATLAN	62.28	290.5								19	28 SCS
HURBANOVO	62.31	41.4	11	22	72						
RACIBORZ	62.92	39.0	10	13	-1					10	51 PCP
BELGRADE	63.11	45.1	10	15A	0					12	44 PP
SKOPJE	63.25	48.4	10	22A	6	18	58	22		20	23 SCS
TIMISOARA	63.83	44.2	10	26	6	18	59	16			
KRAKOW	63.99	39.3	10	21	0					10	56 PCP
SOFIA	64.78	47.8	10	25	-1	19	7	13		12	54 PP
WARSAW	65.22	37.2	10	33K	4	19	18	18			
UPPSALA	65.80	28.6	10	31	-2	19	12	5			
TUCSON	66.36	300 5	10	36	0	19	29	15		12	54 PP
CAMPULUNG	66.38	45.3	10	45	9						
BUCHAREST	67.01	46.3	10	41	1	19	40	18		20	5 PS
BOZEMAN	67.66	315.0	10	45	1					11	33
SALT LAKE C.	67.71	309.6	10	44	-1						
IASI	68.40	43.5	10	51	2						
BUTTE	68.76	315.2	10	51	0	19	56	14		11	53
ISTANBUL KA.	68.85	50.1	10	48	-4	19	46	2			
KISHINEV	69.23	43.8	10	52	-2	20	2	14			
HELSINKI	69.40	29.5	10	54	-1						
BOULDER CITY	69.79	304.4	10	58	1	20	22	28		11	27
KIRUNA	69.91	21.0	11	0	2	20	6	10			
HUNGRY HORSE	70.01	317.6	10	58	-1						
RESOLUTE	70.31	347.0	10	57A	-4	20	3	2			
HELWAN	70.44	62.1	10	59	-2	21	16	74			
EUREKA	70.78	308.1	11	4	1						
NORD	71.71	3.8	11	9A	0	20	37	20			
LWIRO	71.73	96.0	11	7	-2	20	40	23			
PULKOVO	71.95	30.5	11	13	3	20	33	14			
SODANKYLA	72.02	?2.3	11	9	-2					11	37 PCP
PASADENA	72.53	302.5	11	13	-1	20	40	14		25	52 SS
SIMFEROPOL	72.76	46.2	11	16	1	20	47	19			
HERMANUS	73.44	130.8				20	55	19		25	59 SS
JERUSALEM	73.71	60 0	11	22	1					14	10 PP
RENO	73.75	308.1	11	21	0						
FRESNO	73.80	305.2	11	21	0						
KSARA	74.18	57.8	11	29	6	20	57	13		14	13 PP
APATITY	74.61	22.7	11	27	1	21	5	16		14	18 PP

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LICK	75.25	305.9	11 31A	1					12 36	
SEATTLE	75.52	316.5	11 49	18	21	22	23			
KIMBERLEY	75.54	123.5	11 28	-3						
SHASTA	75.71	309.4	11 32	0						
BERKELEY	75.72	306.4	11 32	0						
CORVALLIS	76.26	313.4	11 36	1						
VICTORIA	76.26	317.4	11 32	-3						
UKIAH	76.41	307.8	11 44	8						
SOTCHI	76.78	47.6	11 37	-1	21	31	18			
PIETERMZBURG	80.46	122.6	12 0	2						
TIFLIS	80.66	49.3	12 2	3						
MAKHACH-KALA	82.50	47.8	12 9	0	22	29	16			
COLLEGE	86.89	335.7	12 30	-1						
SVERDLOVSK	87.96	32.4	12 37	1	23	7	1			
TIKSI	97.58	2.9	13 14	-6						
QUETTA	100.68	56.4	13 36	2	24	17	-39		17 43	PP
SOUTH POLE	100.69	180.0	13 34	0						
DEHRA DUN	109.51	52.5	18 58	777					24 58	
IRKUTSK	110.91	21.3							19 0	PP
SCOTT BASE	111.32	186.3							28 57	
CAPE HALLETT	115.49	190.5	18 33	7					30 20	PPS
WILKES	121.57	167.4							30 2	PS
SHILLONG	122.47	50.4	18 42	3						
MATUSIRO	132.95	359.6	19 9	10					22 1	PP
BAGUIO CITY	148.04	32.6	19 34	8						
MANILA	149.77	34.0							21 41	PP
NOUMEA	150.35	243.6	19 38	8						
RIVERVIEW	154.01	205.9	19 34	-1	26	30	3		30 21	SKKS
RABAUL	164.40	293.6	19 49	2					24 2	PKS

OCTOBER 21 0.H 17.M 22.S EPICENTRE -10.81 166.80 DEPTH= 31.KM

A=-0.95653 B= 0.22437 C=-0.18632 D= 0.2284 E= 0.9736
G= 0.1814 H=-0.0425 K=-0.9825 HT= 6.4

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	
NOUMEA	11.43	181.6	2	43	-1						4	48	
RABAUL	15.91	293.3	3	46	3						4	9	PP
BRISBANE	21.04	216.1	4	44K	1	8	40	9					
APIA	21.14	100.3	4	43	-1								
CHARTERS TS.	21.79	242.7	4	52	1	8	58	13					
TRUK	23.48	320.0	5	7	0								
RIVERVIEW	27.03	209.6	5	42A	1						6	18	*SP
KARAPIRO	28.11	165.2	5	16	-35								
GUAM	32.57	317.3	6	25	-5								
GEBBIES PASS	33.16	172.2	6	32	-3								
KOROR	36.87	297.9	7	55	48								
HONOLULU	46.98	47.2	8	15	-14	15	33	15					
MANILA	51.95	298.1	9	9	1								
TUKUBASAN	53.12	333.0	9	8	-8						10	4	PCP
MATUSIRO	54.25	331.7	9	23	-2	17	1	3					
KYOTO	54.25	328.5	9	24A	-1								
NAGASAKI	55.82	322.3				17	27	8					
ZO-SE	60.42	315.2	10	8	0	18	27	8					
HONG KONG	61.19	302.9	10	14	0								
CAPE HALLETT	61.49	178.8	10	14	-2								
CANTON	62.27	303.2	10	21K	0	18	53	10					
NANKING	62.62	314.7	10	23	0	18	56	9					
CHANGCHUN	66.17	328.4	10	46	0								
WILKES	66.95	201.5				19	49	8					
SCOTT BASE	67.03	180.0	10	52	0	19	45	3					
PEKING	68.95	320.5	11	3	-1	20	12	7					
OASIS-BUNG.	70.60	203.2	11	13	-1								
SIAN	70.83	312.0	11	17	2								
KUNMING	71.91	300.9	11	23K	2	20	50	11					
MIRNY	73.71	203.6	11	31	-1								
LANCHOW	75.38	311.8	11	43K	1	21	28	10					
BYRD STATION	76.61	170.1	11	57	8	21	40	8					
SOUTH POLE	79.26	180.0	12	2	-1								
SHILLONG	81.33	298.1	12	15K	1								
BERKELEY	81.95	49.1	12	18	0								
LICK	82.23	49.7	12	20	1								
IRKUTSK	82.42	326.6	12	20	0								

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COLLEGE	82.75	17.8	12	20	-2					
SHASTA	82.85	46.4	12	23	1					
LHASA	83.18	301.8	12	26K	2					
FRESNO	83.44	50.8	12	26	1					
PASADENA	83.89	53.7	12	27	-1					
RENO	84.32	48.1	12	31	1					
TIKSI	86.04	348.7	12	36	-2					
BOULDER CITY	87.04	52.7	12	44	1			13	6	
EUREKA	87.13	49.1	12	45	1			13	6	16 14 PP
TUCSON	89.34	57.1	12	56	2					
SALT LAKE C.	90.51	48.7	13	0	0			13	29	
HUNGRY HORSE	90.90	40.9	13	2	1					
BUTTE	91.27	43.4	13	4	1					
BOZEMAN	92.22	44.0	13	9	1					
RAPID CITY	97.42	46.6	13	33	2					
RESOLUTE	102.55	15.6								33 5 SS
SKALSTUGAN	124.29	346.5	18	55	0					
KIMBERLEY	126.22	222.1								24 6 PP
BERMUDA	128.10	57.3								18 38
KSARA	129.71	305.1	18	57	-9					21 23 PP
COLLMBERG	134.30	337.2	19	16	2					
DURHAM	135.19	350.5	19	1	-15					21 51 PP
STUTTGART	137.79	338.0	19	22	1					22 2
TRIESTE	138.34	331.4	19	23	1					22 12 PP
MESSINA	142.50	321.5	16	51	-158					
ALGIERS UNI.	150.28	333.0	19	42	0					23 28 PP
RELIZANE	152.21	335.5	19	53	8			20	22	
TAMANRASSET	158.52	306.0	19	57	3			20	22	24 14 PP

OCTOBER 22 20.H 44.M 37.S EPICENTRE 43.35 146.55 DEPTH= 0.KM

A=-0.60872 B= 0.40210 C= 0.68394 D= 0.5512 E= 0.8344
G=-0.5707 H= 0.3770 K=-0.7295 HT= -2.9

SE= 2.58

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
NEMURO	0.71	269.1	0	19A	2	0	25	-4				
KUSIRO	1.62	257.7	0	31A	1	0	48	-4				
ABASHIRI	1.78	293.0	0	35	2	0	53	-3				
KURILSK	2.11	26.2	0	45A	8	1	10	5				
OBIHIRO	2.49	261.3	0	43A	0	1	8	-6				
URAKAWA	3.02	248.0	0	52	2	1	27	-1				
ASAHIGAWA	3.07	279.6	0	54	3	1	26	-3			1	7
TOMAKOMAI	3.74	259.0	1	5	4	1	43	-3			1	16
SAPPORO	3.81	267.6	1	4A	2	1	42	-6				
WAKKANAI	4.06	302.4				1	52	-2			2	13
Y -SAKHLINSK	4.51	324.4	1	15	4	2	4	-2				
MORI	4.58	256.3	1	14	2	2	5	-2				
HAKODATE	4.58	252.0	1	13	1	2	1	-7			2	15
SUTTSU	4.66	265.5	1	17	3	2	7	-2				
HATINOHE	4.68	234.8	1	14K	0	2	2	-8				
AOMORI	4.98	241.5	1	21	3	2	12	-5			1	37
MIYAKO	5.05	224.5	1	18	-1	2	10	-9				
MORIOKA	5.44	229.8	1	23	-2	2	18	-11				
MIZUSAWA	5.87	226.0	1	31	0	2	31	-9				
AKITA	6.05	235.4	1	33	0	2	40	-4				
ISINOMAKI	6.31	220.7	1	36	-1	2	40	-11				
UGLEGORSK	6.52	333.1	1	42	2							
SENDAI	6.64	222.1	1	39	-2	2	49	-10				
SAKATA	6.74	231.1	1	45	2	3	5	4				
YAMAGATA	6.93	224.8	1	45	-1	2	57	-9				
HUKUSIMA	7.26	221.7	1	47	-3	3	5	-9				
ONAHAMA	7.71	216.0	1	56	-1	3	15	-11			2	9
SHIRAKAWA	7.88	220.0	2	2	3	3	20	-10				
AIKAWA	8.25	232.6	2	3	-1							
MITO	8.38	215.9	2	6	0	3	31	-11				
UTUNOMIYA	8.51	219.3	2	7	-1	3	34	-11				
KAKIOKA	8.63	216.7	2	7	-2	3	35	-14				
TUKUBASAN	8.68	217.1	2	7	-3	3	36	-14				
TAKADA	8.90	228.3	2	21	8							
MAEBASI	9.01	222.2	2	15	0	3	53	-5			3	20
KUMAGAYA	9.06	219.9	2	17	2	3	51	-8				
NAGANO	9.24	226.6	2	19	1	4	17	13			4	38
TOKYO C.M.O.	9.28	216.7	2	16	-2	3	52	-13				

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OIWAKE	9.32	224.0	2 29	10			
MATUSIRO	9.32	226.1	2 17K	-2	4 6 0		4 34
TITIBU	9.34	220.5	2 19	0			
WAZIMA	9.47	234.3	2 22	1			
YOKOHAMA	9.54	216.3	2 22	0	4 2 -9		2 50
MATUMOTO	9.68	225.8	2 26	2			
KOHU	9.87	221.3	2 28	2	4 13 -6		
HUNATU	9.88	220.1	2 27	0			4 19
MERA	9.90	214.0	2 29	2	4 17 -3		
MISIMA	10.11	218.2	2 30	0	4 16 -9		
IIDA	10.32	223.7	2 48	15			4 12
SHIZUOKA	10.48	219.8			4 21 -13		5 13
VLADIVOSTOK	10.70	273.8	2 39	1	4 37 -3		3 3
OMAESAKI	10.87	219.3	3 8	28			
GIHU	10.96	226.9	2 40	-1	4 57 11		
NAGOYA	11.03	225.5	2 42	0			4 40
HIKONE	11.34	228.1	2 45	-2	5 4 9		
KAMEYAMA	11.54	226.0	2 44	-5			5 27
KYOTO	11.81	228.9	2 53K	0			
OSAKA	12.19	228.3	3 11	13			5 22
PETROPAVLOVK	12.66	35.2					3 18
KOTI	14.12	230.5	3 25	1			7 2
OOITA	15.45	234.2	3 44	3			6 48
KLYUCHI	15.85	30.1	3 51	5			
HUKUOKA	15.94	237.7	3 47	0	6 34 -11		
MAGADAN	16.44	7.7	3 57	3			
MIYAZAKI	16.52	231.3	4 1	6			
KAGOSIMA	17.27	232.4	4 6	2			
TIKSI	29.65	348.8					7 11 PP
HONG KONG	34.05	242.4			12 33 19		
BAGUIO CITY	34.76	227.5	6 52	-2			
PHU-LIEN	40.10	248.8	8 53	74			11 30
COLLEGE	41.67	35.8	7 54	2			
RABAUL	47.60	172.4	8 41	1			11 16 PPP
SITKA	49.10	45.0	8 54	3			
CHATRA	50.28	271.2	8 59	-1			
FRUNSE	50.97	295.9	9 5	-1			
SVERDLOVSK	53.14	316.7	9 18	-4			
NORD	54.98	357.0	9 31	-5			
TASHKENT	55.19	296.5	9 35	-2	17 12 -8		
RESOLUTE	55.48	16.5	9 36A	-3	17 53 29		
APATITY	58.57	335.5	9 57	-4			
SODANKYLA	60.67	337.4	10 13	-3			
KIRUNA	62.00	339.7	10 21	-4			
QUETTA	62.86	286.9	10 27	-3	18 49 -10		11 11 PCP
CHARTERS TS	63.04	180.3	10 31K	0			
ASHKABAD	64.09	298.5	10 34	-4			19 3
HUNGRY HORSE	64.54	46.8	10 43	2			28 58 PKKP
BERKELEY	66.04	60.0	10 52	1			11 11
HELSINKI	66.34	332.3	10 49	-4			
LICK	66.75	60.1	10 57A	2			11 15
BUTTE	66.76	48.1	10 56	0			
SKALSTUGAN	67.43	339.7	10 57	-3			
EUREKA	68.92	55.3	11 11	2			
UPPSALA	68.96	335.1	11 7	-2			
TIFLIS	69.99	308.7	11 14	-2	20 19 -7		
GORIS	70.54	306.1	11 19	0			
BOULDER CITY	71.86	57.6	11 29	2			
RAPID CITY	73.01	45.0	11 44	10			
SIMFEROPOL	73.51	316.8	11 34	-3	21 0 -6		
LARAMIE	73.67	48.3	11 36	-2			
COPENHAGEN	73.97	335.0	11 38	-1			
LWOW	74.51	325.5	11 41	-1			
BOULDER	74.71	49.1	11 45	1			
IVIGTUT	75.12	7.3	11 45	-1			
HAMBURG	76.53	335.1	11 54	0			
RACIBORZ	76.62	328.7	11 54	0			
TUCSON	76.81	58.1	11 57	2			
HALLE	77.66	332.9	11 58	-2			
PRAGUE	78.01	330.8	12 4	2			13 58
WITTEVEEN	78.17	336.5	12 3	0			
JENA	78.27	332.8	12 2	-2			
BENSBERG	79.66	335.3	12 9	-2			
KSARA	80.53	307.8	13 19	63			
STUTTGART	80.92	333.0	12 16A	-2			12 27 PCP
RATHFARNHAM	80.94	343.9	11 57	-21			
TUBINGEN	81.17	333.0	12 17	-2			
KEW	81.29	339.8	12 19	-1			

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EBINGEN	81.51	332.8	12 21	0					
STRASBOURG	81.55	333.7	12 21	0					
JERUSALEM	82.39	306.8	12 24	-1					
PARIS	82.95	337.0	12 28	0					
FAYETTEVILLE	83.55	45.3	12 26	-5					
SHAWINIGAN	83.95	26.1	12 33A	0					
OTTAWA	83.97	28.5	12 33A	-1					
SEVEN FALLS	84.05	24.6	12 34	0					
FLORENCE X.	84.50	329.2						22 58	SCS
BREBEUF	84.60	27.1	12 37	0					
TARANTO	84.86	323.6						30 23	
ROME	85.63	327.5						23 9	SCS
PITTSBURGH	86.64	33.7	12 49A	2					
MORGANTOWN	87.32	34.1	12 47	-3					
WESTON	88.13	27.1	12 55K	1					
HALIFAX	88.38	21.0	12 56	1					
PALISADES	88.45	29.4	12 56	0	23 47	7		19 5	PPP
SOUTH POLE	133.15	180.0	19 17	-1				21 36	PP

OCTOBER 23 5.H 56.M 56.S EPICENTRE 52.53-169.69 DEPTH= 38.KM

DEPTH OF FOCUS= 0.001R

A=-0.60103 B=-0.10939 C= 0.79170 D=-0.1791 E= 0.9838
G=-0.7789 H=-0.1418 K=-0.6109 HT= -6.3

SE= 2.72

	DELTA DEG.	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	16.67	33.7	3	52	0	7	16	21			4	20	
PETROPAVLOVK	19.07	284.4	4	21	-1								
SITKA	20.18	63.4	4	34	0	8	20	6			5	16	
HORSESHOE B.	29.01	77.4	6	7	8	10	49	3					
VICTORIA	29.29	79.1	6	1	0								
KIPAPA	32.34	159.4	6	26	-2								
HONOLULU	32.44	159.6	6	26	-3	11	42	2			13	4	
TIKSI	32.49	328.8	6	29	0								
SHASTA	33.97	91.2	6	47	5								
UKIAH	34.42	94.1	7	6	20	12	17	6			14	43	
HAWAII V.OB.	34.90	155.8	6	48	-2						9	13	PCP
HUNGRY HORSE	34.94	74.1	6	51	0	12	20	1			9	22	PCP
BERKELEY	35.80	94.9	7	5A	7	12	37	5					
RENO	36.25	90 7	7	4	2								
RESOLUTE	36.31	25.7	7	2K	0	12	38	-2			17	17	SCS
SANTA CLARA	36.32	95.4	7	14	12	12	42	2					
LICK	36.52	95.1	7	14	10								
BUTTE	36.97	76.7	7	8	0	12	52	2					
FRESNO	38.01	94.2	7	24	8								
BOZEMAN	38.06	76.2	7	10	-7	13	7	1					
TUKUBASAN	38.57	265.4	7	20	-1	13	17	3			8	54	PP
EUREKA	38.63	87.8	7	22	0						39	18	PKPPKP
MATUSIRO	39.50	267.3	7	29A	0	13	20	-8			9	0	PP
SALT LAKE C.	40.36	83.1	7	38	2						9	33	PCP
PASADENA	40.74	95.9	7	40	1	13	45	-2			13	11	PCS
BOULDER CITY	41.56	91.1	7	47	1	14	3	4			8	37	
KYOTO	42.03	267.6	7	50A	0	14	11	5					
CHANGCHUN	42.85	285.3	7	55A	-1								
RAPID CITY	43.57	73.5	8	1	-1	14	28	0			13	0	SCS
LARAMIE	43.81	78.2	7	42	-22								
BOULDER	44.77	79.5	8	13	1								
NORD	45.33	5.4	8	16	0								
TUCSON	46.52	91.8	8	25	-1	14	52	-19			10	20	PP
NAGASAKI	47.15	270 0	8	31	0	15	22	2					
IRKUTSK	49.40	306.2	8	48	0	16	10	19					
PEKING	50.55	287.0	8	57A	0	16	8	1					
ULAN-BATOR	50.73	300 3	8	58	0	16	25	15					
LUBBOCK	51.08	83.6	9	13	12						18	53	SS
CHIHUAHUA	51.97	91.3	9	21	13	16	25	-2			18	43	SCS
GUAM	53.18	240.2	9	11	-6								
ZO-SE	53.59	275.1	9	20A	0	16	52	3					
CHICAGO CGS.	53.95	66.4	9	31	9	16	47	-7					
FAYETTEVILLE	53.97	75.9	9	14	-9								
NANKING	54.37	277.7	9	25A	0	16	57	-2					
FLORISSANT	54.37	70.9	9	24A	-1	16	59	0	9	39	19	10	SCS
ST. LOUIS 1	54.56	70.9	9	23A	-4	16	58	-4	9	35	14	23	SCP
TRUK	54.79	229.0	9	28	-1								

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SCORESBY SD.	55.11	12.6	9	31	0					
LITTLE ROCK	55.96	75.7	9	36	-1				19	23 SCS
IVIGTUT	57.45	29.3	9	46	-2					
CLEVELAND	57.51	62.9				17	39	-3		
OTTAWA	57.85	56.1	9	49A	-1	17	47	1	11	55 PP
BUFFALO L.	58.09	60.0	9	34	-18	17	4	-45		
SHAWINIGAN	58.52	53.5	9	53A	-2	17	52	-2		
SIAN	58.72	286.6	9	55	-1					
BREBEUF	58.84	54.8	9	56	-1	18	1	3		
APATITY	58.99	349.9	9	57A	-1	18	1	1	12	13 PP
SEVEN FALLS	59.06	51.9	9	58	-1	18	4	3	18	23 PS
PITTSBURGH	59.09	62.8	10	1A	2					
WAYNESBURG	59.34	63.4	9	58	-3	18	6	1		
MORGANTOWN	59.66	63.5	10	1K	-2					
KIRUNA	59.72	355.6	10	2	-1	18	7	-3	10	49 PCP
SODANKYLA	59.79	352.8	10	3	-1				10	48 PCP
PENNSYLVANIA	59.96	61.2	10	5	0	18	13	0	12	21 PP
LANCHOW	60.37	291.5	10	7A	-1	18	18	0		
GEORGETOWN	61.75	62.2	10	15	-2	18	35	-1	10 28	19 2 PS
WASHINGTON	61.75	62.2	10	17	0					
PALISADES	61.90	58.6	10	15	-3	18	38	0	12	20 PP
PHILADELPHIA	62.01	60.2	10	19	0	18	40	1	22	51 SS
FORDHAM	62.03	58.7	10	18	-1	18	43	4		
WESTON	62.24	55.9	10	20A	0	18	45	3		
CHAPEL HILL	62.81	65.8	10	24	0					
TACUBAYA	63.00	93.1	10	24	-2	18	45	-6	22	50 SS
COLUMBIA	63.09	68.7	10	25	-1	18	49	-4	20	12 SCS
CHENGTU	64.17	287.2	10	33A	0	19	7	1		
SKALSTUGAN	64.22	359.0	10	33A	0					
CANTON	64.23	274.7	10	34	0	19	11	4		
HONG KONG	64.27	273.5	10	34A	0	19	4	-3		
HALIFAX	64.32	49.6	10	33A	-1	19	8	0		
BAGUIO CITY	64.82	264.2	10	36	-1					
MANILA	66.00	262.6	10	41	-4					
PULKOVO	66.90	349.2	10	51	0	19	43	4		
HELSINKI	67.04	352.1	10	51	0				12	3
UPPSALA	67.82	356.0	10	56A	0	19	24	-26	11	17 PCP
KUNMING	69.13	284.1	11	5A	0	20	8	2		
PHU-LIEN	69.98	278.2	11	9K	-1	20	19	3		
FRUNSE	70.01	315.2	11	11	1				20	59 PS
ABERDEEN	70.19	7.2	11	12	1	20	17	-1	35	4 SS
COPENHAGEN	72.14	358.7	11	24A	1	20	52	11	21	34 SCS
LHASA	72.31	295.6	11	25A	1	20	47	4		
DURHAM	72.61	7.2	11	22	-4				14	13 PP
BERMUDA	73.26	58.6	11	31	2	20	55	1	16	4 PPP
RATHFARNHAM	73.63	10.3	11	32	1					
HAMBURG	74.27	0.2	11	38	3					
WITTEVEEN	74.98	2.3	11	41A	2					
SHILLONG	75.00	292.3	11	39A	0	21	19	6	25	55 SS
WARSAW	75.23	353.2	11	31A	-10	21	20	4	22	20 PPS
DE BILT	75.65	3.3	11	44A	1	21	34	14		
KEW	75.99	6.8	11	45	0	21	32	8		
HALLE	76.33	358.9	11	47	0					
CHATRA	76.63	296.6	11	49	0					
BENSBERG	76.85	2.0	11	50A	0					
JENA	76.91	359.2	11	51	1					
SONNEBERG	77.46	359.4	11	54	1					
KRAKOW	77.47	353.7	11	53	0	21	47	7	14	55 PP
CHITTAGONG	77.53	290.3	11	55A	1					
RACIBORZ	77.55	354.8	11	56	2					
PRAGUE	77.72	357.3	11	46	-9				31	13
DEHRA DUN	78.61	305.3	12	0	0					
PARIS	78.82	5.3	12	0	-1				22	54 PS
STUTTGART	79.07	0.8	12	2A	0	22	23	26	12	21 PCP
STRASBOURG	79.24	1.7	12	5A	2	22	4	5	27	22 SS
TUBINGEN	79.31	0.8	12	4	0					
BRATISLAVA	79.51	355.4	12	5	0	22	17	15		
IASI	79.56	348.1	12	17	12					
MAKHACH-KALA	79.60	333.2	12	4	-1	22	4	1		
EBINGEN	79.66	0.9	12	7A	2					
BASLE	80.29	1.9	12	10A	1	22	48	38		
BESANCON	80.53	3.0	11	59	-11					
SIMFEROPOL	80.76	343.1	12	13	2	22	23	8		
SOTCHI	80.96	338.8	12	12	0	22	19	2		
TIFLIS	81.49	334.6	12	16	1	22	30	8		
CHARTERS TS.	81.75	221.4	12	14K	-2					
CLERMONT-FD.	81.88	5.1	12	19A	2	22	10	-17		
TRIESTE	82.15	357.6	12	18	-1	22	44	15	15	26 PP

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BUCHAREST	82.48	348.7	12	21	1	22	41	8			
BELGRADE	82.64	352.7	12	21K	0	22	45	11			
PAVIA	82.66	0.8	12	23	2				34	44	
SAN JUAN	83.57	68.3	12	26	0	22	46	3	28	9	SS
QUETTA	83.97	313.3	12	29A	1	22	52	5	15	43	PP
FLORENCE X.	84.06	359.3	12	31K	3	23	8	20	15	53	PP
GALERAZAMBA	84.21	80.0				24	0	70			
ISTANBUL KA.	85.37	345.9	12	35	0	22	59	-2			
ROME	85.93	358.4							23	8	SCS
BRISBANE	86.08	212.6	12	27	-11	23	5	-3			
TOLEDO	87.12	11.0	12	45A	2	23	21	3			
ST. CLAUDE	87.94	66.2							20	9	
CHINCHINA	88.57	83.8	12	50	0	23	34	2			
HYDERABAD	88.94	297.6	12	51	-1	23	21	-14	16	15	PP
ALICANTE	89.01	8.5	12	50	-2	23	33	-3	29	25	SS
ATHENS	89.12	349.4	12	53A	0						
FORT FRANCE	89.30	66.6	12	54	0	23	29	-9			
MESSINA	89.53	355.9	12	50	-5	23	35	-6			
BOGOTA	89.78	82.8	13	7	11	23	44	1	16	34	PP
GRANADA	89.84	11.1	13	1	5				21	40	
POONA	90.47	301.9	13	1	2	23	44	-5	24	21	
ST. VINCENT	90.50	67.5	12	59	0						
BOMBAY	90.69	302.9	13	0	0	23	53	2			
ALGIERS UNI.	90.84	5.8	13	2	1	24	2	10	17	6	PP
KSARA	91.16	338.9	13	4A	2	24	1	6	16	42	PP
RIVERVIEW	92.55	211.8	13	12A	3	24	13	6	23	44	SKS
JERUSALEM	93.27	338.9	13	11	-1						
WELLINGTON	94.40	191.7				23	46	-37			
HELWAN	95.91	341.8	13	26	2	24	0	-36			
ROXBURGH	99.35	194.8				25	16	11	24	10	SKS
HUANCAYO	102.10	94.0							18	23	PP
TAMANRASSET	104.90	4.6	14	5	1	24	47	-65	18	26	PP
LA PAZ	109.93	91.2	18	30	777				19	13	PP
WILKES	132.82	213.0							22	38	PKS
OASIS-BUNG.	136.19	215.9							22	43	PP
MIRNY	139.17	217.4							22	30	PP
SOUTH POLE	142.34	180.0	19	23	-6						
PIETERMZBURG	152.74	319.3	19	55	9						
KIMBERLEY	153.93	330.1	19	49	2						

OCTOBER 24 0.H 17.M 40.S EPICENTRE -14.88 167.90 DEPTH= 0.KM

A=-0.94540 B= 0.20271 C=-0.25519 D= 0.2097 E= 0.9778
G= 0.2495 H=-0.0535 K=-0.9669 HT= 5.8

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	
NOUMEA	7.51	190.3	1	52	-1						4	34	
SUVA	10.61	109.3	2	38	2	4	29	-8			3	22	
RABAUL	18.78	302.9	4	24	1						5	58	
APIA	19.72	89.4	4	35	1	8	50	39			5	4	PP
CHARTERS TS.	21.26	253.0	4	50K	0	8	54	12					
ONERAHI	21.60	165.6	4	54	1						9	2	
AUCKLAND	22.75	165.6				8	17	-53					
KARAPIRO	23.92	165.0	5	18	2	9	43	13					
RIVERVIEW	24.20	215.8	5	21A	2				5	30	9	55	*SS
TONGARIRO	25.14	165.9	5	29	1								
WELLINGTON	26.97	168.5	5	47K	2						10	20	
TRUK	27.32	323.3	5	46	-2						6	42	PP
KAIMATA	27.71	174.4	5	56	4								
GEBBIES PASS	29.01	172.9	6	3	0								
MADANG	29.65	310.8	5	17	-52								
MELBOURNE	30.57	217.3	6	17	0	11	38	19			7	18	PP
ROXBURGH	30.60	178.0	6	14A	-4	11	26	7			7	14	
HONOLULU	49.06	43.7	8	53	2	16	1	6			19	11	
HAWAII V.OB.	49.76	47.8	8	52	-4	16	7	2					
PERTH	50.23	240.7	9	4	4						10	58	
MANILA	54.86	300.1	9	35	1						13	36	PP
BAGUIO CITY	56.12	301.8	9	42	-1								
TUKUBASAN	57.21	333.3	9	49	-2						10	46	PCP
CAPE HALLETT	57.42	179.1	9	51K	-2	17	55	6			10	25	
KYOTO	58.27	329.1	9	56	-2	17	55	-5					
MATUSIRO	58.32	332.1	9	57	-2	18	3	2			10	33	
SENDAI	58.62	335.3	10	43	42								
DJAKARTA	60.50	271.3	10	14	0	19	36	67					

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SCOTT BASE	62.99	180.3	10	28	-3						
WILKES	63.60	202.4	10	32A	-3	19	8	0			
ZO-SE	64.06	316.0	10	38K	0	19	16	2			
HONG KONG	64.31	304.1	10	40	1	18	48	-29			
CANTON	65.41	304.3	10	49	3	19	37	7			
OASIS-BUNG.	67.32	203.9	10	56	-3						
PETROPAVLOVK	68.20	354.0	11	2	-2						
CHANGCHUN	70.18	328.6	11	15K	-1						
MIRNY	70.45	204.2	11	16	-2	20	32	1			
KUNMING	74.92	301.5	11	47	3	21	27	5			
SOUTH POLE	75.22	180.0	11	43	-3						
MAGADAN	75.46	351.1	11	47	0						
CHENGTU	76.28	307.2	11	53	1	21	38	2			
LANCHOW	78.89	312.1	12	8	2	22	8	3			
ULAN-BATOR	82.73	323.6	12	29	2	22	51	7			
CHITTAGONG	83.18	295.2	12	30	1						
BERKELEY	83.82	48.4	12	28	-4	22	38	-17			
LICK	84.05	49.0	12	32	-2						
SHILLONG	84.19	298.2	12	33A	-1	22	58	-1			
SHASTA	84.89	45.7	12	46	8						
FRESNO	85.19	50.1	12	40	1						
PASADENA	85.45	53.1	12	42	1	23	12	1		24	12 SP
LHASA	86.23	301.8	12	47	3						
RENO	86.24	47.6	12	44	0						
COLLEGE	86.28	17.4	12	41	-4	23	9	-11		24	32 PS
CALCUTTA	86.28	294.3	12	51	6					24	29
BOULDER CITY	88.65	52.3	12	56	0						
EUREKA	88.98	48.7	12	57	-1						
TIKSI	90.22	348.5	13	3	-1						
TUCSON	90.64	56.9	13	6	1						
MADRAS	91.12	283.1								16	32
SALT LAKE C.	92.39	48.5	13	14	0						
KODAIKANAL	92.99	279.7								18	8
HUNGRY HORSE	93.26	40.8	13	18	0						
FRUNSE	102.37	311.3								23	54
NAMANGAN	104.25	309.1								18	25 PP
RESOLUTE	106.15	15.9				24	56	1		33	14 SS
QUETTA	106.66	297.5	17	53	777	24	46	-12		18	48 PP
FLORISSANT	108.23	53.7				24	59	-6		28	18 PS
ST. LOUIS 1	108.33	53.8				25	3	-2		28	8 SP
HUANCAYO	111.91	109.7								19	24 PP
CLEVELAND	115.07	51.0				25	32	0			
LA PAZ	116.51	117.2	18	44	-2					36	40 SS
OTTAWA	118.93	46.2	18	49A	-1	25	53	7		29	57 PS
PHILADELPHIA	119.99	52.3				25	56	6		30	3 PS
SHAWINIGAN	120.77	44.4	18	53A	-1						
PALISADES	120.83	51.0				25	44	-9		20	22 PP
SEVEN FALLS	121.95	43.5	18	55	-1	25	57	1		30	24 PS
KIRUNA	123.06	345.9	18	57	-1						
KIMBERLEY	123.85	219.4	19	0	0						
TIFLIS	124.36	310.6	19	3	2						
BERMUDA	129.28	60.2								21	20 PP
FORT FRANCE	132.66	83.6								22	48 SKP
KSARA	132.86	302.5	19	16	-1	26	32	5		21	58 PP
ISTANBUL KA.	135.83	314.4	19	21	-2					22	0 PP
COLLMBERG	138.45	336.3	19	27	-1						
DURHAM	139.36	350.6	19	27	-2					22	37 PP
STUTTGART	141.94	337.1	19	29	-5					22	42 PP
STRASBOURG	142.62	338.2	19	38	3					22	46 PP
TARANTO	143.89	320.6	19	45	8					22	55
PARIS	144.10	343.5	19	36	-1					22	42 PP
NEUCHATEL	144.25	337.5	19	36	-2						
BESANCON	144.39	338.7								23	0 PP
BOLOGNA	144.40	330.7	19	53	15					20	37
PAVIA	144.85	333.5	19	42	3					20	42
FLORENCE X.	144.98	330.0	19	36	-3				20 15	31	49 SKKS
ROME	145.71	326.5	19	41K	1				20 23	35	43 PPS
MESSINA	146.30	318.8	19	40	-1					23	4 PP
CLERMONT-FD.	146.65	340.5	19	48	6						
TAMANRASSET	161.57	297.9	20	4	2					24	34 PP
MBOUR	175.26	95.4	20	16	5	27	14	1		25	40 PP

OCTOBER 24 2.H 33.M 11.S EPICENTRE 40.03 29.78 DEPTH= 0.KM

A= 0.66650 B= 0.38135 C= 0.64058 D= 0.4966 E=-0.8680
G= 0.5560 H= 0.3181 K=-0.7679 HT= -1.7

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SE= 3.13

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ISTANBUL KA.	1.17	332.9	0	20	-3								
BUCHAREST	5.17	329.3	1	21A	1	2	20	-2			1	47	PG
SOFIA	5.54	300.9	1	23	-2	2	34	3			3	11	
FOCSANI	5.98	342.4									3	13	SG
CAMPULUNG	6.30	327.8	1	47	11						3	20	
SKOPJE	6.63	289.8	1	10	-31						1	20	P*
IASI	7.35	348.2	1	48	-3	3	13	-3					
KSARA	7.89	139.8	1	56	-3	3	23	-7			4	9	SG
BELGRADE	8.40	307.8	2	3K	-3	3	31	-11			4	1	
TIMISOARA	8.49	315.1				3	46	1			2	43	PG
JERUSALEM	9.33	150.1	2	21	2	3	57	-9					
SZEGED	9.40	314.6				4	1	-6			4	53	SSS
TARANTO	9.59	276.7				4	22	10			5	49	
KALOCSA	10.20	313.1				4	29	2					
HELWAN	10.21	172.4	2	30	-1	4	21	-6					
BUDAPEST	10.74	317.4				3	49	-51			5	47	SSS
MESSINA	11.20	265.2	2	37	-7						6	46	
TIFLIS	11.50	76.7	2	50	2								
KRAKOW	12.19	328.5	2	54	-4	5	13	-3			2	58	PP
BRATISLAVA	12.21	316.0	3	3	5	5	26	10			6	8	
TRIESTE	13.03	300.8	3	5	-4						7	5	SGSGSG
ROME	13.21	283.7	4	0	49	6	34	54			7	10	S*
MAKHACH-KALA	13.61	71.8	3	18	1								
WARSAW	13.62	336.6									6	6	SSS
FLORENCE X.	14.30	291.2	3	29	3	7	42	96			3	34	PP
BOLOGNA	14.37	294.1									8	21	
PRUHONICE	14.64	317.9	3	28	-2	6	23	9			4	14	
PRAGUE	14.75	318.0	3	38	6						3	54	
CHEB	15.84	315.1	3	58	12						7	40	
PLAUEN	16.20	316.1	3	52	2								
COLLMBERG	16.22	319.6	3	54	3								
SONNEBERG	16.65	314.6	4	2	6								
JENA	16.74	316.7	3	59	2	7	5	2					
HALLE	16.87	318.7	4	0	1						9	32	
POTSDAM	16.87	322.6	3	58	-1						19	37	
EBINGEN	16.99	305.5	3	58	-2								
MONACO	17.04	289.8	4	2	1								
TUBINGEN	17.05	306.7	3	59	-2								
STUTTGART	17.07	307.6	3	59	-2						9	55	
KARLSRUHE	17.64	307.7	4	10	2								
STRASBOURG	17.88	305.8	4	13	2						5	17	
NEUCHATEL	17.93	300.4	4	4	-8								
BESANCON	18.63	300.6	4	30	9						5	35	
HAMBURG	19.07	321.8	4	25	-1						4	44	
BENSBERG	19.17	312.3	4	13	-14								
PULKOVO	19.77	0.8	4	29	-5						8	10	
CLERMONT-FD.	20.31	295.2	4	42K	2								
WITTEVEEN	20.32	316.7	4	43	3								
HELSINKI	20.39	353.1	4	43	2	8	3	-22					
DE BILT	20.79	313.7									13	1	SCP
UPPSALA	21.26	343.0	4	48	-2	8	34	-8					
PARIS	21.29	303.4	4	45	-5						4	59	PP
KEW	23.74	308.8	5	15	1	9	36	9					
DURHAM	25.57	315.7	5	14	-18								
SKALSTUGAN	25.77	342.0	5	32	-2								
TAMANRASSET	26.78	237.3	5	46	3	10	16	-2			6	26	PP
SODANKYLA	27.45	357.4	5	47	-2	10	25	-4					
APATITY	27.65	3.0	5	51	0	10	24	-8					
KIRUNA	28.33	352.5	6	9	12								
QUETTA	31.76	96.3	6	29	1								
FRUNSE	33.40	70.2	6	42	0								
NORD	44.65	351.3	8	13	-3								
SEVEN FALLS	68.20	313.7	11	4	0								
WESTON	71.30	309.9	11	25K	2								
COLLEGE	75.43	358.9	11	45	-2								
MATUSIRO	79.39	51.0	12	10	1								
RAPID CITY	86.17	328.1	12	43	-1								
HUNGRY HORSE	86.34	336.8	12	44	-1								
EUREKA	94.91	334.1	13	27	2								
HUANCAYO	109.19	270.2									38	2	PKPPKP

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OCTOBER 24 9.H 7.M 34.S EPICENTRE -20.43-178.14 DEPTH= 538.KM

DEPTH OF FOCUS= 0.080R

A=-0.93740 B=-0.03046 C=-0.34692 D=-0.0325 E= 0.9995
G= 0.3467 H= 0.0113 K=-0.9379 HT= 4.6

SE= 1.51

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	3.95	304.4	1	24	3	2	31	5			1	57	
APIA	8.96	43.7	2	5	-3	3	44	-6					
NOUMEA	14.48	259.8	3	5K	1	5	37	4			4	3	
ONERAHI	16.64	201.7	3	27	2	6	20	9			4	53	
KARAPIRO	18.28	196.1	3	42	1	6	50	11			5	56	
TUAI	18.76	191.5	3	44	-2	6	40	-8					
TONGARIRO	19.49	194.9	3	50	-3	7	16	16			6	14	
WELLINGTON	21.65	194.6	4	11	-2	7	29	-7			14	22	SCS
COBB RIVER	22.01	198.7	4	14	-2	7	37	-4			8	34	
KAIMATA	23.72	199.5	4	29	-2	8	8	-1			6	21	
GEBBIES PASS	24.45	196.3	4	40	2	8	30	9			8	13	
ROXBURGH	27.10	199.6				8	53	-9			7	29	
RIVERVIEW	30.29	237.4	5	33A	4	9	50	-2	7	1	15	1	SCS
CHARTERS TS.	33.37	264.4	5	56K	1	10	37	-2					
MELBOURNE	36.31	233.4	6	19	0	11	18	-5	6	39	7	54	PPP
TRUK	40.49	310.2	6	54	1				8	44	11	42	SCP
MADANG	43.64	301.9	6	34	-44								
HAWAII V.OB.	45.51	30.9	7	32	-1								
HONOLULU	45.86	26.4	7	35	0								
KIPAPA	46.00	26.5	7	36	-1								
GUAM	49.66	309.6	8	2	-2						12	20	SCP
CAPE HALLETT	52.31	184.4	8	25A	2	15	12	4	10	9	8	58	PCP
KOROR	54.13	295.7	8	32	-4				10	35			
SCOTT BASE	57.94	183.7	9	3A	0	16	26	5	10	53	9	41	PCP
WILKES	63.97	205.3				17	32	-4	11	28	12	27	*SP
OASIS-BUNG.	67.93	205.7	10	5	-2				11	57	20	20	
TUKUBASAN	68.80	324.7	10	12	0	18	34	1			10	32	PCP
MANILA	69.20	295.2	10	12	-2	18	34	-3					
SOUTH POLE	69.70	180.0	10	17	0	18	39	-4	12	8	37	57	PKPPKP
MATUSIRO	70.07	323.8	10	19K	0	18	49	2			13	3	PP
KYOTO	70.41	321.1	10	20K	-1								
BAGUIO CITY	70.42	296.7	10	20	-1						12	50	PP
MIRNY	71.01	205.0	10	24	-1	18	56	-2			23	44	SS
NAGASAKI	72.53	315.9	10	32	-2	19	17	2					
DJAKARTA	73.86	269.3	10	39	-2	19	26	-3					
Y.-SAKHLINSK	75.78	333.5	10	53A	1								
PETROPAVLOVK	75.96	345.8	10	52	-1								
ZO-SE	77.55	310.0	11	1K	0	20	10	1					
BERKELEY	78.21	42.0	11	6A	1	20	21	5	13	2	23	50	*SS
LICK	78.28	42.7	11	6A	1				13	2			
UKIAH	78.39	40.5	11	6	0								
NHATRANG	78.44	287.7	11	6	0								
HONG KONG	78.53	299.0	11	8K	1	20	26	7					
PASADENA	78.73	47.1	11	7	-1	20	25	4	13	7	14	12	*SP
FRESNO	79.13	44.1	11	10A	0								
CANTON	79.62	299.4	11	14K	2	20	35	5			14	23	PP
NANKING	79.77	309.7	11	14K	1	20	36	4					
SHASTA	79.86	39.7	11	14A	0				13	13			
RENO	80.75	41.8	11	19	1								
CORVALLIS	81.76	36.2	11	23	0								
BOULDER CITY	82.02	47.0	11	26	1				13	26			
CHANGCHUN	82.26	322.5	11	26K	0	21	2	6			14	24	*SP
TUCSON	82.97	52.0	11	31	2	21	10	6	13	28	37	59	PKPPKP
EUREKA	83.15	43.6	11	30	0				13	29	14	50	PP
MAGADAN	83.65	344.7	11	33	0								
PHU-LIEN	84.19	294.6	11	36	1						14	11	
VICTORIA	84.20	33.1	11	34A	-2								
SEATTLE	84.23	34.2	11	38A	2								
HORSESHOE B.	84.82	32.5	11	38A	-1								
PEKING	85.74	315.4	11	43K	0	21	35	5			21	15	SKS
SALT LAKE C.	86.52	44.2	11	47	0								
COLLEGE	88.16	12.5	11	53	-1	21	50	-2	13	54	21	30	SKS
BUTTE	88.77	39.4	11	57	0				14	1	15	33	PP
HUNGRY HORSE	89.16	36.9	11	59	0	21	38	-23	14	1	15	37	PP
KUNMING	89.22	297.0	12	1K	2	22	7	5			21	38	SKS
BOZEMAN	89.50	40.2	12	1	0				14	4	15	40	PP
LUBBOCK	90.31	54.2	12	5	1				14	5	15	47	PP
CHENGTU	90.34	302.6	12	6K	2	22	19	7	14	4	21	44	SKS

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LARAMIE	90.94	46.0	12	6	-1							
LANCHOW	92.64	307.5	12	17K	2	22	41	10	14	18	21 57	SKS
RAPID CITY	93.72	44.2	12	20	0				14	23	16 12	PP
ULAN-BATOR	95.34	319.3				22	11	-43			15 40	
HUANCAYO	97.55	105.8	12	41	4							
CHITTAGONG	97.58	291.0									16 26	
SHILLONG	98.56	294.0	12	42	0							
IRKUTSK	98.59	322.6									16 47	PP
LA PAZ	102.12	112.8				22	50	-61			26 40	PS
CHATRA	102.96	294.0									17 1	PP
RESOLUTE	107.76	16.1									26 29	SP
OTTAWA	112.85	48.3	17	35	-1	23	30	0			18 30	PP
PALISADES	113.66	53.2				23	30	-4			18 38	PP
SEVEN FALLS	116.36	46.7				23	44	1			28 43	PS
TASHKENT	119.96	306.6				23	57	1			19 24	PP
QUETTA	121.04	293.6	17	53K	2	23	57	-3			19 29	PP
KIMBERLEY	126.34	205.1	18	2	1							
IVIGTUT	126.53	27.5	18	2	0							
ASHKABAD	128.45	302.7	18	5K	-1						20 18	PP
APATITY	128.85	345.0	18	5	-1						20 37	
SODANKYLA	130.50	347.7	18	10	0						20 43	SKP
KIRUNA	131.18	350.8	18	10	-1						20 46	SKP
SKALSTUGAN	136.30	353.3	18	10	-10							
GORIS	137.53	306.6	18	23	0						21 7	PP
UPPSALA	139.03	347.9	18	16	-9						21 10	SKP
SIMFEROPOL	143.85	320.0	18	34K	0	21	4					
LWIRO	145.28	232.6	18	39	2							
IASI	146.10	328.0	18	41	3	19	16					
HAMBURG	146.33	351.3	18	42	4							
KSARA	147.07	301.0	18	40K	1	20	52				22 13	PP
KRAKOW	147.14	338.4	18	41	2						21 9	
WITTEVEEN	147.45	354.6	18	45	5							
RACIBORZ	147.69	340.2	18	44	4						20 17	
HALLE	147.99	348.1	18	41	1						19 45	
JERUSALEM	148.10	297.6	18	42	1							
JENA	148.61	348.2	18	42	1	20	48				22 14	PP
PRAGUE	148.78	344.3	18	48	6	21	3					
PLAUEN	148.90	347.2	18	45	3						19 16	
ISTANBUL KA.	149.06	317.7	18	41	-1						22 10	PP
BENSBERG	149.24	353.4	18	48K	6						21 2	
CHEB	149.25	346.7	18	47	5						20 4	
BRATISLAVA	149.71	339.6	18	42	-1						18 50	
STUTTGART	151.11	349.9	18	46	1	21	0					
BELGRADE	151.21	331.9	18	52A	7						22 22	PP
STRASBOURG	151.51	351.8	18	44	-2						19 6	PKP2
PARIS	151.68	359.1	18	48	2							
EBINGEN	151.72	349.9	18	54K	8	21	2					
HELWAN	151.78	295.3	18	46	0	20	56					
TAMANRASSET	175.87	305.2	19	9K	2	21	20				24 47	PP

OCTOBER 24 20.H 7.M 21.S EPICENTRE -28.88 -67.96 DEPTH= 37.KM

DEPTH OF FOCUS= 0.001R

A= 0.32915 B=-0.81291 C=-0.48045 D=-0.9269 E=-0.3753
G=-0.1803 H= 0.4453 K=-0.8770 HT= 2.2

SE= 3.30

	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	
TALA POZO	3.43	73.0	0	53	1	1	51	19					
SANTA LUCIA	5.10	206.5	1	16	0	2	23	9					
ANTOFAGASTA	5.66	336.4	1	19	-5	2	27	-1					
LA PLATA	10.42	127.7	2	30	0	4	33	6			4	51	SS
LA PAZ	12.32	359.2	3	2A	6	5	35	22			3	18	PP
HUANCAYO	18.10	336.2	4	9	-1	7	38	10					
BOGOTA	33.82	349.0	5	21	-80	12	2	1			6	48	
CHINCHINA	34.45	346.4	5	30	-76	12	12	1			7	2	
FORT FRANCE	43.85	9.5	7	58	-6	14	9	-23					
TACUBAYA	56.69	324.1	9	49	7								
BERMUDA	61.00	3.2				18	23	-3					
SOUTH POLE	61.29	180.0	10	13	-1								
COLUMBIA	63.75	347.9	10	33	3								
MBOUR	65.39	55.9	10	41	0								
MORGANTOWN	69.06	350.1	11	1	-3								

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FAYETTEVILLE	69.18	337.5	11	2	-3						
PALISADES	69.75	355.2	11	3	-5	20	7	-6		22	45
LUBBOCK	69.92	330.3	11	12	3						
CAPE HALLETT	71.56	195.9	11	19A	0				11 34		
TUCSON	73.17	323.0	11	35	6						
BREBEUF	74.20	355.9	11	32	-3						
OTTAWA	74.26	354.3	11	34	-1						
SHAWINIGAN	75.20	356.6	11	39	-1						
SEVEN FALLS	75.69	358.0	11	42K	-1						
LARAMIE	78.03	332.0	11	49	-7						
BOULDER CITY	78.15	322.8	11	55	-2						
GRAHAMSTOWN	78.19	121.5	11	56A	-1						
PASADENA	78.64	319.5	12	3	3						
KIMBERLEY	78.87	116.6	12	6	5						
RAPID CITY	79.45	335.0	12	2	-2						
SALT LAKE C.	80.36	327.7	12	15	6						
EUREKA	81.38	324.4	12	13	-1					14	32
FRESNO	81.45	320.3	12	15	0						
LICK	82.89	319.7	12	22	0						
PRETORIA	82.93	115.4	12	23K	1						
RENO	83.44	322.3	12	29	4						
MIRNY	83.77	172.5	12	25	-2						
OASIS-BUNG.	84.86	175.4	12	29	-3						
HUNGRY HORSE	87.25	331.2	12	42	-2						
TAMANRASSET	87.41	62.3	12	45A	1	23	27	6		23	40 SCS
MESSINA	102.58	53.3	17	47	233					18	17 PP
ISTANBUL KA.	113.30	54.8								29	30
KSARA	116.15	64.2	18	40	1					19	47 PP
CHARTERS TS.	121.24	218.2	17	4	-105						
TRUK	136.90	248.3	19	21	2						
QUETTA	140.94	76.7	19	26	0					22	26 PP
FRUNSE	146.87	54.9	19	41	5						
LAHORE	147.40	75.8	19	39	2					22	50 PP
KOROR	149.88	229.0	19	47	6						
DEHRA DUN	150.47	78.8	19	50	8						
TUKUBASAN	155.30	294.5	20	40	51					21	5
MATUSIRO	156.73	295.9	20	3	12					37	38 PPS
CHATRA	157.92	89.4	19	54	2						
SHILLONG	161.76	95.7	19	58K	1						

OCTOBER 24 21.H 44.M 31.S EPICENTRE 25.04-109.06 DEPTH= 0.KM
A=-0.29614 B=-0.85737 C= 0.42096 D=-0.9452 E= 0.3265
G=-0.1374 H=-0.3979 K=-0.9071 HT= 3.3

SE= 3.08

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
CHIHUAHUA	4.45	36.0	1	3	-7	1	53	-11				
GUADALAJARA	6.84	128.2	1	45K	1	3	29	26			4	33
TUCSON	7.35	348.2	1	48	-3	3	35	19			2	32
MANZANILLO	7.40	142.8	1	50	-2	3	29	12			5	13
LUBBOCK	10.57	34.8	2	39	3							
TACUBAYA	10.71	119.7	2	44	6	5	13	33			5	34
PUEBLA	11.71	118.6	2	56	5							
BOULDER CITY	11.98	336.8	2	55	0	5	51	41				
PASADENA	12.05	321.0	2	54	-2	5	14	2				
DALLAS	13.26	51.3	3	13	1	6	56	75				
VERA CRUZ	13.31	113.3	3	11K	-2	6	8	25			3	29 PP
OAXACA	13.97	122.5	3	20	-1	6	11	13				
FRESNO	14.87	324.3	3	33K	0							
BOULDER	15.27	11.0	3	40	2							
EUREKA	15.53	339.6	3	43	1	8	23	108				
SALT LAKE C.	15.86	352.2	3	47	1	7	7	24			4	24
LICK	16.29	321.8	3	49K	-3							
SANTA CLARA	16.48	321.2	3	54	0	7	4	7				
LARAMIE	16.48	9.3	3	56	2							
FAYETTEVILLE	16.86	45.8	3	58	-1							
BERKELEY	17.02	321.8	3	59K	-2	7	19	9				
RENO	17.06	330.5	4	2K	1							
COMITAN	18.08	115.7	4	10A	-4	7	45	11			8	54
MERIDA	18.35	98.9	4	11K	-6	7	59	19			11	2
UKIAH	18.44	323.0	4	17	-1	7	59	17				
LINCOLN	18.84	30.3	5	29	66	8	57	66				
SHASTA	19.18	327.7	4	25	-2	8	16	17				
RAPID CITY	19.58	12.7	4	33	1	8	20	12				

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BOZEMAN	20.64	356.0	4	44	0	8	49	19	5	21	
BUTTE	21.12	353.2	4	48	0	8	56	16			
CORVALLIS	22.67	332.9	5	3	-1						
TERRE HAUTE	23.19	46.4	5	9	0	9	29	11			
HUNGRY HORSE	23.59	351.7	5	13	0	9	34	9			
CHICAGO CGS.	24.38	41.5	5	18	-3	9	46	8			
SEATTLE	24.89	338.4	5	29	3	10	12	25			
COLUMBIA	25.90	63.3	5	36	1	9	48	-16	10	15	
VICTORIA	26.02	337.9	5	34	-2	10	25	19			
BANFF	26.56	350.8	5	39	-2						
HORSESHOE B.	26.71	339.1	5	41	-2	9	53	-24			
SASKATOON	27.11	3.3				10	44	20			
CHAPEL HILL	27.94	60.1	5	53	-1						
CLEVELAND	28.09	47.5	6	0	5	10	42	3	11	7	
WAYNESBURG	28.36	51.5	5	55	-3	11	15	31			
MORGANTOWN	28.42	52.1	5	59	1						
WASHINGTON	30.28	55.1	6	15	0						
PENNSYLVANIA	30.33	51.1	6	18	3	11	18	3			
PHILADELPHIA	31.99	54.0	6	38	8				11	43	
BALBOA HTS.	32.31	114.5	6	31	-2	11	53	7			
PALISADES	33.23	52.7	6	38	-3	11	53	-8	7	49	PP
OTTAWA	33.63	44.4	6	44K	0	12	9	2	8	0	PP
BREBEUF	35.01	45.3	6	55	-1	12	31	3			
WESTON	35.49	51.4	7	3	3						
SHAWINIGAN	35.98	44.0	7	3A	-1				9	29	PCP
SEVEN FALLS	37.42	44.1	7	7	-9						
CHINCHINA	37.78	116.4	7	20	1	13	26	15	8	50	PP
BOGOTA	39.24	115.4	7	36K	4	13	48	15			
BERMUDA	39.38	68.9	7	32	-1	13	31	-4	9	6	PP
SAN JUAN	40.31	90.7	7	40	0						
HALIFAX	41.49	50.2				14	21	15	17	13	SS
HONOLULU	45.05	275.7	8	31	12						
ANTIGUA	45.25	90.5	8	13	-8						
FORT FRANCE	46.00	93.5	8	24	-3	14	39	-33			
COLLEGE	46.95	338.5	8	33	-1	15	53	27	19	21	SS
HUANCAYO	49.41	134.3	8	53	0	16	4	4			
RESOLUTE	50.23	4.9	8	59A	-1	16	11	-1	19	59	SS
LA PAZ	57.41	131.8	9	52	0	18	10	21	24	38	SSS
SCORESBY SD.	65.68	21.6	10	54	6						
NORD	65.74	9.3	10	51	2				15	43	PPP
PETROPAVLOVK	71.70	320.6							26	34	
ABERDEEN	77.94	32.2							38	9	
DURHAM	79.32	34.2	11	46	-23						
KIRUNA	80.18	17.3	12	19	6						
KEW	81.59	36.8				22	30	-3	27	46	SS
LISBON	81.94	51.1	13	22	59						
SODANKYLA	82.13	15.8	12	23	-1						
APATITY	83.55	13.6	12	35	4						
UPPSALA	84.85	24.0	12	43	5						
TOLEDO	84.94	48.3	12	33	-5						
MBOUR	85.88	76.2	12	56	13						
GRANADA	86.55	50.5	12	48K	2	23	30	8	15	42	PP
BASLE	88.05	37.3							32	2	
ALICANTE	88.11	48.2	12	51	-3	23	34	-3	32	58	SSS
STUTTGART	88.19	35.7	12	23	-31						
EBINGEN	88.42	36.2	13	8	13						
COLLMBERG	88.54	32.2	13	0	4						
PULKOVO	89.16	19.2							23	49	
PAVIA	90.33	38.5							46	48	
MATUSIRO	91.87	312.0	13	15	4				22	27	
ROME	94.25	39.6							20	54	
MESSINA	98.43	41.0	13	33	-8	25	5	-2	24	7	SKS
ULAN-BATOR	100.51	336.3							28	24	SS
TAMANRASSET	100.73	58.7	14	14	23	24	32	-54	18	2	PP
ISTANBUL KA.	103.60	31.3							18	19	
CAPE HALLETT	110.84	198.8							28	53	PPS
RIVERVIEW	111.21	241.6							34	55	SS
KSARA	112.64	31.2	18	38	0				19	34	PP
HELWAN	113.48	37.1							19	35	PP
QUETTA	124.96	4.2	19	8	6	26	15	9	21	18	PP
TANANARIVE	157.48	79.0	20	9	11				20	31	PKP2

OCTOBER 25 10.H 3.M 39.S EPICENTRE 50.52 156.54 DEPTH= 68.KM

DEPTH OF FOCUS= 0.006R

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A=-0.58566 B= 0.25414 C= 0.76969 D= 0.3981 E= 0.9174
G=-0.7061 H= 0.3064 K=-0.6384 HT= -5.6

SE= 2.63

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PETROPAVLOVK	2.93	25.7	0 45	-1				
KLYUCHI	6.34	21.8	1 34	1	2 54	9		
KURILSK	7.87	231.1	1 51	-3	3 23	0		2 11 *SP
UGLEGORSK	9.47	266.9	2 19	3	4 12	10		2 39 *SP
MAGADAN	9.63	342.3	2 21	3				2 43 *SP
Y.-SAKHLINSK	9.80	254.0	2 21	0	4 19	9		2 41 *SP
NEMURO	10.38	230.4	2 26	-2	4 16	-8		
ABASHIRI	10.56	236.7	2 32	1				2 54
WAKKANAI	11.19	248.6	2 47	8	4 57	13		3 37
KUSIRO	11.22	232.5	2 39	-1	4 44	0		3 3
ASAHIGAWA	11.76	240.5	2 50	3				
OBIHIRO	11.89	235.4	2 49	0				
URAKAWA	12.65	233.9	2 54	-5	5 8	-11		6 57
SAPPORO	12.78	240.2	3 5	4	5 47	25		3 27
TOMAKOMAI	13.03	237.9	3 4	0	5 10	-18		
MURORAN	13.49	238.6	3 19	9				5 39
SUTTSU	13.58	241.7	3 13	2	5 48	7		3 44
MORI	13.86	238.7	3 16	1	5 47	0		3 38
HAKODATE	14.00	237.5	3 16	-1	5 46	-5		3 26
AOMORI	14.65	234.6	3 29	4	6 3	-3		
MIYAKO	14.94	228.9	3 32	3	6 7	-6		
MORIOKA	15.29	230.9	3 29	-4	6 9	-12		
MIZUSAWA	15.75	229.6	3 42	3	6 31	0		
AKITA	15.81	233.2	3 44	4	6 34	1		
ISINOMAKI	16.21	227.6	3 49	4	6 44	2		
SENDAI	16.54	228.2	3 59	10	6 59	9		5 17
SAKATA	16.57	231.9	3 48	-1				
YAMAGATA	16.82	229.4	3 54	2				
HUKUSIMA	17.15	228.1	3 57	0	6 59	-5		
ONAHAMA	17.60	225.6	4 3	1	6 54	-20		4 45
NIIGATA	17.71	231.4	4 4	0				
SHIRAKAWA	17.78	227.4	3 56	-8	7 30	12		
AIKAWA	18.04	233.2	4 9	1	7 26	3		
VLADIVOSTOK	18.36	255.8	4 12	1				
UTUNOMIYA	18.40	227.0	4 11	-1	7 45	13		4 39
KAKIOKA	18.52	225.8	4 14	1				7 14
TUKUBASAN	18.57	226.0	4 11	-3	7 35	0		8 39 PCP
MAEBASI	18.90	228.4	4 17	-1	7 54	11		5 54
KUMAGAYA	18.96	227.3	4 13	-5				4 53
NAGANO	19.11	230.6	4 20	0	8 8	21		4 46
TOKYO C.M.O.	19.17	225.7	4 20	-1				7 17
MATUSIRO	19.20	230.3	4 18A	-3	7 52	3		6 3
OIWAKE	19.21	229.3	4 21	0				
TITIBU	19.24	227.6	4 20	-1				
YOKOHAMA	19.43	225.5	4 45	22	7 53	-1		5 14
MATUMOTO	19.56	230.3	4 24	-1	8 11	15		4 45
TOYAMA	19.59	232.6	4 27	2				
KOHU	19.76	228.0	4 27	0	8 14	13		
MERA	19.77	224.3	4 45	18				
HUNATU	19.78	227.4	4 48	21				7 56
SUIHWA	19.87	270.2	4 33	5				
MISIMA	20.00	226.4	4 33	3	8 23	17		
IIDA	20.21	229.3	4 39	7				5 3
SHIZUOKA	20.38	227.2	4 32	-2	8 28	15		
HUKUI	20.56	233.1	4 39	4				8 55
GIHU	20.82	231.0	4 37	-1	8 34	12		
NAGOYA	20.91	230.3	4 44	5				5 57
HIKONE	21.18	231.7	4 42	0	8 20	-8		
KAMEYAMA	21.41	230.7	4 42	-2				10 3
KYOTO	21.64	232.2	4 46A	0	8 45	8		
OSAKA	22.04	232.0	4 51	1				5 24
CHANGCHUN	22.15	264.6	4 48	-3				
KOBE	22.19	232.6	4 53	1	8 53	6		
YONAGO	22.57	236.9	4 59	4				7 45
SUMOTO	22.60	232.6	4 53	-3	8 53	-1		
TOKUSIMA	22.97	232.7	5 1	2				
TAKAMATU	23.05	234.0	4 58	-2	9 1	-1		
HAMADA	23.65	238.1	5 7	1	9 13	0		5 32
KOTI	23.92	233.6	5 9	0	9 23	6		5 35
MATUYAMA	24.11	235.3	5 10	0	9 29	9		
TIKSI	24.60	339.3	5 14	-1	9 39	10		5 54 PP
HUKUOKA	25.54	238.5	5 24	0	9 48	4		5 49

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SAGA	25.86	238.2	5	29	2					
KUMAMOTO	25.97	236.9	5	35	7					
KAGOSIMA	27.03	235.4	5	39	1				5	56
PEKING	29.94	265.3	6	1A	-3	10	54	-1		
COLLEGE	31.80	42.0	6	20A	0	11	27	2	37	50 PKPPKP
ULAN-BATOR	32.05	285.0	6	23	1	11	11	-17		
IRKUTSK	32.05	293.8	6	22A	-1				7	44 PP
ZO-SE	32.63	247.0	6	26A	-2	11	39	2	7	48 PPP
NANKING	33.37	250.9	6	34A	0	11	51	2	7	45 PP
SITKA	39.24	53.3	7	24K	1	13	23	4	9	6 PCP
LANCHOW	40.14	269.7	7	30A	-1					
TRUK	43.08	186.8	7	56A	1					
HONG KONG	43.35	245.4	7	58A	1	13	41	-38		
CHENGTU	43.52	263.4	7	57	-2	14	20	-2		
BAGUIO CITY	44.59	233.4	8	5	-2	14	37	0		
HONOLULU	45.87	112.4	8	15	-2	14	59	3	18	33 SS
MANILA	45.94	231.6	8	16	-2				9	53
RESOLUTE	46.53	20.3	8	22A	-1	15	11	6	10	13 PP
KOROR	46.81	210.7	8	23A	-2				10	5 PP
NORD	48.08	358.7	8	34	-1	15	31	4		
KUNMING	48.27	259.0	8	35A	-1				10	30 PP
ALBERNI	48.40	59.2	8	36	-1					
PHU-LIEN	48.98	251.6	8	41	-1	15	43	3		
HAWAII V.OB.	48.99	111.2	8	51	9	16	7	27		
HORSESHOE B.	49.18	58.3	8	42	-1					
VICTORIA	49.58	59.3	8	45	-1	15	50	2		
SEATTLE	50.70	59.7	8	51	-4	16	13	10		
CORVALLIS	51.95	63.4	9	3	-1					
BANFF	52.22	52.8	9	4	-2					
LHASA	52.47	272.6	9	9A	1	16	32	4	10	59 PP
SVERDLOVSK	52.64	316.5	9	8	-1	16	30	0	11	10 PP
FRUNSE	54.02	295.9	9	19A	-1	16	57	8	11	24 PP
NHATRANG	54.21	242.4	9	21	0	16	54	3		
HUNGRY HORSE	54.71	54.8	9	25A	0	17	4	6	39	12 PKPPKP
SHILLONG	54.76	268.4	9	25A	0	16	59	0	11	19 PP
APATITY	54.78	336.8	9	24	-1	16	58	-1		
SHASTA	54.88	66.7	9	25A	-1	17	9	9		
UKIAH	55.39	68.6	9	28A	-2	17	15	8	17	44
SODANKYLA	56.55	339.2	9	35	-3	17	19	-4	10	35 PCP
BERKELEY	56.78	69.2	9	38A	-2	17	32	6	21	21 SS
CHATRA	56.87	273.0	9	38	-2				17	55
BUTTE	56.96	56.2	9	41A	0	17	56	28		
CHITTAGONG	57.08	265.7	9	42A	0					
RENO	57.14	66.2	9	42	0					
SANTA CLARA	57.31	69.5	9	44A	1	17	39	6		
KIRUNA	57.49	341.8	9	42	-3	17	34	-1		13 15
LICK	57.50	69.3	9	44A	-1					
BOZEMAN	58.00	55.7	9	48A	0	18	9	27		
TASHKENT	58.05	297.5	9	46	-2	17	42	0		13 29 PPP
FRESNO	58.98	68.6	9	53	-2					
CALCUTTA	59.18	268.6	9	23	-33					17 23
SCORESBY SD.	59.31	359.4	9	56	-1					
EUREKA	59.40	63.9	9	57A	-1					39 13 PKPPKP
BOKARO	59.86	271.6	10	4	3	18	13	7		
STALINABAD	60.19	295.4	9	43	-20	18	12	2		
DEHRA DUN	60.22	282.5	10	4	1	18	9	-1		21 52 SS
SALT LAKE C.	60.85	60.4	10	7A	-1	18	27	9		
LAHORE	61.67	286.1	10	13	0					
PASADENA	61.73	69.8	10	12	-2	18	31	1	10 26	13 1 PP
PULKOVO	61.77	332.4	10	12	-2	18	30	0		20 0 SCS
BOULDER CITY	62.45	66.2	10	19A	1	19	12	33		
SKALSTUGAN	62.84	342.9	10	21	0					
HELSINKI	62.95	335.2	10	15	-7					19 16 PPS
RAPID CITY	63.15	52.6	10	23K	0	18	54	7		12 14 PP
LARAMIE	63.88	56.2	10	27	-1					
BOULDER	64.94	57.0	10	36	1					
UPPSALA	65.07	338.5	10	34K	-2	19	6	-5		14 53
ASHKABAD	66.46	301.4	10	44A	0	19	28	0		13 13 PP
QUETTA	67.11	290.0	10	48A	-1	19	37	1		11 18 PCP
TUCSON	67.42	66.5	10	50A	-1	19	46	6		39 10 PKPPKP
HYDERABAD	69.21	272.4	11	3A	1	20	3	2		13 45 PP
COPENHAGEN	70.04	339.3	11	6	-1	20	16	5		21 5 SKS
KARACHI	70.21	286.7	11	18	10					
TIFLIS	70.53	312.5	11	9	-1	20	17	1		13 39 PP
CHARTERS TS.	70.80	190.2	11	9A	-2					
DJAKARTA	70.84	233.4	10	57K	-15					20 46
WARSAW	70.93	332.9	11	11	-1	20	25	4		13 52 PP
SUVA	71.04	158.0				20	29	7		14 8 PP

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ABERDEEN	71.24	347.9				21	36	71		28	41	
POONA	71.33	276.6	11	15	1	20	28	2		13	49	PP
MADRAS	71.41	267.9	11	15	0	20	28	1		13	58	PP
GORIS	71.52	310.0	11	15	-1	21	11	43		14	0	PP
LUBBOCK	71.55	59.5	11	15	-1							
BOMBAY	71.71	277.6	11	21	4	20	32	2		21	19	PPS
LWOW	72.12	329.9	11	21	2	20	39	4		16	3	PPP
CHICAGO CGS.	72.38	44.9	11	25	4	20	33	-5		15	45	
HAMBURG	72.54	339.8	11	22	0					12	20	
SIMFEROPOL	72.61	321.1	11	23A	1	20	41	1		11	51	PCP
CHIHUAHUA	72.85	65.8				20	33	-10		14	16	PP
NOUMEA	73.02	170.4	11	23	-1							
KRAKOW	73.18	332.4	11	27	2	20	52	5		11	46	PCP
IASI	73.19	326.4	11	30	5					12	29	
FLORISSANT	73.46	48.6	11	27A	0	20	53	3		21	18	*SS
DURHAM	73.50	347.0	11	29	2	20	51	1		21	31	SKS
ST. LOUIS 1	73.65	48.6	11	26A	-2	20	54	2	11 38	14	20	PP
RACIBORZ	73.66	333.5	11	28	0					11	39	PCP
SKALNATE PL.	73.86	331.8	11	33	4	21	2	8		21	28	PS
COLLMBERG	73.93	337.2	11	29	-1					12	23	
WITTEVEEN	73.94	341.5	11	31	1							
HALLE	74.01	337.9	11	28	-2	21	0	4		14	16	PP
OTTAWA	74.28	35.4	11	30A	-2	20	59	0		14	13	PP
TERRE HAUTE	74.31	46.3				20	51	-8		12	11	PP
SHAWINIGAN	74.35	32.9	11	31A	-1	20	50	-10		11	58	PCP
SEVEN FALLS	74.52	31.4	11	33K	0	21	13	11		21	33	PS
JENA	74.62	337.9	11	33	-1	21	1	-2		14	30	PP
PRAGUE	74.70	335.8	11	35	1	21	8	4		14	29	PP
PRUHONICE	74.75	335.7	11	35	1	21	6	2		12	26	
PLAUEN	74.88	337.3	11	38	3					12	39	
DE BILT	74.92	342.2	11	36	1	21	11	5		21	39	PS
BREBEUF	74.96	34.0	11	34	-2							
CHEB	75.21	337.0	11	36	-1					12	52	
SONNEBERG	75.22	337.9	11	37	0							
CLEVELAND	75.27	41.3	11	39	1	21	6	-4		21	36	PS
BUFFALO L.	75.30	38.6	11	37	-1							
BENSBERG	75.59	340.6	11	39K	0							
HURBANOVO	75.64	332.5				21	21	7		21	54	
LITTLE ROCK	75.65	52.4	11	40	0							
BRATISLAVA	75.69	333.3	11	41	1	21	20	5		14	44	PP
BUDAPEST	75.74	331.8	11	41	1	21	24	9		22	5	PPS
CAMPULUNG	75.75	326.9	11	43	3							
BUCHAREST	76.11	325.8	11	43	1	21	22	3		22	18	
KEW	76.51	345.4	11	45	1	21	25	2		21	55	SCS
KALOCSA	76.61	331.4	11	47	2					12	5	PCP
PITTSBURGH	76.80	40.8	11	46A	0							
KARLSRUHE	77.16	339.1	11	47	-1	21	48	17		12	37	
WAYNESBURG	77.16	41.3	11	43	-5	21	30	-1				
STUTTGART	77.20	338.5	11	48	0	21	31	0		14	44	PP
PENNSYLVANIA	77.35	39.3	11	50	1	21	37	4		14	48	PP
MORGANTOWN	77.48	41.3	11	49	-1							
BELGRADE	77.68	329.7	11	51A	0	21	41	5		14	54	PP
STRASBOURG	77.71	339.4	11	51A	0	21	42	6		14	49	PP
BRISBANE	77.71	183.2	11	45	-6	21	41	5				
EBINGEN	77.81	338.5	11	51	-1					13	52	
ISTANBUL KA.	77.87	322.1	11	39	-13							
ZAGREB	78.15	333.0	11	54	0	21	38	-3				
WESTON	78.49	34.1	11	56A	1	21	39	-6				
PARIS	78.58	342.8	11	56A	0	21	51	5		14	58	PP
SOFIA	78.59	326.8	11	56	0	21	46	0		15	3	PP
ZURICH	78.66	338.4	11	55	-1							
PALISADES	78.73	36.5	11	55	-2	21	41	-6		14	57	PP
BASLE	78.74	339.1	11	57	0	21	56	9				
FORDHAM	78.88	36.6	11	58	0	21	47	-2				
TRIESTE	78.94	334.4	12	4	6	21	47	-3		26	48	SS
JERSEY	79.01	345.9								12	33	
HALIFAX	79.03	28.0	11	57A	-1	21	52	1				
PHILADELPHIA	79.15	37.9	11	59	0	21	51	-1		26	44	SS
GEORGETOWN	79.29	39.7	12	0	0	21	53	0		22	14	
WASHINGTON	79.29	39.7	12	2K	2	21	58	5				
BESANCON	79.36	340.1	11	59	-1					14	52	PP
NEUCHATEL	79.38	339.4	12	0	0	21	59	5				
SKOPJE	79.89	327.7	12	4A	1	22	7	7		12	51	
OROPA	80.45	338.2	12	20	14					23	1	
PAVIA	80.57	337.3	12	12	5	21	57	-10		11	21	
BOLOGNA	80.65	335.6	12	13	6	21	53	-15				
CHAPEL HILL	80.98	42.7	12	8	-1							
KSARA	81.06	313.5	12	10	1	22	21	9		15	17	PP
PRATO	81.29	335.5	12	21	11	22	18	4				

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FLORENCE X.	81.34	335.3	12 10A	-1	22 43	28	12 38	15 29	PP	
CLERMONT-FD.	81.37	341.5	12 9A	-2	22 19	4		30 36	SSS	
COLUMBIA	81.72	45.1	12 12A	-1	22 19	0		12 39		
MONACO	82.36	337.9	12 17	1						
ATHENS	82.61	324.2	12 16	-1	22 30	2				
TARANTO	82.62	329.9	12 22	5	22 12	-16				
ROME	82.75	333.8	12 18A	0	22 36	7	12 33	15 28	PP	
JERUSALEM	83.07	312.9	12 19	-1	22 38	6				
TACUBAYA	83.93	66.9	12 19	-5	22 30	-11		15 46	PP	
RIVERVIEW	84.11	184.5	12 22	-3	22 47	4		23 37	PS	
MESSINA	85.23	330.2	12 28	-2	22 45	-9	12 42	15 43	PP	
REGGIO CALA.	85.29	330.0	12 34	3				11 56		
BARCELONA	85.74	341.0						29 4		
VERA CRUZ	85.88	64.8			23 6	6		28 30	SS	
HELWAN	86.47	314.7	12 36	-1	23 9	4				
MERIDA	88.14	58.8			23 24	3		22 57		
TOLEDO	88.38	345.2	12 45	-1	23 40	16		23 13	SKS	
MELBOURNE	88.56	189.1	12 46A	-1				13 4		
COIMBRA	88.71	348.5			23 11	-16				
ALICANTE	89.23	342.1	12 51	1	23 38	7		29 35	SS	
KARAPIRO	89.63	165.1	13 7	15						
BERMUDA	89.78	33.9	12 55	3	23 44	8		16 33	PP	
ALGIERS UNI.	90.00	339.0	12 54K	1	23 44	6		23 15	SKS	
LISBON	90.25	348.9						19 55		
COMITAN	90.52	63.5			23 54	11				
TONGARIRO	90.88	165.4	13 11	13						
GRANADA	90.94	344.3	12 59A	1	23 53	6		16 35	PP	
ALMERIA	91.06	343.3	12 58	0	23 28	-20				
WELLINGTON	92.80	166.3			24 3	0		15 35		
ROXBURGH	96.32	171.0			24 40	7		13 39		
TAMANRASSET	102.66	332.7	13 51	0	24 28	-58		18 6	PP	
BOGOTA	110.01	55.1			25 14	19		19 9	PP	
LWIRO	114.87	299.4	18 59	26						
MBOUR	115.14	353.1			25 35	19		19 43	PP	
WILKES	121.58	200.0						20 18	PP	
CAPE HALLETT	122.90	175.0	19 3	14						
HUANCAYO	123.04	66.6	18 52	3				20 48	PP	
OASIS-BUNG.	123.89	203.9						20 33	PP	
MIRNY	126.27	206.4						20 52	PP	
SCOTT BASE	128.25	177.3	18 58	-1						
LA PAZ	130.75	62.9	19 11	7				28 11	SKKS	
PRETORIA	133.62	282.4	19 12	3						
KIMBERLEY	137.87	282.5	19 8	-9						
SOUTH POLE	140.33	180.0	19 12	-9						

OCTOBER 26 8.H 26.M 19.S EPICENTRE -20.70-178.47 DEPTH= 602.KM

DEPTH OF FOCUS= 0.090R

A=-0.93588 B=-0.02502 C=-0.35143 D=-0.0267 E= 0.9996
G= 0.3513 H= 0.0094 K=-0.9362 HT= 4.5

SE= 1.85

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SUVA	3.87	310.4	1	27	2	2	35	2					
NOUMEA	14.13	260.8	3	2	2	5	29	5					
ONERAHI	16.27	201.2	3	23	3	6	10	9					
KARAPIRO	17.93	195.6	3	36	0	6	43	14			6	3	
TUAI	18.43	190.9	3	39	-1	6	32	-6					
TONGARIRO	19.14	194.3	3	45	-2	6	57	7					
WELLINGTON	21.30	194.1	4	6K	-1	7	20	-5			14	9	
COBB RIVER	21.65	198.3	4	8	-2	7	27	-3					
KAIMATA	23.36	199.1	4	24	-1	7	56	-2					
GEBBIES PASS	24.10	195.9	4	29	-3	8	7	-2					
ROXBURGH	26.74	199.3									7	35	
BRISBANE	26.84	249.9	4	56K	0	8	53	1					
RIVERVIEW	29.88	237.7	5	24	2	9	42	3	6	57	14	54	SCS
RABAUL	32.93	295.9	5	46	-2	10	26	0			8	15	PCP
CHARTERS TS.	33.04	264.9	5	49K	0	10	26	-2					
MELBOURNE	35.90	233.6	6	13	1	11	8	-3					
TRUK	40.43	310.8	6	48	-1				8	38			
MADANG	43.53	302.4	6	29	-44								
KIPAPA	46.39	26.7	7	33	-2								
GUAM	49.60	310.1	7	58	-1						10	3	PP

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CAPE HALLETT	52.01	184.3	8	18A	1						
KOROR	53.97	296.1	8	26	-5						
SCOTT BASE	57.64	183.7	8	57A	1	16	18	9	10 53	17	47 SCS
WILKES	63.59	205.4				17	23	0		20	49 SS
OASIS-BUNG.	67.55	205.7	10	OK	1					18	11
TUKUBASAN	68.85	325.0	10	7	0					10	22 PCP
SOUTH POLE	69.43	180.0	10	11	1				12 13	12	55 PP
MATUSIRO	70.11	324.0	10	14K	-1	18	43	4	12 22	10	33 PCP
BAGUIO CITY	70.27	297.0	10	15	0						
MIRNY	70.63	205.1	10	18K	0					18	46
NAGASAKI	72.51	316.1	10	22	-6						
Y.-SAKHLINSK	75.89	333.7	10	48	1	19	46	4			
PETROPAVLOVK	76.15	346.0	10	46	-3						
ZO-SE	77.49	310.2	10	56K	0						
VLADIVOSTOK	78.19	325.3	11	0	0	20	11	5			
HONG KONG	78.40	299.2	11	2K	1	20	15	7			
BERKELEY	78.62	42.1	11	3K	1	20	15	4	13 13		
LICK	78.70	42.9	11	3K	1				13 9		
UKIAH	78.80	40.7	11	4	1						
PASADENA	79.14	47.2	11	3	-2	20	18	2	12 28	20	43 SCS
CANTON	79.49	299.5	11	8K	2	20	24	5			
FRESNO	79.55	44.2	11	7	0				13 18		
NANKING	79.71	309.9	11	9K	1	20	25	3			
SHASTA	80.27	39.8	11	11K	1						
RENO	81.16	41.9	11	16K	1						
CORVALLIS	82.17	36.3	11	20	0						
CHANGCHUN	82.29	322.6	11	21K	0						
BOULDER CITY	82.44	47.1	11	22	1				13 30		
TUCSON	83.39	52.1	11	28	2	20	57	-1	13 36	37	54 PKPPKP
EUREKA	83.57	43.7	11	28	1				13 39	40	16 SKPPKP
MAGADAN	83.83	344.8				21	5	3			
VICTORIA	84.60	33.2	11	31	-1						
SEATTLE	84.64	34.3	11	35	3						
HORSESHOE B.	85.22	32.6	11	35K	0						
PEKING	85.72	315.6	11	38K	0	21	25	5			
SALT LAKE C.	86.93	44.3	11	43	0				13 51		
TACUBAYA	87.22	68.2	11	38	-7	21	26	-8	13 48	20	59 SKS
COLLEGE	88.50	12.6	11	49	-2	21	44	-1	13 59	22	57 SP
KUNMING	89.07	297.1	11	56K	3						
BUTTE	89.18	39.5	11	54	0				14 4		
HUNGRY HORSE	89.56	37.0	11	55	-1				14 7	15	36 PP
BOZEMAN	89.91	40.3	11	59	2				14 11		
LANCHOW	92.56	307.6	12	10K	1	22	30	9			
RAPID CITY	94.13	44.3	12	19	3				14 30	16	12 PP
CHITTAGONG	97.39	291.0								16	39 PP
SHILLONG	98.39	294.1	12	37	1						
IRKUTSK	98.62	322.7								16	45 PP
TIKSI	98.82	345.2								19	3 PPP
RESOLUTE	108.11	16.1								26	25 SP
OTTAWA	113.26	48.4	17	30	0						
PALISADES	114.07	53.3								27	27
SHAWINIGAN	115.41	47.4	17	34	0						
QUETTA	120.86	293.5	17	46	1	23	54	6	20 4	19	27 PP
PRETORIA	127.07	210.5	17	59	2						
ASHKABAD	128.34	302.5	18	0	1					21	25 PKS
APATITY	129.03	344.9	18	0	0						
SODANKYLA	130.70	347.5	18	3	-1					20	35 SKP
KIRUNA	131.40	350.6	18	5	0					20	38 SKP
SKALSTUGAN	136.53	353.0	18	4	-11					20	54 SKP
HELSINKI	137.21	343.0	18	8	-8					20	56 SKP
UPPSALA	139.24	347.6	18	13	-7					21	2 SKP
SIMFEROPOL	143.86	319.6	18	29	1					22	5 PKS
COPENHAGEN	144.13	349.5	18	29K	0						
LWIRO	144.87	232.7	18	30	0						
LWOW	145.89	333.8	18	33	1						
HAMBURG	146.55	350.9	18	37	5						
RATHFARNHAM	146.91	8.6	18	36	3					22	49
KSARA	146.95	300.5	18	35	2				20 57	22	21 PP
KRAKOW	147.28	337.9	18	37	3					21	51
WITTEVEEN	147.70	354.2	18	30	-4						
RACIBORZ	147.84	339.7	18	36	2						
JERUSALEM	147.95	297.1	18	37	2						
COLLMBERG	148.17	346.3	18	35	0					20	58 PP
HALLE	148.20	347.6	18	36	1				20 56	25	56
JENA	148.81	347.7	18	36	0				20 58	22	15 PP
PRAGUE	148.96	343.8	18	44	8						
ISTANBUL KA.	149.06	317.2	18	35	-1						
PLAUEN	149.10	346.8	18	37	1						
KEW	149.26	2.3	18	42	6						

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SONNEBERG	149.41	347.8	18	44	7					21	8	
BENSBERG	149.48	353.0	18	38	1							
BRATISLAVA	149.86	339.0	18	38	1			21	1			
STUTTGART	151.33	349.4	18	40K	1			21	1	22	27	PPP
HELWAN	151.62	294.8	18	41	1							
STRASBOURG	151.74	351.2	18	42	2			21	5	19	1	PKP2
EBINGEN	151.94	349.4	18	41	1			21	5			
PARIS	151.95	358.7	18	43	3			21	9	19	1	PKP2
BASLE	152.79	351.0	18	51	9					24	45	
BESANCON	153.27	353.3						21	16			
NEUCHATEL	153.40	351.7	18	45	3							
TOLEDO	160.30	12.8	18	53	2					23	12	PP
GRANADA	162.98	14.1	18	51K	-3	25	33 32			23	30	PP
RELIZANE	164.98	3.1	18	53	-3							
TAMANRASSET	175.75	299.9	19	4K	3			21	22	24	38	PP

OCTOBER 26 14.H 17.M 9.S EPICENTRE -1.81 115.93 DEPTH= 87.KM

DEPTH OF FOCUS= 0.009R

A=-0.43701 B= 0.89891 C=-0.03134 D= 0.8994 E= 0.4372
G= 0.0137 H=-0.0282 K=-0.9995 HT= 7.2

SE= 2.02

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
MANILA	17.03	16.9	3	54	0	7	46	47					
BAGUIO CITY	18.69	14.1	4	11	-3	7	55	20					
KOROR	20.62	63.7	4	33A	-1	7	24	-51			7	57	PCP
HONG KONG	24.02	356.0	5	6A	-2								
HENGCHUN	24.13	11.0	5	13	4								
PHU-LIEN	24.24	338.4	5	10	0	9	44	25					
TAWU	24.50	11.2	5	15	3								
CANTON	24.87	354.2	5	14A	-2	9	34	4					
TAITUNG	24.93	11.5	5	20	4								
HSINKONG	25.32	11.8	5	21	1	9	55	18					
HWALIEN	26.21	11.9	5	31	3								
TAIPEI	27.22	11.1	6	15	37	11	21	73					
KUNMING	29.63	335.1	5	59A	0								
PERTH	29.98	180.2	6	4	2	11	5	13			15	25	
GUAM	32.37	61.2	6	23	0						8	26	PCP
ZO-SE	33.11	8.3	6	29A	-1	11	48	7			7	43	PP
CHITTAGONG	33.62	316.9	6	33A	-1								
NANKING	33.78	4.4	6	35A	0								
CHARTERS TS.	34.72	123.5	6	42A	-1						9	15	
TOCKLAI	34.97	325.7	6	47	2								
SHILLONG	35.82	321.0	6	51A	-2	12	48	25	7	35	8	12	PP
CALCUTTA	36.18	313.5	6	54	-2	12	36	7					
HOWRAH	36.21	313.5	6	58	2								
RABAUL	36.27	94.6	6	57	0						8	13	PP
SIAN	36.47	350.2	7	0	2								
NAGASAKI	36.80	19.8	6	59	-2	12	44	6					
TRUK	37.01	75.2	7	2	-1								
TIENSHUI	37.44	346.1	7	5	-1								
VIZIANAGRAM	37.61	303.2	7	11	3	13	1	11					
LINFEN	37.94	354.2	7	13	3								
MADRAS	38.40	293.6	7	13A	-1	13	9	7			8	48	PP
BOKARO	38.82	312.9	7	18	0	13	16	7			8	55	PP
LHASA	39.29	324.7	7	24A	2	13	21	5			9	3	PP
LANCHOW	39.35	344.5	7	22A	0						9	6	PP
TAIYUAN	39.52	355.8	7	24	0								
KODAIKANAL	40.10	288.1	7	34	6	13	40	12			9	10	PP
KYOTO	41.07	25.0	7	34A	-2	13	50	8					
WUWEI	41.41	344.1	7	39	0								
HYDERABAD	41.59	298.9	7	41K	0	13	52	2			9	30	PP
PEKING	41.64	0.3	7	41A	0	14	1	10			13	30	PCS
PAOTOW	42.53	353.4	7	50	2								
MATUSIRO	43.44	26.4	7	54A	-2	14	25	8			9	28	PP
BRISBANE	43.73	129.2	7	57A	-1	14	26	5					
TUKUBASAN	44.03	28.5	7	59	-2	14	20	-6					
MELBOURNE	44.68	146.9	8	5A	-1	14	42	7			9	45	PP
RIVERVIEW	45.81	138.0	8	14A	-1	14	59	8	8	22	9	56	PP
POONA	46.05	298.0	8	15	-2	14	57	2			10	8	PP
CHANGCHUN	46.21	9.4	8	17	-1								
BOMBAY	47.10	298.0	8	25	0	15	16	7			10	17	PP
DEHRA DUN	48.21	314.6	8	31	-3	15	31	6			11	28	PPP

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ULAN-BATOR	50.15	352.1	8	27	-21	16	1	9		
LAHORE	51.55	313.6	8	57	-2					
NOUMEA	53.11	116.6	9	11	0					
KARACHI	54.64	303.6	9	22	0					
IRKUTSK	54.76	351.3	9	21	-2					
WARSAK DAM	54.83	314.7	9	23	0	17	7	11		
QUETTA	56.47	308.4	9	33A	-2	17	21	3	11	43 PP
FRUNSE	57.97	325.1	9	44	-2					
SEMIPALATNSK	60.30	334.6	9	55	-7					
KERGUELEN I.	61.38	212.3	10	7	-2	18	33	12		
ONERAHI	63.66	129.4	10	31	7					
ROXBURGH	63.83	141.1				18	57	5	23	15
KAIMATA	63.91	137.3	10	37	11					
COBB RIVER	64.26	135.4	10	28	0					
WILKES	64.39	182.4				19	4	5		
OASIS-BUNG.	65.13	186.7	10	32	-2	19	16	8		
GEBBIES PASS	65.21	138.1	10	34	0					
KARAPIRO	65.22	131.3	10	36	2					
PETROPAVLOVK	65.33	26.7	10	33	-2					
TONGARIRO	65.63	132.6	10	37	0					
WELLINGTON	65.77	135.0	10	37	-1	19	18	2		
MIRNY	66.60	189.8	10	42	-1	19	35	9		
TANANARIVE	68.98	250.5	10	57K	-1				11	24 PCP
TIKSI	73.79	4.2	11	24	-3					
MAKHACH-KALA	75.61	315.2	11	36	-1	21	13	3		
TIFLIS	77.22	313.4	11	46	0	21	36	9		
CAPE HALLETT	78.00	165.3	11	46K	-4				14	46 PP
SOTCHI	81.28	314.4	12	7	-1					
KSARA	82.73	304.2	12	17A	2	22	31	6	15	27 PP
JERUSALEM	83.05	302.1	12	18	1					
PIETERMZBURG	85.22	240.6	12	30	2					
SIMFEROPOL	85.46	315.2	12	30	1	23	8	16		
HELWAN	86.20	299.9	12	34	1	23	9	10		
HONOLULU	86.90	68.7	12	39	3					
LWIRO	87.06	267.9	12	37	0					
PRETORIA	87.19	244.5	12	37	-1					
SOUTH POLE	88.20	180.0	12	40	-2				16	4 PP
GRAHAMSTOWN	88.48	236.9	12	45	1					
APATITY	88.79	337.6	12	45K	0					
ISTANBUL KA.	88.80	311.0	12	45	0	23	19	-4		
PULKOVO	89.33	329.7	12	49	1	23	29	1		
KIMBERLEY	90.15	241.4	12	51	-1					
IASI	90.19	317.0	12	51	-1	23	30	-6	16	44 PP
BUCHAREST	91.13	314.2	12	56K	0	24	36	52	23	37 SKS
SODANKYLA	91.38	337.2	12	56	-1					
CAMPULUNG	91.90	315.1	13	2	2					
ATHENS	92.84	307.7				23	36	-23	16	52 PP
SOFIA	93.13	312.5	13	6	1				16	45 PP
KIRUNA	93.75	337.8	13	6	-2	23	42	-25		
COLLEGE	94.29	25.2	13	10	-1				16	55 PP
WARSAW	94.43	322.1	13	9	-2				23	50 SKKS
KRAKOW	95.24	319.9	13	16	1				17	7 PP
UPPSALA	95.73	329.9	13	17	0				25	58 PS
RACIBORZ	96.35	320.0	13	21	1					
BRATISLAVA	97.24	318.2	13	26	2				17	23 PP
NORD	97.50	353.7	13	24	-1					
SKALSTUGAN	97.67	334.0	13	26K	0					
PRAGUE	98.76	320.3	13	25	-6	24	14	-35	17	35 PP
COPENHAGEN	99.08	326.1							17	45 PP
POTSDAM	99.27	322.7	13	34	1				17	41 PP
MESSINA	99.27	308.3	13	35	2	24	13	-41	17	40 PP
COLLMBERG	99.48	321.7	13	35	1				17	42 PP
TRIESTE	99.80	315.9							17	31 PP
HALLE	100.10	322.0	13	38	1				17	45 PP
JENA	100.43	321.4	13	39	1				17	47 PP
HAMBURG	100.89	324.3	13	43	2					
ROME	101.21	312.3				25	50	40	17	49 PP
FLORENCE X.	101.83	314.3				25	37	22	27	11 PS
STUTTGART	102.35	319.6	13	49K	2				18	2 PP
EBINGEN	102.61	319.0							18	3 PP
STRASBOURG	103.31	319.6				24	27	-61	18	3 PP
DE BILT	104.07	323.5							18	16 PP
NEUCHATEL	104.20	318.1							17	58 PP
MONACO	104.56	314.7							18	5 PP
BESANCON	104.79	318.5							18	7 PP
RESOLUTE	104.98	8.1	13	59K	0	25	47	6	17	31 PKP
PARIS	106.64	320.7	18	35	777	25	9	32	20	49 PPP
CLERMONT-FD.	107.07	317.5							34	21 SS

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KEW	107.51	324.0								18	40 PP
ALGIERS UNI.	109.31	308.4				25	8	20		18	48 PP
TAMANRASSET	109.49	293.4	14	27	777	24	57	8		18	58 PP
RELIZANE	111.51	307.8	18	35	11					18	40 PP
GRANADA	114.35	310.3								19	33 PP
LICK	116.50	48.7	18	35	1						
HUNGRY HORSE	116.89	34.9	18	36	2					19	39 PP
LISBON	117.96	313.5								20	17 PP
EUREKA	119.81	44.6	18	42	2					20	5 PP
BOZEMAN	120.04	36.3	18	44	4					20	12 PP
PASADENA	120.24	51.0	18	42	1					20	5 PP
SALT LAKE C.	122.04	41.6	18	48	4					20	18 PP
BOULDER CITY	122.09	47.9	18	47	3						
RAPID CITY	125.49	34.0	18	51	0					20	41 PP
TUCSON	126.65	50.3	18	58	5						
MBOUR	131.84	287.7	19	8	5					21	25 PP
LUBBOCK	132.59	44.0	19	7	2					22	34
SEVEN FALLS	134.49	6.5	19	15	7						
SHAWINIGAN	134.80	8.5	19	11	2						
OTTAWA	135.39	11.7	19	13A	3						
MORGANTOWN	139.67	19.1	19	15	-3						
PALISADES	139.98	11.6	19	11	-7					22	3 PP
BERMUDA	149.59	1.0	19	37	2					23	6 PP
LA PAZ	161.37	167.7	19	54	4					24	20 PP
HUANCAYO	162.26	141.2	19	58	7					24	56 PP
SAN JUAN	163.41	6.8	19	54	2					24	32 PP

OCTOBER 27 22.H 32.M 41.S EPICENTRE 56.03 161.15 DEPTH= 147.KM

DEPTH OF FOCUS= 0.018R

A=-0.53131 B= 0.18134 C= 0.82754 D= 0.3230 E= 0.9464
G=-0.7832 H= 0.2673 K=-0.5614 HT= -7.6

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	
KLYUCHI	0.36	324.0	0	21A	-1						0	37	
PETROPAVLOVK	3.25	207.7	0	49K	-3						1	20	*SP
MAGADAN	6.57	306.8	1	39	3	2	57	7			2	9	
KURILSK	13.68	223.4	3	7	-2						3	46	*SP
Y.-SAKHLINSK	14.60	239.2	3	20	-1	5	59	0			4	0	*SP
ABASHIRI	16.13	228.9	3	42	2						4	1	PP
NEMURO	16.17	224.7	3	36	-4								
WAKKANAI	16.21	237.3	3	54	13	6	42	6			4	23	
KUSIRO	16.93	226.6	3	48	-2	6	42	-14			5	12	
ASAHIGAWA	17.15	232.3	3	53	1	6	58	2					
OBIHIRO	17.48	228.9	3	54	-2	7	4	0					
SAPPORO	18.17	232.8	4	4	0	7	9	-10	4	20	8	9	SS
URAKAWA	18.29	228.3	4	3	-2	7	10	-11			4	27	
TOMAKOMAI	18.50	231.3	4	4	-4	7	24	-1					
SUTTSU	18.89	234.3	4	23	11	7	35	2			5	24	
MURORAN	18.93	232.1	4	19	7	7	24	-10					
MORI	19.29	232.4	4	18	2	7	37	-4			4	37	
HAKODATE	19.48	231.5	4	17	-1	7	35	-10			4	39	
HATINOHE	20.16	228.0	4	40	15	7	48	-10			9	5	
AOMORI	20.24	229.8	4	29	3	7	51	-8			4	48	
TIKSI	20.72	331.4	4	33	3	8	14	6			8	32	PCP
MIYAKO	20.72	225.8	4	29	-2	8	3	-5					
MORIOKA	21.01	227.4	4	34	1	8	8	-6					
AKITA	21.44	229.3	4	40	2	8	22	1			5	22	
MIZUSAWA	21.51	226.6	4	38	0	8	21	-1					
ISINOMAKI	22.03	225.3	4	44	1	8	33	1					
SAKATA	22.24	228.6	4	48	3						5	36	
SENDAI	22.33	225.8	4	47	1	8	39	2			5	47	
YAMAGATA	22.57	226.8	4	49	0	8	44	3					
VLADIVOSTOK	22.74	247.8	4	48	-2								
HUKUSIMA	22.95	225.9	4	54	2	8	51	3					
SUIHWA	23.11	260.4	5	3	9				5	36			
NIIGATA	23.39	228.6	5	32	35						5	39	
ONAHAMA	23.47	224.1	4	58	1	8	58	1			5	19	
SHIRAKAWA	23.60	225.5	4	54	-5	8	58	-1					
AIKAWA	23.65	230.0	5	0	1	9	2	2					
MITO	24.14	224.2	5	5	1	9	11	3			5	49	PP
UTUNOMIYA	24.23	225.4	5	5	0	9	5	-4			5	31	
KAKIOKA	24.38	224.5	5	7	1	9	11	-1					

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TAKADA	24.42	228.8	5	10	4					
TUKUBASAN	24.42	224.6	5	5	-1	9	12	-1	5	34
MAEBASI	24.68	226.6	5	10	1	9	20	3	5	59 PP
WAZIMA	24.77	231.4	5	39	29	9	22	4		
KUMAGAYA	24.77	225.8	5	10	0				6	4 PP
NAGANO	24.81	228.4	5	10	0	9	21	2	6	5 PP
MATUSIRO	24.90	228.2	5	9A	-2	9	14	-7	5	36 6 47
OIWAKE	24.96	227.4	5	13	2					
TOKYO C.M.O.	25.03	224.6	5	16	4	9	25	2	6	1 PP
TITIBU	25.04	226.1	5	11	-1					
MATUMOTO	25.27	228.2	5	14	0	9	28	1	5	41
YOKOHAMA	25.29	224.5	5	13	-2	9	26	-1	5	45
HUNATU	25.58	226.0	5	18	1	9	31	-1		
KANAZAWA	25.59	230.7	5	51	34					
MERA	25.67	223.6	5	24	6				6	6 PP
CHANGCHUN	25.79	257.0	5	16A	-3				5	52
MISIMA	25.84	225.3	5	19	-1	9	34	-2		
IIDA	25.95	227.6	5	21	0				5	55
COLLEGE	25.96	49.3	5	20	-1	9	43	5	7	3
HUKUI	26.16	230.7	5	28	5					
SHIZUOKA	26.19	226.0	5	23	0	9	43	1	5	56
GIHU	26.50	229.1	5	25	-1	9	43	-4	5	59 PP
OMAESAKI	26.59	225.9	5	28	1				6	10 PP
NAGOYA	26.61	228.5	5	25	-2				6	19 PP
HIKONE	26.83	229.8	5	28	-1	9	46	-6	6	20 PP
KAMEYAMA	27.09	229.0	5	32	1	9	54	-3		
KYOTO	27.26	230.3	5	32A	-1	10	0	1		
OSAKA	27.67	230.2	5	39	3	9	51	-15	10	53
KOBE	27.79	230.7	5	47	10				11	9
OWASE	27.88	228.5	5	38	0					
YONAGO	27.98	234.3	5	37	-2				8	21
SUMOTO	28.20	230.8				10	15	1	6	14
SIOMISAKI	28.59	228.5	5	49	4				11	13
KOTI	29.47	231.9	5	53	1	10	37	2	11	31
HUKUOKA	30.86	236.3	6	5	0	10	50	-6	7	7 PP
SAGA	31.19	236.1	6	14	6					
MIYAZAKI	31.79	233.2	6	17	4	11	14	3		
TOMIE	32.43	237.4	6	19	1					
KAGOSIMA	32.48	234.0	6	42	23	11	24	2		
IRKUTSK	32.69	287.8	6	20A	-1				7	37 PP
PEKING	33.38	260.6	6	24	-3					
ULAN-BATOR	33.60	279.4	6	24	-4				7	46 PP
SITKA	33.92	61.2	6	32	1	11	46	2	7	49 PP
ZO-SE	37.40	245.1	6	58	-3	12	33	-4	7	34 7 51 *SP
NANKING	37.88	248.7	7	2A	-3				7	38
RESOLUTE	40.38	23.5	7	25A	0	13	25	3	9	7 PP
NORD	42.60	359.5	7	43	0	13	54	0	10	16 PPP
LANCHOW	43.06	267.3	7	48A	1	14	2	1	9	32 PP
ALBERNI	43.41	66.4	7	51K	1					
YUMEN	43.91	277.1	7	57	3					
HSINKONG	43.94	238.1	7	54	0	14	14	0		
HORSESHOE B.	44.13	65.4	7	56K	0	14	21	4		
GUAM	44.32	203.2	7	58	1				9	25 PCP
VICTORIA	44.60	66.4	8	0A	1	14	27	4		
SEATTLE	45.73	66.7	8	11K	3	14	46	7		
HONOLULU	45.93	122.1	8	9	-1	14	45	3	8	41
SEMIPALATNSK	46.16	298.8	8	11	-1					
CHENGTU	46.97	262.0	8	16	-2					
CORVALLIS	47.23	70.5	8	19	-1					
CANTON	47.98	246.8	8	24A	-2	15	12	1		
HONG KONG	48.17	245.3	8	27	0					
TRUK	48.99	192.3	8	32	-2				9	5 9 20 *SP
HUNGRY HORSE	49.43	61.0	8	37	0	15	34	3	10	3 PCP
BAGUIO CITY	50.08	234.5	8	39	-3	15	39	-1		
SASKATOON	50.34	53.1				15	47	3		
SHASTA	50.39	73.6	8	44K	0					
SVERDLOVSK	50.59	315.6	8	48	2				16	47 *SS
APATITY	50.79	336.9	8	47A	0					
UKIAH	51.06	75.6	8	50	1				9	29
BUTTE	51.76	62.3	8	56	1	16	6	3	10	26 PP
KUNMING	52.07	258.6	8	54A	-3	16	3	-5	9	31
SODANKYLA	52.36	339.6	8	58	-1				13	51 SCP
BERKELEY	52.49	76.0	9	0K	0	16	18	5		
RENO	52.61	72.9	9	2	1					
BOZEMAN	52.76	61.7	9	4	2				9	33
KOROR	52.95	213.9	9	1A	-3	16	21	1	9	34 10 49 PP
KIRUNA	53.08	342.5	9	3A	-2				9	40
LICK	53.21	76.1	9	6K	1					

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PHU-LIEN	53.35	251.8	9	2	-4					11	31	
SCORESBY SD.	53.78	1.3	9	11	1				9	45	10	1 *SP
FRUNSE	54.15	295.1	9	12	0				9	48	17	45 *SS
FRESNO	54.63	75.2	9	17	1							
EUREKA	54.69	70.2	9	17	1	16	49	6				
LHASA	55.01	272.2	9	19A	0	16	49	2	9	55	10	19 PCP
TOCKLAI	55.14	266.8	9	26	6							
SALT LAKE C.	55.90	66.3	9	26	1	17	3	4			9	53
PASADENA	57.46	76.1	9	36	0	17	18	-2	9	49	21	19 SS
SHILLONG	57.68	268.4	9	34A	-4	17	18	-5				
RAPID CITY	57.73	58.0	9	37	-1	17	26	3			39	16 PKPPKP
BOULDER CITY	57.89	72.2	9	39	0	17	29	4			10	4
TASHKENT	57.96	297.4	9	39	-1	17	26	0	10	16	11	56 PP
SKALSTUGAN	58.32	344.2	9	41A	-1							
HELSINKI	59.06	336.2	9	45	-2						11	59 PP
CHATRA	59.34	273.2	9	48	-1						18	47
BOULDER	59.77	62.5	9	52	0							
REYKJAVIK	60.15	1.5	9	56	1							
CHITTAGONG	60.24	266.2	9	54A	-1							
STALINABAD	60.31	295.6	9	55	-1							
RABAUL	60.47	190.3	9	55	-2				10	27	11	6
IVIGTUT	60.85	15.8	9	59	0							
UPPSALA	60.89	339.9	9	59A	-1				10	33		
DEHRA DUN	61.71	282.9	10	6	1						19	19
HOWRAH	62.05	269.2	10	6	-1							
CALCUTTA	62.05	269.2	10	11	4	19	22	64			14	44
WARSAK DAM	62.37	290.3	10	7	-2							
LAHORE	62.78	286.5	10	11	-1						19	30
TUCSON	62.87	72.1	10	14	1	18	37	8			12	14 PP
COPENHAGEN	65.78	341.2	10	32	0							
ASHKABAD	65.89	302.4	10	30A	-2						20	8 *SS
LUBBOCK	66.52	64.6	10	36	0						11	9 PCP
CHICAGO CGS.	66.60	49.4				19	10	-4			20	14 SCS
WARSAW	67.20	334.7	10	41A	0							
QUETTA	67.77	291.1	10	43A	-1	19	29	1			13	10 PP
FLORISSANT	67.83	53.2	10	43	-2	19	28	-1	11	21	20	15 *SS
ST. LOUIS 1	68.02	53.2	10	43A	-3	19	32	1	11	20	20	29 *SS
OTTAWA	68.22	39.5	10	45A	-2	19	33	-1			20	10 PS
HAMBURG	68.23	342.0	10	49	2				11	25		
SHAWINIGAN	68.24	36.9	10	45A	-2	19	33	-1	11	7	11	20
FAYETTEVILLE	68.27	57.5	10	46A	-1	19	37	3	11	27		
PORT BLAIR	68.38	258.5	10	51	3	19	36	0				
SEVEN FALLS	68.38	35.4	10	47	-1	19	37	1			27	3 SSS
DURHAM	68.67	349.4	11	0	10						13	27 PP
TIFLIS	68.77	314.0	10	51	1	19	48	8	11	27	13	15 PP
POTSDAM	68.80	339.7	10	55	5							
BREBEUF	68.87	38.0	10	46	-5	20	41	60				
BUFFALO L.	69.31	42.8	10	52	-2							
CLEVELAND	69.36	45.5									15	10
KRAKOW	69.48	334.5	10	55	0						13	29 PP
WITTEVEEN	69.50	343.8	10	56	1				11	32		
COLLMBERG	69.83	339.3	10	56	-1						15	20 PCS
HALLE	69.85	340.1	10	56	-1				11	32	13	35 PP
RACIBORZ	69.87	335.6	10	57	0						11	20 PCP
SIMFEROPOL	69.97	322.9	10	57	-1				11	31	13	38 PP
GORIS	70.01	311.6	10	59	1	20	2	7			20	39 SKS
IASI	70.04	328.3	10	58	0						15	41
LITTLE ROCK	70.20	57.0	10	58	-1	19	59	2				
SKALNATE PL.	70.21	333.9	11	3	4	20	0	3			11	22 PCP
DE BILT	70.43	344.5	11	0A	0							
JENA	70.46	340.1	11	1	0				11	35	13	55 PP
RATHFARNHAM	70.55	352.0	10	59	-2							
PRAGUE	70.71	338.0	11	3	1						13	32 PP
PLAUEN	70.76	339.6	11	0	-2				11	36		
PRUHONICE	70.77	337.9	11	1	-1						15	30
CHEB	71.12	339.3	11	4	-1						15	30
KARACHI	71.20	288.3	10	49	-16							
BENSBERG	71.22	343.0	11	5A	0							
PENNSYLVANIA	71.38	43.4	11	39	33	20	59	48				
MORGANTOWN	71.57	45.5	11	5	-2	20	12	-1				
KEW	71.78	347.9	11	8	0	20	21	6			11	31 PCP
BRATISLAVA	71.91	335.6	11	9	0				11	45	13	42 PP
WESTON	72.40	38.1	11	11A	-1	20	20	-2				
CAMPULUNG	72.53	329.1	11	12	-1							
PALISADES	72.68	40.5	11	12A	-2	20	19	-6	11	48	20	47 SKS
FORDHAM	72.84	40.6	11	13	-2	20	23	-4	11	48	16	30
HALIFAX	72.87	31.7				20	7	-20				
STUTTGART	72.98	341.0	11	15A	0				11	51		

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KALOCSA	72.99	333.7								11	26	PCP
BUCHAREST	72.99	328.0	11	16A	0			11	53	12	42	
TUBINGEN	73.23	341.0	11	18	1							
STRASBOURG	73.42	341.9	11	19	1	20	43 9	11	55	14	5	PP
EBINGEN	73.59	341.0	11	21A	2			11	55			
BOMBAY	73.63	279.5	11	17	-2	20	35 -1			14	1	PP
PARIS	74.02	345.5	11	23A	1			11	59	14	13	PP
BELGRADE	74.21	332.1	11	22K	-1			11	59	14	15	PP
MADRAS	74.29	269.9	11	22	-1	20	42 -1			14	8	PP
ZAGREB	74.38	335.5	11	26	2							
BASLE	74.46	341.8	11	24	0					14	42	
CHUR	74.76	340.2	11	25A	-1							
BESANCON	75.01	342.8	11	27	0					14	19	PP
TRIESTE	75.05	337.0	11	26	-1	20	57 5			14	27	PP
NEUCHATEL	75.09	342.0	11	28	0					18	24	
ISTANBUL KA.	75.10	324.5	11	26	-2	20	57 5					
CHAPEL HILL	75.11	46.8	11	27	-1							
SOFIA	75.38	329.2	11	28	-1					15	47	
COLUMBIA	75.94	49.2	11	31	-1					13	35	
DJAKARTA	76.29	236.2	11	30	-4	20	59 -6					
SKOPJE	76.59	330.3	11	38A	2					12	55	
CHARTERS TS.	76.78	194.4	11	36A	-1	21	11 0					
CLERMONT-FD.	76.90	344.4	11	40A	2							
PRATO	77.30	338.3	11	39	-1	21	23 7					
FLORENCE X.	77.37	338.1	11	41A	1	21	40 23	12	16	14	45	PP
NOUMEA	78.14	175.0	11	43	-2			12	21			
ROME	78.90	336.7	11	50A	1	21	40 7	12	18	14	37	PP
TARANTO	79.11	332.8	11	26	-24	21	56 21					
KSARA	79.13	316.2	11	52A	2	21	41 5	12	30	13	42	IPP
TACUBAYA	79.37	71.2	11	55	4	21	43 5			14	56	PP
ATHENS	79.62	327.1	11	48A	-5							
JERUSALEM	81.19	315.7	11	59K	-2					15	55	
MESSINA	81.68	333.3	12	3A	-1	22	10 8	12	12	15	12	PP
BRISBANE	83.46	187.3	12	11A	-2	22	21 1					
TOLEDO	83.64	348.6	12	16A	3	22	33 11					
BERMUDA	83.68	37.6	12	19	5	22	25 3			24	5	PS
ALICANTE	84.70	345.6	12	21	2	22	51 19			15	40	PP
LISBON	85.26	352.4	12	22A	0	22	45 7					
COMITAN	85.70	67.3				22	33 -9			22	53	
ALGIERS UNI.	85.70	342.5	12	24	0	22	46 4	12	58	15	42	PP
GRANADA	86.25	347.9	12	28K	2	22	57 10			16	11	PP
ALMERIA	86.44	346.9	12	30	3	22	56 7					
RELIZANE	87.10	344.3	12	30	0					14	36	
RIVERVIEW	89.91	188.3	12	43A	-1	23	25 4	13	18	22	58	SKS
SAN JUAN	95.87	44.5	13	11	0					13	46	
TAMANRASSET	98.82	337.3	13	24	-1	24	47 9			17	24	PP
CHINCHINA	103.61	59.0				24	12 2					
BOGOTA	104.65	57.8				24	19 4					
HUANCAYO	118.35	67.9	18	34	4					26	31	SKKS
TANANARIVE	118.65	278.7	18	32A	1					21	13	
LA PAZ	125.80	63.7	18	49	4					20	46	PP
WILKES	127.73	203.4								20	46	PP
CAPE HALLETT	128.19	176.5	18	48K	-1			19	25			
SCOTT BASE	133.66	178.4	18	49	-11					22	15	SKP
PRETORIA	134.64	292.0	18	52	-9							
PIETERMZBURG	136.56	286.4	19	5	0							
KIMBERLEY	138.83	293.0	18	59	-10							
SOUTH POLE	145.85	180.0	19	19	-3			19	56			

OCTOBER 29 2.H 21.M 46.S EPICENTRE -1.76 116.01 DEPTH= 102.KM

DEPTH OF FOCUS= 0.011R

A=-0.43830 B= 0.89831 C=-0.03059 D= 0.8987 E= 0.4385
G= 0.0134 H=-0.0275 K=-0.9995 HT= 7.2

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
DJAKARTA	10.15	244.1	2	56	32	4	39	22				
NHATRANG	15.45	334.2	3	31	-2	6	40	19				
MANILA	16.97	16.7	3	55	3	7	33	36				
BAGUIO CITY	18.62	13.9	4	9	-3	7	56	24				
KOROR	20.53	63.7	4	28	-4	8	34	23				
HONG KONG	23.98	355.8	5	6	0							
PHU-LIEN	24.23	338.2	5	9	1						6	32

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OCTOBER 30 1.H 42.M 59.S EPICENTRE 35.15 27.20 DEPTH= 0.KM

A= 0.72883 B= 0.37462 C= 0.57313 D= 0.4571 E=-0.8894
G= 0.5097 H= 0.2620 K=-0.8195 HT= 0.1

SE= 3.30

	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	
ATHENS	3.97	316.1	1	5K	1	1	53	1			2	13	SG
ISTANBUL KA.	6.09	13.4	1	34	0	2	38	-7					
HELWAN	6.31	145 4	1	37	0	2	46	-5					
KSARA	7.29	98.0	1	49	-2	3	13	-2					
JERUSALEM	7.49	114.4	1	53	-1	3	16	-4					
SOFIA	8.12	339.4	2	5	3	3	45	9					
SKOPJE	8.19	328.1	2	6A	3						4	18	
BUCHAREST	9.30	355.1	2	19A	0	4	8	3			4	51	S*
TARANTO	9.50	306.9	2	28	7	4	8	-2			3	3	
REGGIO CALA.	9.74	291.0	2	25	0	4	1	-15					
MESSINA	9.84	291.4	2	25A	-1	4	4	-15					
BELGRADE	10.95	333.9	2	46A	5	4	52	6					
SIMFEROPOL	11.13	26.3	2	45	1	3	11	-99					
TIMISOARA	11.52	338.6	3	42	53						5	8	
IASI	12.04	1.2	2	56	0	4	21	-51					
SZEGED	12.31	336.4				4	23	-56			3	16	
SOTCHI	12.82	45.2	3	6	-1								
ROME	13.34	304.7	3	31	17	5	29	-15					
ZAGREB	13.64	324.8	3	31	14	7	42	111					
BUDAPEST	13.74	336.2									3	33	PPP
HURBANOVO	14.37	334.9	4	28	61						6	36	
TRIESTE	14.64	319.8	3	26	-5	6	7	-8			7	53	SGSGSG
SKALNATE PL.	14.93	342.0	3	41	7	6	38	17					
FLORENCE X	15.02	309.8	3	38	2	6	42	18					
BRATISLAVA	15.02	333.1	3	35	-1	6	25	1					
TIFLIS	15.26	59.3	3	41	2								
BOLOGNA	15.34	312.3	3	47	7	6	36	5					
RACIBORZ	16.31	339.0	3	55	3								
PAVIA	17 00	311.5	4	7	6						8	37	
PRUHONICE	17.47	331.9	4	8	1	7	24	4					
MONACO	17 48	305.3	4	7	0								
MAKHACH-KALA	17.56	57 5	4	9	1								
PRAGUE	17.59	331 9	4	8	0	7	31	8					
WARSAW	17.64	347.4	4	15	6						7	57	SS
OROPA	17.96	311.4	4	9	-4						6	34	
RAVENSBURG	18.19	319.3	4	19	3	7	30	-7					
CHEB	18.43	328.6	4	29	10	7	50	8					
EBINGEN	18.78	319.4	4	21	-2	7	35	-15					
PLAUEN	18.84	329.1	4	20	-4						4	29	PP
TUBINGEN	18.94	320.4	4	25	0	7	53	-1					
STUTTGART	19.02	321.2	4	23K	-3	8	1	5			4	45	PP
COLLMBERG	19.12	331.9	4	24	-3	9	2	64			6	2	PCP
BASLE	19.17	316.1	4	23	-5	8	6	7					
NEUCHATEL	19.26	314.1	4	25	-4	8	9	8					
JENA	19.41	329.1	4	27	-3	8	5	1			4	39	PP
KARLSRUHE	19.58	320.7	4	37	5	8	14	6					
ALGIERS UNI.	19.61	281.8	4	29	-4	8	11	2			4	49	PP
STRASBOURG	19.66	319.0	4	32	-1	8	14	4			4	53	PP
HALLE	19.69	330.8	4	33	-1						7	3	
BESANCON	19.96	313.7	4	34K	-3						5	1	PP
POTSDAM	19.96	334.0	4	40	3						9	34	SSS
CLERMONT-FD.	21.10	307.5	4	44	-5	8	54	15			9	31	SSS
BENSBERG	21.43	323.6	4	52	0	8	49	3					
RELIZANE	21.70	279.3	4	53	-2	9	0	9			7	57	
TORTOSA	21.75	293.0	5	0	5	8	56	4					
HAMBURG	22.05	331 9	4	56	-2								
ALICANTE	22.38	286.4	5	7	5	9	9	6			5	35	PP
TAMANRASSET	22.57	242.7	5	5K	2	9	11	4			5	43	PP
PARIS	22 76	314.4	5	3	-2	9	13	3			5	35	PP
WITTEVEEN	22.89	326.8	5	7	0								
COPENHAGEN	22.90	338.2	5	7	0								
DE BILT	23 12	323.9				9	20	3					
ALMERIA	24.03	282.8	5	16	-2	9	42	9					
PULKOVO	24.72	3.8	5	34	10								
GRANADA	24 90	283.7	5	31K	5	10	5	18			6	56	PP
HELSINKI	25.08	357.4	5	26	-2	9	44	-6					
TOLEDO	25.16	290.1	5	28	-1	10	2	10					
UPPSALA	25.49	348.8	5	27	-5	9	54	-3					
KEW	25.61	318.0				10	13	14					
DURHAM	27.96	323.5	5	36	-18	10	32	-6					

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RATHFARNHAM	29.70	318.1	6	27	17					
SKALSTUGAN	29.91	346.6	6	7	-5					
SODANKYLA	32.27	359.6	6	30	-3					
APATITY	32.64	4.4	6	32	-4	11	43	-9		
KIRUNA	32.96	355.3	6	35	-4					
QUETTA	33.67	87.1	6	46	1	12	7	-1	7	25 PCP
KARACHI	35.37	94.1	7	7	7					
WARSAK DAM	36.31	78.7	7	7	0					
FRUNSE	37.20	63.4	7	17	2					
LWIRO	37.23	177.4	7	17	2				9	38 PP
SEMIPALATNSK	40.92	51.3	7	58	12					
MBOUR	44.68	253.8	8	30	13				18	13 SS
CHATRA	51.41	81.8	9	8	-1					
SHILLONG	55.76	80.9	9	39K	-2					
ULAN-BATOR	58.49	50.9	10	3	2	18	4	1		
TIKSI	60.59	20.9	10	14	-1	18	28	-2		
RESOLUTE	64.11	345.5	10	44	6	19	28	13		
HALIFAX	66.86	309.1	10	52	-4					
SEVEN FALLS	70.10	314.0	11	13A	-3					
SHAWINIGAN	71.53	314.2	11	23A	-2					
BREBEUF	72.59	313.6	11	29	-2					
WESTON	72.85	309.9	11	31A	-2					
OTTAWA	73.88	314.4	11	37A	-2					
PALISADES	75.22	309.8	11	41	-6	21	25	0	27	13 SS
MORGANTOWN	79.78	311.4	12	11A	-1					
COLLEGE	80.23	357.8	12	12	-2					
CHAPEL HILL	81.46	308.0	12	23	2					
SAN JUAN	82.27	286.9	12	26	1					
MATUSIRO	84.08	49.1	12	34A	0	23	0	2		
TUKUBASAN	85.45	48.4	12	31	-10	22	20	-52		
RAPID CITY	89.17	326.7	12	58	-1					
HUNGRY HORSE	89.96	335.3	13	1	-2					
FAYETTEVILLE	90.55	316.3	13	4A4	-2					
EUREKA	98.32	332.0	13	40	-1					
LICK	102.29	335.0							18	23 PP
SOUTH POLE	124.97	180 0	19	1	-2					

OCTOBER 30 2.H 13.M 8.S EPICENTRE 53.12-166.82 DEPTH= 0.KM
A=-0.58687 B=-0.13741 C= 0.79794 D=-0.2280 E= 0.9737
G=-0.7769 H=-0.1819 K=-0.6027 HT= -6.6

SE= 2.78

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
COLLEGE	15.23	32.0	3	38	0	6	48	19				
SITKA	18.36	65.0	4	18	0							
CORVALLIS	29.48	89.1	6	7	-1							
TIKSI	32.90	328.3	6	39	1							
MINERAL	32.96	94.3	6	38	-1							
HUNGRY HORSE	33.11	76.5	6	40	0	13	4	65			9	22 PCP
BERKELEY	34.14	98.3	6	53	4	12	16	1				
RENO	34.54	93.9	6	49	-4							
LICK	34.86	98.5	6	54	-1							
RESOLUTE	35.02	26.1	6	54	-3	12	14	-15				
BOZEMAN	36.23	78.8	7	5	-2							
FRESNO	36.34	97.5	7	7	-1							
EUREKA	36.89	90 8	7	12	-1	13	17	19				
PASADENA	39.10	99.2	7	23	-8							
BOULDER CITY	39.85	94.1	7	37	0							
TUKUBASAN	40.34	267.1	7	48	7						9	31
MATUSIRO	41.25	269.0	7	48A	-1							
RAPID CITY	41.74	75.9	7	52	-1							
TUCSON	44.81	94.7	8	17	-1							
FAYETTEVILLE	52.14	78.3	9	29A	14							
SCORESBY SD.	54.14	13.8	9	29	0							
TRUK	56.50	231.7	9	49	2							
SHAWINIGAN	56.77	55.4	9	58	9							
BREBEUF	57.07	56.8	9	49	-2							
MORGANTOWN	57.84	65.6	10	54	58							
APATITY	58.70	351.0	10	0	-2							
KIRUNA	59.25	356.8	10	5K	-1							
SODANKYLA	59.41	354.0	10	5	-2						10	55 PCP
PALISADES	60.11	60.7	10	16	4	18	12	-12			26	18
WESTON	60.46	58.0	10	12	-2							

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CHAPEL HILL	60.98	68.1	10 27	9						
COLUMBIA	61.26	70.9	10 27	7						
SKALSTUGAN	63.64	0.4	10 35	-1						
RABAUL	66.70	225.4	10 34	-21						
UPPSALA	67.33	357.6	10 58	-1						
HAMBURG	73.65	2.0	11 39	1						
COLLMBERG	75.95	0.1	11 51	0						
JENA	76.32	1.0	11 51	-2						
SHILLONG	76.36	294.3	11 51	-2						
PRAGUE	77.18	359.2	11 58	0						
PARIS	78.04	7.2	12 2	0						
STUTTGART	78.43	2.7	12 4	-1					12 16	PCP
TUBINGEN	78.67	2.8	12 6	0						
EBINGEN	79.01	2.9	12 8	0						
BRATISLAVA	79.03	357.3	12 8	0						
WARSAK DAM	79.54	314.0	12 8	-3						
SAN JUAN	81.73	70.5	12 21	-1						
CHARTERS TS.	83.35	223.7	12 30	-1						
FLORENCE X.	83.46	1.4	12 30K	-1	23 10	18			24 4	PS
QUETTA	84.80	315.5	12 38A	0	23 4	-2			15 58	PP
ROME	85.36	0.5	12 44	3	23 10	-1				
GRANADA	88.90	13.3	13 2K	4					17 50	PPP
POONA	91.61	304.2	13 11	0						
RIVERVIEW	93.98	214.0			24 37	7				
HELWAN	95.86	344.2	13 31	1						
SOUTH POLE	142.93	180.0	19 31	-5						

OCTOBER 30 7.H 30.M 18.S EPICENTRE 35.25 27.69 DEPTH= 0.KM

A= 0.72467 B= 0.38036 C= 0.57462 D= 0.4647 E=-0.8854
G= 0.5088 H= 0.2670 K=-0.8184 HT= 0.0

SE= 2.55

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	4.19	311.5	1	9K	3	1	58	1			2	19	SG
ISTANBUL KA.	5.91	10.2	1	28	-3	2	36	-4					
HELWAN	6.18	149.2	1	33	-2	2	45	-2					
KSARA	6.91	99.6	1	44	-1	3	5	0			2	15	PG
JERUSALEM	7.18	116.8	1	47K	-2	3	6	-6					
SOFIA	8.17	336.8	2	5	2	3	44	7					
SKOPJE	8.33	325.6	2	7A	2	3	54	13					
BUCHAREST	9.24	352.9	2	25	8	4	0	-3					
TARANTO	9.76	305.3	3	36	71	5	46	90					
REGGIO CALA.	10.08	289.9	2	28	-1	4	16	-8					
MESSINA	10.18	290.3	2	30A	0	4	15	-11			2	57	P*
SIMFEROPOL	10.86	25.0	2	40	0								
BELGRADE	11.04	332.1	2	36	-6	5	4	16					
TIMISOARA	11.58	336.8	2	58	9	5	6	5			6	5	S*
IASI	11.93	359.6	2	59	5								
SZEGED	12.38	334.8	3	5	5	5	15	-5			3	21	PP
SOTCHI	12.46	44.6	2	59	-2								
ROME	13.62	303.7	3	18K	1	5	56	6			6	24	SSS
ZAGREB	13.79	323.5	3	23	4						7	27	
BUDAPEST	13.81	334.8									3	31	PPP
HURBANOVO	14.45	333.6	3	57	29								
TRIESTE	14.83	318.7	3	29	-4	6	10	-9			8	2	SGSGSG
TIFLIS	14.86	59.2	3	33	0								
SKALNATE PL.	14.96	340.8	3	44	10	6	35	13					
BRATISLAVA	15.12	331.8	3	39	3	6	39	14					
FLORENCE X.	15 26	308.8	3	40	2	6	25	-4					
PRATO	15.40	309.0	3	12	-28	7	10	38					
VIENNA-H.	15.47	330.5	3	44	3	6	23	-11			3	56	PP
BOLOGNA	15.57	311.3	3	45	3	6	45	9					
DABROWA	16.28	340.3	3	55	4								
MAKHACH-KALA	17.17	57.4	4	2	-1								
PAVIA	17.24	310.7	4	9	5						6	4	
PRUHONICE	17.57	330.9	4	9	1	7	22	0			8	3	
WARSAW	17.63	346.3	4	12A	4						7	34	SS
PRAGUE	17.69	330.9	4	10A	1	7	29	4					
MONACO	17.75	304.6	4	8	-2								
CHUR	17.89	315.9	4	12K	0	7	37	7					
OROPA	18.19	310.7	4	4	-11						6	7	
RAVENSBURG	18.38	318.4	4	18	0	7	54	13			7	18	
CHEB	18.55	327.7				7	46	2					

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PLAUEN	18.96	328.2	4	22	-3	8	6	12	4	52
EBINGEN	18.97	318.6	4	24K	-1	7	59	5	4	48 PP
TUBINGEN	19.12	319.6	4	24	-3					
STUTTGART	19.20	320.3	4	26K	-2	8	5	6	4	49 PP
COLLMBERG	19.22	331.1	4	25	-3	8	0	0	4	55 PP
BASLE	19.38	315.4	4	31K	1				9	11
NEUCHATEL	19.47	313.4	4	28	-3	8	7	2		
JENA	19.53	328.3	4	28	-3	8	10	4	4	54 PP
KARLSRUHE	19.76	320.0	4	32	-2	8	20	8		
HALLE	19.79	329.9	4	35	1	8	21	9	4	56 PP
STRASBOURG	19.85	318.2	4	34K	-1	8	11	-3	8	57 PCP
ALGIERS UNI	19.98	281.5	4	34A	-3	8	14	-3	4	50 PP
POTSDAM	20.04	333.2	4	36	-1	8	29	11	4	44
BESANCON	20.18	313.0	4	36	-3	8	2	-18	8	30 SS
BARCELONA	20.94	294.7	4	27	-20	8	55	19		
CLERMONT-FD.	21.35	306.9	4	49A	-2	8	53	9		
BENSBERG	21.59	322.9	4	52	-1	8	48	0		
RELIZANE	22.08	279.2	4	58	0					
HAMBURG	22.15	331.2	4	56	-3				5	31 PP
ALICANTE	22.73	286.1	5	5	0	9	7	-2	5	33 PP
COPENHAGEN	22.96	337.6	5	8	1	9	14	1		
PARIS	22.97	313.8	5	8	1	9	20	6	5	42 PP
WITTEVEEN	23.03	326.2	5	12	5					
DE BILT	23.27	323.3				9	18	-1		
ALMERIA	24.39	282.6	5	20	-1	9	42	4	5	48 PP
PULKOVO	24.59	3.2	5	25	2					
HELSINKI	24.99	356.8	5	26	-1					
GRANADA	25.27	283.6	5	30A	1	10	16	23	6	7 PP
UPPSALA	25.47	348.2	5	29	-2	9	57	0	6	8 PP
TOLEDO	25.51	289.9	5	31	0	10	5	8		
KEW	25.81	317.6				10	14	12		
DURHAM	28.12	323.0	5	59	4					
LISBON	29.51	287.7	6	8K	0				6	54 PP
RATHFARNHAM	29.89	317.7							7	8 PP
SKALSTUGAN	29.90	346.2	6	7	-4				6	59 PP
SODANKYLA	32.17	359.2	6	27	-4	11	43	-1		
APATITY	32.51	4.1	6	30	-4					
KIRUNA	32.89	354.9	6	34	-4				8	5
QUETTA	33.26	87.5	6	41A	0	12	1	0	7	55 PP
NAMANGAN	34.79	67.1	6	54	0					
KARACHI	34.98	94.6	7	2	6					
WARSAK DAM	35.89	79.1	7	1	-3					
FRUNSE	36.80	63.6	7	2	-9					
LAHORE	38.83	81.8	7	28	0					
SEMIPALATNSK	40.54	51.4	7	54	12					
DEHRA DUN	42.26	82.0	8	38	42	14	23	5		
MBOUR	45.10	254.1	8	21	1				18	18 SS
CHATRA	50.99	82.1	9	5	0	16	20	-2		
LHASA	52.96	77.1	9	21	1	16	48	-1		
SHILLONG	55.34	81.2	9	35	-3					
CHITTAGONG	56.77	84.7	9	48A	0					
TANANARIVE	57.08	157.5	9	54	4					
ULAN-BATOR	58.11	51.1	9	57	0					
LANCHOW	60.27	64.9	10	13	1					
TIKSI	60.35	21.0	10	11	-2					
CHENGTU	62.72	70.4	10	29	0	18	57	0		
KIMBERLEY	63.72	182.9	10	36A	1					
RESOLUTE	64.11	345.6	10	39	1					
KUNMING	64.26	76.5	10	41	2	19	14	-2		
PIETERMZBURG	64.58	177.4	10	44	3					
PEKING	67.37	56.3	10	59	0	19	52	-2		
GRAHAMSTOWN	68.22	181.0	11	6K	2					
SEVEN FALLS	70.31	314.2	11	16	-1					
SHAWINIGAN	71.75	314.4	11	24K	-2					
BREBEUF	72.81	313.8	11	32	0					
OTTAWA	74.10	314.6	11	39	-1					
PALISADES	75.46	310.0	11	47	0	21	20	-8		
MORGANTOWN	80.01	311.6	12	0	-13					
COLLEGE	80.14	358.1	12	12	-1					
CHAPEL HILL	81.71	308.2	12	21	-1					
MATUSIRO	83.71	49.3	12	33	1	22	50	-4	28	14 SS
COLUMBIA	84.17	307.7	12	37	3					
TUKUBASAN	85.08	48.6	12	39	0					
RAPID CITY	89.30	327.0	13	0	1					
HUNGRY HORSE	90.03	335.6	13	2	-1					
FAYETTEVILLE	90.75	316.5	13	6	0					
BOZEMAN	91.25	332.5	13	9	1					
BUTTE	91.51	333.5	13	8	-1					

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LARAMIE	92.57	326.7	13 14	0		
EUREKA	98.42	332.4	13 42	1		
HUANCAYO	107.43	267.4	18 16	777		18 59 PP
RABAUL	120.26	72.1				20 22 PP
CHARTERS TS	124.30	91.4	19 3	2		
SOUTH POLE	125.07	180.0	19 3	1		

OCTOBER 31 2.H 37.M 0.S EPICENTRE 37.67 140.82 DEPTH= 94.KM

DEPTH OF FOCUS= 0.010R

A=-0.61508 B= 0.50128 C= 0.60859 D= 0.6318 E= 0.7752
G=-0.4718 H= 0.3845 K=-0.7935 HT= -0.8

SE= 2.08

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
HUKUSIMA	0.29	285.2	0 12A	-3	0 21	-6		
SENDAI	0.60	6.0	0 16	-1	0 26	-4		
ONAHAMA	0.73	175.0	0 15A	-3	0 26	-6		
SHIRAKAWA	0.73	221.0	0 16	-2	0 27	-5		
ISINOMAKI	0.85	27.5	0 18K	-1	0 31	-3		
MITO	1.32	192.4	0 23A	-1	0 39	-4		
UTUNOMIYA	1.36	214.4	0 23A	-2	0 40	-3		
NIIGATA	1.42	280.4	0 27	1	0 46	1		
SAKATA	1.45	327.8	0 27	1	0 49	4		
MIZUSAWA	1.47	9.4	0 28	2	0 47	1		
KAKIOKA	1.53	199.8	0 24A	-3	0 41	-6		
TUKUBASAN	1.56	201.9	0 25	-2				
MAEBASI	1.89	228.3	0 31A	-1	0 54	-1		
KUMAGAYA	1.91	217.6	0 31A	-1	0 58	3		
TYOSI	1.95	179.3	0 30	-2	0 51	-5		
MORIOKA	2.04	7.6	0 32A	-1	0 56	-2		
AIKAWA	2.06	280.4	0 34	0	1 0	1		
AKITA	2.12	344.8	0 37A	3	1 4	4		
TAKADA	2.13	255.1	0 38	3	1 3	3		
HONGO	2.13	203.6	0 43	8	1 8	8		
MIYAKO	2.17	24.2	0 34A	-1	1 0	-1		
TOKYO C.M.O.	2.17	203.7	0 34	-1	0 59	-2		
TITIBU	2.19	220.1	0 37	1	1 0	-2		
OIWAKE	2.26	234.2	0 38	2	1 3	-1		
NAGANO	2.32	245.2	0 38	1	1 8	3		
MATUSIRO	2.36	242.4	0 38K	0	1 2	-4		0 47
YOKOHAMA	2.43	203.2	0 39	0	1 6	-2		
MATUMOTO	2.69	238.9	0 45	3	1 17	3		
HUNATU	2.73	217.9	0 44	1	1 15	0		
KOHU	2.73	222.2	0 43K	0	1 12	-3		
MERA	2.86	196.5	0 43	-2	1 18	0		1 5
HATINOHE	2.90	10.7	0 45A	0	1 19	0		
MISIMA	2.96	211.2	0 46	0	1 17	-4		
AJIRO	2.96	208.4	0 46	0	1 20	-1		
TOYAMA	3.05	252.5	0 48	1	1 21	-2		
OSIMA	3.12	202.3	0 47	-1	1 21	-4		
WAZIMA	3.13	265.8	0 50K	2	1 26	1		
AOMORI	3.14	359.4	0 50	1	1 28	3		
IIDA	3.23	229.1	0 51	1	1 28	1		
SHIZUOKA	3.33	216.6	0 50K	-1	1 29	-1		
KANAZAWA	3.52	252.3	0 55	1				
OMAESAKI	3.72	215.2	0 57	0				1 49
HAMAMATU	3.87	221.3	1 0	1				2 5
GIHU	3.97	236.4	1 1K	1	1 44	-2		
NAGOYA	3.99	232.3	1 1	1	1 48	2		1 33
HUKUI	3.99	247.4	1 2	2	1 58	12		
HAKODATE	4.10	358.9	1 2	0	1 56	7		
IBUKISAN	4.25	238.7	1 2	-2	1 53	0		
TSURUGA	4.32	243.5	1 7	2	2 0	6		
HIKONE	4.40	238.3	1 6K	0	1 58	2		
MORI	4.42	357.6	1 6	0	1 49	-8		
KAMEYAMA	4.51	232.6	1 6	-1	1 59	0		
TU	4.55	231.1	1 12	4				
HATIDYOZIMA	4.64	190.3	1 14	5	1 58	-4		
MURORAN	4.65	1.4	1 8	-1	2 7	4		
URAKAWA	4.72	18.0	1 10	0	2 3	-1		
MAIZURU	4.84	244.5	1 14	2	2 13	6		
KYOTO	4.89	238.7	1 14	1	2 10	2		
NARA	5 02	235.0	1 16	2				2 38

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SUTTSU	5.14	355.1	1	19	3	2	19	4			
OWASE	5.20	227.6	1	15	-2				2	34	
OSAKA	5.24	236.4	1	14	-3	2	12	-5	1	59	
TOYOOKA	5.28	247.9	1	19K	1	2	19	1			
SAPPORO	5.40	4.1	1	18	-2	2	27	6			
KOBE	5.45	238.5	1	20	0	2	44	22	3	1	
OBIHIRO	5.55	18.4	1	20	-2	2	22	-3			
WAKAYAMA	5.73	234.8	1	24	0				2	15	
SUMOTO	5.85	237.2	1	24	-2	2	39	7			
SIOMISAKI	5.89	225.8	1	26	0	2	51	18			
KUSIRO	5.96	26.2	1	25	-2	2	28	-7	3	49	
HIMEJI	6.09	240.6				2	35	-3			
SAIGO	6.18	258.5	1	31	1						
ASAHIGAWA	6.21	10.4	1	29	-2	2	52	11			
TOKUSIMA	6.21	236.5	1	30	-1	2	44	3			
OKAYAMA	6.33	243.9	1	34K	2	2	46	2			
YONAGO	6.42	251.8	1	35	1	2	45	-1			
TAKAMATU	6.43	240.6	1	32	-2	2	53	7			
MATSUE	6.62	252.7	1	47	11				2	36	
NEMURO	6.71	31.2	1	33	-5	2	44	-9			
ABASHIRI	6.86	21.4				2	54	-3			
MUROTO	6.99	232.8	1	48	7	3	19	19			
KOTI	7.22	237.4	1	42	-3	3	18	12	2	44	
HIROSIMA	7.56	246.6	1	52	3	3	17	3	3	56	
HAMADA	7.59	251.2	1	57	7	3	20	5			
MATUYAMA	7.60	242.1	1	48	-2	3	13	-2	3	56	
SIMIDU	8.07	235.1	1	56	0	3	30	4			
VLADIVOSTOK	8.71	311.4	2	6A	1	3	46	4			
OOITA	8.72	242.2	2	2A	-3				4	39	
KURILSK	9.21	32.8	2	7	-5	3	46	-8			
Y -SAKHLINSK	9.37	8.0	2	12	-2	3	56	-2	2	52	
HUKUOKA	9.40	247.3	2	11	-3	4	12	13	2	40	
KUMAMOTO	9.59	242.7	2	17	0						
MIYAZAKI	9.63	236.2	2	17	0	4	12	8			
SAGA	9.65	245.9	2	21	3				5	47	
KAGOSIMA	10.42	237.3	2	25	-3				3	9	
UGLEGORSK	11.44	4.1	2	38	-4						
CHANGCHUN	13.26	302.5	3	5	-1						
ZO-SE	17.47	253.8	3	56K	-3						
PEKING	19.33	284.6	4	16	-4						
PETROPAVLOVK	19.80	33.0	4	24	-1				4	48	PP
MAGADAN	22.81	13.2	4	57	2	8	57	4			
SIAN	25.98	272.2	5	31	5						
ULAN-BATOR	26.72	303.4	5	33	1						
HONG KONG	27.58	243.8	5	40	0						
CANTON	27.73	246.2	5	41K	-1	10	15	-1			
IRKUTSK	29.30	311.7	5	54	-2						
LANCHOW	29.52	278.3	5	56K	-2	10	42	-2			
KOROR	30.75	192.4	6	9	1				6	23	6 31 *SP
PHU-LIEN	34.01	250.0	6	35	-2						7 23
TIKSI	34.58	353.4	6	40	-2	12	3	0			16 52 SCS
KUNMING	34.68	259.9	6	42	0	12	4	-1			
NHATRANG	37.94	236.4	7	10	0						
LHASA	41.80	274.2	7	43K	1	13	55	3			8 16 PP
SHILLONG	42.96	268.3	7	51K	0						
CHITTAGONG	44.60	264.3	8	5K	1						
CHATRA	46.10	272.7	8	16	0	14	57	3			
COLLEGE	48.81	32.5	8	38	1						9 1
ANDIJAN	51.89	296.1	9	1	0	16	18	3			10 20 PCP
WARSAK DAM	55.10	288.7	9	20	-5						
CHARTERS TS	57.60	173.9	9	42A	0						
QUETTA	60.31	286.8	10	0	-1	18	6	0			
APATITY	61.91	335.5	10	11	-1						
RESOLUTE	62.10	14.4	10	12A	-1						12 8 PP
ASHKABAD	62.94	298.3	10	18	-1						
SODANKYLA	64.19	336.9	10	25	-2						
KIRUNA	65.75	339.0	10	36	-1						
VICTORIA	66.32	46.2	10	39	-2						
SEATTLE	67.41	46.6									13 33 PP
CORVALLIS	68.43	49.9	10	53A	-1						
BANFF	69.20	40.9	10	59A	0						
SHASTA	71.09	52.9	11	10	0						
SKALSTUGAN	71.15	338.3	11	9	-1						
UKIAH	71.43	54.7	10	53	-19						
HUNGRY HORSE	71.64	42.7	11	15	2						17 11
MINERAL	71.79	52.9	11	14A	0						
UPPSALA	72.18	333.7	11	16	0						11 36 PCP
RENO	73.38	52.8	11	25A	2						

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LICK	73.47	55.5	11 24A	0			
BUTTE	73.83	44.0	11 27	1		11 48	
BOZEMAN	74.88	43.7	11 33	1			
FRESNO	75.00	55.1	11 33A	0			
EUREKA	75.81	51.0	11 39	2		12 43	
COPENHAGEN	77.14	332.9	11 48	3		12 6	PCP
SALT LAKE C.	77.50	48.0	11 47	0			
PASADENA	77.62	56.5	11 48	0			
BOULDER CITY	78.67	53.3	11 54	1		12 24	
RACIBORZ	79.05	326.4	12 17	22			
RAPID CITY	80.13	41.1	12 2	1		14 36	
COLLMBERG	80.31	329.8	12 2	0	12 22		
PRAGUE	80.68	328.3	12 25	21			
JENA	81.17	330.3	12 7	0	12 27		
JERUSALEM	82.11	304.1	12 15	3			
TUCSON	83.60	54.0	12 20	1		13 24	
STUTTGART	83.82	330.2	12 21K	1			
EBINGEN	84.38	329.9	12 24	1			
BASLE	85.46	330.3	12 32A	4	12 50	13 51	
PARIS	86.28	333.9	12 33	1	12 54	13 22	
FAYETTEVILLE	90.67	41.6	12 54A	1			
SEVEN FALLS	90.96	21.0	12 55	0			
OTTAWA	90.99	24.8	12 55	0			
BREBEUF	91.58	23.4	13 3	5			
WESTON	95.11	23.3	13 16K	2			
TAMANRASSET	106.63	317.3	18 18	777		18 52	PP
SOUTH POLE	127.49	180.0	18 54	0	19 15		
BYRD STATION	128.50	167.3	18 57	1	19 13		
HUANCAYO	138.85	61.3	19 20	5			
LA PAZ	146.92	58.3	19 36	6			

OCTOBER 31 10.H 7.M 57.S EPICENTRE 6.82 -82.64 DEPTH= 0.KM

A= 0.12713 B=-0.98484 C= 0.11804 D=-0.9918 E=-0.1280
G= 0.0151 H=-0.1171 K=-0.9930 HT= 6.9

SE= 2.71

	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	
BALBOA HTS.	3.72	55.0	1	0	0	1	43	-2					
CHINCHINA	7.23	104.4	1	48K	-1	3	4	-9					
SANTIAGO MA.	8.76	319.6	2	9	-2	3	53	2					
BOGOTA	8.81	103.9	2	12	1	3	49	-3					
SAN SALVADOR	9.44	317.2	2	16	-4	4	11	3					
COMITAN	13.19	316.1	3	23	12						6	17	
MERIDA	15.58	335.0	3	48A	6	6	45	9			8	21	
OAXACA	17.12	307.5	4	5	3	7	28	16			8	55	
VERA CRUZ	17.98	314.4	4	20A	7						8	11	
PUEBLA	19.39	310 2	4	35	5	8	33	30			10	55	
SAN JUAN	19.78	53.0	4	31	-3	8	16	4			5	15	
HUANCAYO	20.11	158.8	4	35	-3	7	55	-24					
TACUBAYA	20.37	309.4	4	33	-8	8	25	1					
TRINIDAD	21.22	78.1	4	47	-2								
ST VINCENT	21.96	71.7	4	58	1								
ST LUCIA	22.45	69.7	5	1	-1								
ST. CLAUDE	22.45	64.2	5	3	1	9	9	5					
FORT FRANCE	22.51	67.8	4	48	-14	8	58	-7					
BARBADOS	23.53	72.8	5	11	-1								
GUADALAJARA	24.31	306.6	5	23	3	9	55	18			13	3	
MANZANILLO	24.34	302.0	5	27	7	10	3	26			7	39	
COLUMBIA	27.08	2.9	5	46	0	10	25	2					
LA PAZ	27.26	148.3	5	48	0	10	30	4			9	26	PCP
DALLAS	29.04	334.9	5	44	-20	10	36	-19					
CHAPEL HILL	29.14	6.0	6	3	-2						7	38	
LITTLE ROCK	29.22	343.5	6	4A	-1								
BERMUDA	30.44	31.0	6	19	3	11	23	6					
FAYETTEVILLE	30.99	341.6	6	19	-2	11	30	4					
CHIHUAHUA	31.00	317.2	6	20	-1	11	29	3					
LUBBOCK	32.02	328.8	6	29	-1								
GEORGETOWN	32.33	8.1	6	33	0	11	48	2			9	38	
WASHINGTON	32.33	8.1	6	32	-1	11	52	6					
ST. LOUIS 1	32.41	348.9	6	30A	-3	11	46	-2			7	41	PP
FLORISSANT	32.59	348.8	6	32A	-3	11	48	-3					
MORGANTOWN	32.75	3.8	6	33A	-3	11	54	1					
TERRE HAUTE	32.79	353.2	9	33	176	12	43	49					

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WAYNESBURG	33.01	3.5	6	42	3	12	4	7					
PITTSBURGH	33.56	3.7	6	42A	-1	12	8	2					
PHILADELPHIA	33.66	10.4	6	46	2	12	5	-2	8	2	PP		
PENNSYLVANIA	34.10	6.5	6	50	2	12	15	1	7	52	PP		
CLEVELAND	34.52	1.5	6	51	-1	12	19	-2	11	35			
C.C.N.Y.	34.73	11.6	6	48	-6	12	20	-4					
FORDHAM	34.77	11.7	6	53	-1	12	27	3	8	8	PP		
PALISADES	34.92	11.6	6	54	-1	12	23	-4	8	11	PP		
CHICAGO CGS.	35.09	353.5	6	53	-4	12	21	-8	8	17	PP		
TUCSON	36.45	317.7	7	8	0	12	55	5	8	33	PP		
WESTON	36.80	14.1	7	11K	0	12	51	-5	8	36	PP		
TALA POZO	38.76	153.5	7	28	0				8	58	PP		
BOULDER	38.81	331.8	7	27	-1								
OTTAWA	38.90	7.8	7	28A	-1	13	30	2	8	55	PP		
BREBEUF	39.32	10.0	7	31	-1	13	28	-6					
LARAMIE	39.95	332.8	7	37	0								
SHAWINIGAN	40.48	10.5	7	41A	-1	13	39	-12	9	12	PP		
HALIFAX	41.15	20.7	7	44K	-3	14	7	6	9	24	PP		
RAPID CITY	41.24	337.4	7	47	-1	14	4	1	9	22	PP		
BOULDER CITY	41.35	319.2	7	49	0	14	13	9	8	53	PP		
SEVEN FALLS	41.41	12.2	7	49A	0	14	6	1	9	31	PP		
PASADENA	42.59	314.6	7	58A	-1	14	22	-1	9	43	PP		
SALT LAKE C.	42.68	326.9	7	59	-1	14	31	7	8	58			
EUREKA	44 20	322 4	8	12	0								
FRESNO	45.10	316.8	8	20	1								
BOZEMAN	45.84	332.3	8	25	0	15	13	3	9	12			
RENO	46.63	320.0	8	33	2								
LICK	46.65	316.4	8	31A	-1	15	33	12					
BUTTE	46.81	331.5	8	32	-1	15	25	1	10	27	PP		
SANTA CLARA	46.87	316.2	8	35A	2				17	39			
BERKELEY	47.35	316.7	8	37A	0	15	39	8	19	9	SS		
LA PLATA	47.61	152.3	8	33	-6	15	39	4	18	15			
MINERAL	48.22	319.9	8	42A	-2				10	33	PP		
UKIAH	48.64	317.6	8	48	1	16	4	15	10	45	PP		
SHASTA	48.91	319.8	8	47	-2								
HUNGRY HORSE	49.20	332.7	8	51	-1	16	2	5					
SASKATOON	49.29	340.7				15	59	1					
CORVALLIS	51.62	323.6	9	9	-1								
BANFF	51.93	334.3	9	10A	-2								
SEATTLE	52.85	327.2	9	20K	1	16	54	6					
VICTORIA	53.98	327.5	9	24A	-4	17	4	1					
HORSESHOE B.	54.42	328.4	9	29	-2								
MBOUR	64.82	77.4	10	45	2	19	36	13	13	9	PP		
RESOLUTE	68.17	356.5	11	2K	-2	20	4	0					
LISBON	72.89	51.7	11	33A	1								
COLLEGE	73.46	336.2	11	33	-3				11	53			
COIMBRA	73.57	50.2	11	37	1	21	12	6					
HONOLULU	74.03	290.1	11	44	5	21	51	40	12	26			
SCORESBY SD.	74.06	17.7	11	36	-3								
RATHFARNHAM	76.41	36.9	12	9	16								
TOLEDO	76.91	50.8	11	56	0	21	53	10	14	54	PP		
GRANADA	77.19	53.5	12	1K	4	21	50	4	14	31	PP		
ALMERIA	78.09	53.9	11	56	-6	22	0	4					
JERSEY	78.69	41.3				22	10	8					
ABERDEEN	79.17	33.2	11	54	-14	22	7	-1	27	24	SS		
DURHAM	79.31	35.6	12	9	0	22	11	2					
ALICANTE	79.67	52.4	12	11	0	22	8	-5	15	17	PP		
NORD	79.85	7.8	12	10	-2				12	23	PCP		
KEW	79.92	39.0	12	12	0	22	16	1	23	8	PS		
RELIZANE	80.54	55.0	12	17	2								
PARIS	81.71	41.7	12	22	1	22	41	7	15	33	PP		
CLERMONT-FD.	82.20	44.8	12	24A	0	22	41	2	15	32	PP		
ALGIERS UNI.	82.52	53.9	12	26	0	22	45	3	15	33	PP		
DE BILT	83.33	38.4	12	33	3	22	45	-5					
BESANCON	84.11	43.2	12	35	1				16	3	PP		
WITTEVEEN	84.20	37.6	12	36	2								
BENSBERG	84.64	39.4	14	37	121								
NEUCHATEL	84.79	43.4	12	37	0	23	7	2					
BASLE	85.17	42.9	12	25	-14				17	43			
STRASBOURG	85.21	41.8	12	43A	4	23	12	3	24	4	SP		
MONACO	85.39	46.7	12	40A	0								
KARLSRUHE	85.60	41.3	12	43A	2	23	28	15	13	12			
TAMANRASSET	85.71	67.7	12	43	1	23	20	6	16	1	PP		
EBINGEN	86.04	42.1	12	40K	-3								
TUBINGEN	86.08	41.8	12	45	1								
HAMBURG	86.12	36.7	12	46	2				16	1	PP		
SKALSTUGAN	86.13	26.5	12	43	-1								
STUTTGART	86.14	41.5	12	43	-1	23	21	3	29	16	SS		
PAVIA	86.49	45.1	12	50	4	23	30	9	24	24	PS		

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RAVENSBURG	86.52	42.5								13	20
CHUR	86.56	43.4	12	46A	0						
COPENHAGEN	87.29	34.4	12	53	3	23	32	3		23	22 SKS
JENA	87.41	39.2	12	54	4						
HALLE	87.57	38.6	13	9	18	23	42	10		17	4 PP
PLAUEN	87.83	39.6	12	50	-2						
PRATO	88.02	46.2	13	3	10						
CHEB	88.04	40.0				23	29	-7		16	31 PP
BOLOGNA	88.10	45.6	13	5	12	23	45	8		29	33 SS
POTSDAM	88.13	37.6	12	58	4						
FLORENCE X.	88.14	46.3	12	56	2	23	41	4		16	23 PP
COLLMBERG	88.25	38.7	12	53	-1	23	28	-10		16	22 PP
KIRUNA	88.63	21.7	12	56K	0	23	25	-17		29	39 SS
BYRD STATION	88.72	186.0	12	54	-2	23	26	-16			
UPPSALA	89.28	29.8	12	58	-1	23	51	3		23	32 SKS
PRAGUE	89.34	39.8	13	6	7	23	52	4		23	37 SKS
PRUHONICE	89.44	39.8	13	7	7	23	52	3		16	38 PP
TRIESTE	89.62	44.2	13	1	0	24	0	9		16	30 PP
SODANKYLA	91.03	21.4	13	5	-2					16	40 PP
RACIBORZ	91.72	39.3	13	12	2					17	4 PP
MESSINA	92.23	51.3	13	10	-3	24	10	-4		16	55 PP
KRAKOW	92.82	39.0	13	18	3					17	5 PP
WARSAW	92.94	36.8				25	38	78		17	10 PP
APATITY	93.36	20.2	13	12	-6						
PULKOVO	95.41	27.9				24	4	-37		17	16 PP
LWOW	95.42	38.5								24	7 SKKS
SOUTH POLE	96.78	180.0	13	31A	-3					38	9 PKPPKP
BUCHAREST	98.41	43.3								16	36 PP
TIKSI	99.00	350.3								19	47 PPP
MAGADAN	101.52	335.3								17	59 PP
ISTANBUL KA.	101.57	45.8	13	58	3					18	5
CAPE HALLETT	101.62	197.4				24	35	-59		17	28 PP
HELWAN	106.98	56.1	18	46	777						
KSARA	109.23	50.8	14	29	777					18	27 PKP
SVERDLOVSK	109.81	20.5								19	6 PP
LWIRO	111.55	89.7	18	44	8					29	58 PPS
NOUMEA	111.88	248 8								21	50 PPP
TIFLIS	111.95	39.9								19	20 PP
GORIS	114.11	41.2								19	32 PP
WILKES	120.01	186 1				25	47	-3		30	8 PS
IRKUTSK	120.84	355.0				25	39	-14		30	4 PS
TUKUBASAN	121.35	320.0	18	58	3					20	37 PP
MATUSIRO	122.33	321.4	19	0	3					20	28 PP
ASHKABAD	122.53	36.2								20	30 PP
RIVERVIEW	123.62	233.8				26	10	9		20	46 PPP
ULAN-BATOR	124.85	352.2								20	51
RABAUL	125.40	269.7	19	5	2						
FRUNSE	126.37	20.7								20	47 PP
STALINABAD	127.62	28.3	19	11	4						
TANANARIVE	130.14	108.9	19	20K	8					22	45 SKP
PEKING	130 25	341.1	19	17	5					22	32 PKS
CHARTERS TS.	130.84	249 5	19	17A	4					22	44
WARSAK DAM	132.61	29.4	19	15	-2					22	48 PKS
QUETTA	133.04	36.8	19	18	0	26	27	0		22	51 PKS
ZO-SE	135.93	330.1	19	26	3					22	58 PKS
LAHORE	135.95	28.7								22	59 PKS
NANKING	136.26	333.3								22	6 PP
DEHRA DUN	138.68	25.7								23	28
LHASA	143.24	9.2	19	35	-1					22	47 PP
BOMBAY	144.81	43.0	19	40	1					37	14
CHATRA	145.12	16.0	19	38	-1						
POONA	145.76	42.3	19	42	2						
CANTON	146.45	332.8	19	43	2					23	7 PP
TOCKLAI	146.53	4.2	19	37	-5						
HONG KONG	146.70	330.8	19	49	7						
SHILLONG	147.36	9.2	19	45	2						
BAGUIO CITY	147.42	315.3	19	48	5	28	12	82			
BOKARO	147.51	20.0	19	50	7						
KUNMING	147.90	350.9	19	47	3						
MANILA	148.36	312.3	19	53	8					21	13
CALCUTTA	149.52	16.6								20	36
CHITTAGONG	150.49	10 4	19	53	5					24	20
PHU-LIEN	151.08	341.8								19	59
MADRAS	153.94	40.9								20	18

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OCTOBER 31 16.H 24.M 18.S EPICENTRE 1.65 -85.30 DEPTH= 0.KM

A= 0.08188 B=-0.99623 C= 0.02854 D=-0.9966 E=-0.0819
G= 0.0023 H=-0.0284 K=-0.9996 HT= 7.2

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	
CHINCHINA	10.21	70.9	2	28	-3	4	26	-2					
BOGOTA	11.60	75.0	2	48	-2	5	1	-1					
SAN SALVADOR	12.62	342.3									13	42	
COMITAN	15.99	335.5	3	50	2						7	10	SS
HUANCAYO	16.83	144.2	3	56	-3	7	15	9					
OAXACA	18.99	324.2									4	58	PPP
MERIDA	19.64	347.9	4	30	-3	8	3	-7			8	42	SS
TACUBAYA	22.28	323.3	4	58	-3	8	42	-20			5	22	PP
LA PAZ	24.75	137.4	5	27A	2	9	48	3			6	11	PP
SAN JUAN	25.11	47.3	5	29	1								
MANZANILLO	25.43	314.1									6	33	
GUADALAJARA	25.83	318.3									12	26	
FORT FRANCE	27.16	60.1				10	2	-23			4	42	
COLUMBIA	32.43	6.6	6	34	0								
CHIHUAHUA	33.37	325.5									8	36	
CHAPEL HILL	34.59	9.0	6	51	-2								
FAYETTEVILLE	35.25	347.5	7	56	57								
LUBBOCK	35.35	335.7	6	58	-1								
BERMUDA	36.21	30.3	7	5	-2	12	49	2			8	25	PP
TUCSON	38.79	324.3	7	32	4	13	32	5					
PHILADELPHIA	39.22	12.3				13	32	-1			16	28	SS
PALISADES	40.52	13.3	7	46	3	13	50	-3			16	50	SS
WESTON	42.45	15.4	8	4K	5								
LARAMIE	43.52	337.7	8	8	1								
BOULDER CITY	43.77	324.7	8	7	-2								
OTTAWA	44.38	9.7	8	16	2								
LA PLATA	44.49	147.4				14	18	-33			18	30	SSS
PASADENA	44.58	320.1	8	15	-1	14	53	1					
RAPID CITY	45.14	341.8	8	19	-1								
SALT LAKE C.	45.76	331.7	8	23	-2						8	49	
SHAWINIGAN	46.04	12.0	8	28	0								
EUREKA	46.88	327.3	8	32	-2								
SEVEN FALLS	47 01	13.5	8	36	1								
FRESNO	47.27	321.7	8	39	2								
LICK	48.78	321.1	8	51	2								
RENO	49.08	324.6	8	52	1								
BOZEMAN	49.33	336.3	8	51	-2						9	26	
BUTTE	50.24	335.5	8	59	-1								
SHASTA	51.33	324.0	9	10	1								
HUNGRY HORSE	52.70	336.2	9	17	-2								
RESOLUTE	73.17	357.3				21	6	3					
COLLEGE	77.13	337.1	11	57	0								
RATHFARNHAM	82.12	36.5									14	28	
BYRD STATION	83.33	185.7	12	32	1	22	56	5					
NORD	85.31	7.9	12	39	-1								
KEW	85.59	38.7	12	48	6								
CLERMONT-FD.	87.73	44.4	12	58	6						12	44	
TAMANRASSET	90.13	67.3	13	3	-1						16	41	PP
SOUTH POLE	91.64	180.0	13	9	-2						17	7	PP
MESSINA	97.51	51.3									18	41	
KSARA	114.52	51.5	18	41	-2						26	43	SKKS
WILKES	114.60	187.0									29	14	PS
RIVERVIEW	118.40	232.1	18	52K	2						36	40	SS
RABAUL	122.56	266.1	19	0	2								
MATUSIRO	124.52	317.7				27	13	68			37	50	SS
CHARTERS TS.	126.45	246.3	19	6	0								
QUETTA	138.74	37.7	19	33	4						22	42	PP
CHATRA	150.77	13.9	19	51	2								
SHILLONG	152.81	5.6	19	53	1								

NOVEMBER 2 7 H 21 M 0 S EPICENTRE 15.06 -93.16 DEPTH= 79.KM

DEPTH OF FOCUS= 0.007R

A=-0.05321 B=-0.96464 C= 0.25813 D=-0.9985 E= 0.0551
G=-0.0142 H= 0.2577 K=-0.9661 HT= 5.7

SE= 2.24

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	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COMITAN	1.55	39.7	0 30	3	0 57	10		
OAXACA	3.99	299.8	0 54	-7	1 45	-2		1 13
SAN SALVADOR	4.03	108.6	1 0	-1	1 54	6		
SANTIAGO MA.	4.80	108.3	1 15	3	2 13	6		
VERA CRUZ	5.01	325.8	1 14	-1	2 18	6		
PUEBLA	6.24	310.0			2 41	-1		
MERIDA	6.76	29.3	1 41K	2	3 8	13		
TACUBAYA	7.21	307.7	1 45K	0	3 15	9		
GUADALAJARA	11.17	301.5						5 20
MANZANILLO	11.40	292.0						5 15
BALBOA HTS.	14.61	113.0	3 19	-5				
GALERAZAMBA	17.94	101.6	4 7	1	7 42	22		
DALLAS	18.02	350.1	4 4	-3				
CHIHUAHUA	18.04	320.6	6 24	137				8 34 PCP
LUBBOCK	20.05	338.4	4 29	-1	8 20	15	4 51	
FAYETTEVILLE	20.97	357.7	4 37	-2	8 36	13		
BOGOTA	21.45	117.0	4 46	2	8 47	15		9 18
COLUMBIA	21.81	28.0	4 49	2				5 21
TUCSON	23.50	319.8	5 5	1	9 26	18		
CHAPEL HILL	24.31	28.7	5 13	1				
SAN JUAN	26.09	78.9	5 28	0				6 14
MORGANTOWN	27.08	22.8	5 32	-6				
CLEVELAND	28.19	18.7	5 48	0	12 8	102		
LARAMIE	28.29	340.0	5 50	2				
BOULDER CITY	28.45	321.0	5 50	0				
PASADENA	29.51	314.6	6 2	3				8 54
RAPID CITY	30.17	345.5	6 4	-1				9 7 PCP
SALT LAKE C.	30.35	331.2	6 7	0				6 41
PALISADES	30.80	29.2	6 9	-2	11 22	15		7 18 PP
EUREKA	31.49	324.9	6 18	1				
FRESNO	32.09	317.3	6 29	7				
HUANCAYO	32.20	145.8	6 23	0	11 35	6		
WESTON	33.09	30.3	6 58	27				
LICK	33.62	316.7	6 38	3				
OTTAWA	33.64	22.4	6 33	-2				9 14 PCP
RENO	33.76	321.4	6 37	1				
BOZEMAN	34.03	337.4	6 38	-1				7 21
BREBEUF	34.53	24.5	6 41K	-2				8 7 PP
BUTTE	34.91	336.1	6 46	0			7 2	
MINERAL	35.34	321.0	6 54	4				
SHAWINIGAN	35.73	24.3	6 54	1				
SHASTA	36.03	320.9	6 58	2				9 24 PCP
HUNGRY HORSE	37.39	337.0	7 7	0				9 28 PCP
CORVALLIS	38.96	325.2	7 21	1				
LA PAZ	39.92	140.8	7 28	0	13 34	7		17 32
SEATTLE	40.47	329.5	7 32	-1				
VICTORIA	41.62	329.7	7 41	-1				
HORSESHOE B.	42.14	330.7	7 46	0				
HAWAII V.OB.	59.22	283.8	9 53	-3				
RESOLUTE	59.63	359.5	9 56A	-2				12 10 PP
COLLEGE	61.83	336.7	10 11	-2				10 55 PCP
NORD	73.23	8.6	11 24	-1				
SKALSTUGAN	83.35	25.7	12 21	1				
RELIZANE	84.30	54.7	12 24	-1				
HAMBURG	85.63	35.6	12 33A	2				
STRASBOURG	85.91	40.8	12 34	1				
ALGIERS UNI.	85.99	53.2	12 31	-2				
STUTTGART	86.75	40.3	12 36	-1			13 8	
EBINGEN	86.79	40.9	12 36	-1			13 10	
SODANKYLA	87.00	19.7	12 36	-2				
UPPSALA	87.15	28.2	12 39K	0				
APATITY	89.02	18.0	12 52	4				
HELSINKI	90.24	26.2	12 53	0				
TAMANRASSET	92.01	65.9	13 2	0				
RIVERVIEW	119.45	239.5			25 17	-12		
KIMBERLEY	121.40	114.7	18 49	4				
LWIRO	121.40	83.3	18 51	6				
GRAHAMSTOWN	122.84	120.1	18 53A	6				
QUETTA	131 11	23.0	19 6	3				22 27 PKS
SHILLONG	139.33	353.0	19 11	-7				
TANANARIVE	142.28	101.5	19 24	0				
CHITTAGONG	142.50	352.4	19 30A	6			20 4	

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NOVEMBER 2 18.H 30.M 34.S EPICENTRE -13.50 166.73 DEPTH= 63.KM

DEPTH OF FOCUS= 0.005R

A=-0.94672 B= 0.22335 C=-0.23202 D= 0.2296 E= 0.9733
G= 0.2258 H=-0.0533 K=-0.9727 HT= 6.0

SE= 2.36

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
NOUMEA	8.75	181.7	2	4	-3	3	37	-8			3	12	
SUVA	12.17	113.8	2	57	4								
RABAUL	17.08	301.4	3	55	-1								
BRISBANE	18.89	220.5	4	18A	0	7	45	2			7	27	SS
CHARTERS TS.	20.63	249.0	4	37A	0	8	26	7					
APIA	20 89	93.3	4	39	0	8	36	12			5	3	PP
ONERAHI	23.22	164.1	5	5	3	9	20	14			5	45	
RIVERVIEW	24.70	212.3	5	17A	0	9	36	5			5	51	PP
KARAPIRO	25.55	163.7	5	26	1						5	39	
TONGARIRO	26.75	164.7	5	46	10						6	12	
TUAI	26.83	161.7				10	9	2					
COBB RIVER	27.97	170.3	5	53	6	10	29	4			6	6	
WELLINGTON	28.55	167.3	4	26	-86	9	26	-68			5	26	
KAIMATA	29.20	172.9	6	10	12	10	52	7					
GEBBIES PASS	30.52	171.5	6	6	-4	11	2	-3			12	48	
MELBOURNE	31.01	214.7	6	13A	-1	11	16	3	6	24	7	9	PP
ROXBURGH	32.02	176.5	6	18	-5	11	24	-5			7	27	
GUAM	34.53	320.0	6	44	-1	12	2	-6			8	14	PP
KOROR	38.13	301.0	7	14	-1	12	59	-4			9	28	PCP
MACQUARIE I.	41.36	186.9	7	40	-2								
HONOLULU	48.88	45.5	9	13	31	15	50	11					
HAWAII V.OB.	49.71	49.6	8	46	-2								
PERTH	49.93	239.5	8	50	0						9	37	
MANILA	53.19	300.0	9	12	-2						10	57	
BAGUIO CITY	54.44	301.7	9	23	0	17	1	6					
YOKOHAMA	55.01	333.0	9	27	-1						11	11	
TOKYO C.M.O.	55.18	333.3	9	18	-11						11	44	
KAKIOKA	55.46	334.0	9	30	-1								
HUNATU	55.46	332.3	9	30	-1								
TUKUBASAN	55.48	333.9	9	30	-1	17	20	11	9	39	11	31	PP
KOHU	55.66	332.3	9	32	0								
KUMAGAYA	55.73	333.3	9	29	-4								
UTUNOMIYA	55.86	333.9	9	33	-1								
YAKUSIMA	55.90	322.0	9	36	2								
KAMEYAMA	56.01	330.0	9	34	-1	17	22	5					
NAGOYA	56.03	330.6	9	36	1								
SIMIDU	56.20	325.7	9	38	2								
OIWAKE	56.25	332.7	9	39	3								
GIHU	56.31	330.6	9	37	0								
OSAKA	56.31	329.1	9	38	1								
TOKUSIMA	56.34	328.0	9	35	-2								
MATUMOTO	56.45	332.2	9	38	0								
HIKONE	56.45	330.1	9	39	1								
KOTI	56.49	326.7	9	37	-1	17	40	17					
KYOTO	56.51	329.5	9	35	-3	17	25	2					
MATUSIRO	56.58	332.6	9	38A	-1	17	25	1			10	31	PCP
KAGOSIMA	56.68	322.9	9	40	0								
NAGANO	56.69	332.6	9	39	-1								
SENDAI	56.90	335.8	9	40	-1								
OOITA	57.29	325.0	9	44	0	17	30	-3					
NIIGATA	57.36	334.1	9	48	4								
KUMAMOTO	57.50	324.0	9	45	0								
NAGASAKI	57.91	323.4	9	48	0								
SAGA	58.05	324.1	9	50	1								
HUKUOKA	58.22	324.4	9	51A	1	17	48	2			10	11	
HAMADA	58.30	326.7									10	52	
AKITA	58.47	336.1	9	54	2	17	46	-3					
TOMIE	58.48	322.5	9	53A	1								
CAPE HALLETT	58.81	178.7	9	52A	-2	17	55	2			12	5	PP
DJAKARTA	59.34	270.8	9	55	-3	18	2	2					
MORI	60 34	337.8	9	55	-10	18	18	5					
SAPPORO	60 91	338.9	10	8	-1						12	45	
ZO-SE	62.28	316.2	10	18A	0	18	42	4					
HONG KONG	62.60	304.1	10	19	-1	18	50	8					
CANTON	63.70	304.4	10	28A	1	19	2	7					
Y.-SAKHLINSK	63.91	341.9	10	28	-1	19	2	4					
SCOTT BASE	64.35	180.0	10	29A	-3	19	9	6			20	46	SCS
WILKES	64.43	201.9	10	30A	-2	19	2	-2			12	51	PP
NANKING	64.47	315.7	10	33A	1	19	8	3					

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PETROPAVLOVK	66.72	354.7	10	44	-3	19	37	5				
OASIS-BUNG.	68.11	203.6	10	53	-3							
PHU-LIEN	68.17	299.1	10	56	0				11	10		
CHANGCHUN	68.41	329.0	10	58A	0							
SUIHWA	69.67	332.0	11	6	1							
PEKING	70.98	321.2	11	13A	0	20	26	3				
MIRNY	71.23	203.9	11	12	-3	20	25	-1				
LINFEN	71.73	315.5	11	22	4							
TAIYUAN	71.95	317.5	11	21	2							
SIAN	72.58	312.7	11	18	-5							
TATUNG	72.81	319.8	11	28	4							
KUNMING	73.24	301.6	11	28A	2	20	56	8				
BYRD STATION	73.98	170.0	11	26	-5	21	1	4			11	53
CHENGTU	74.54	307.4	11	35A	1	21	7	4				
TIENSHUI	75.03	311.7	11	39	2							
PAOTOW	75.14	318.8	11	39	2							
YINCHUAN	76.54	315.4	11	47	2							
LANCHOW	77.12	312.3	11	50A	1	21	38	7				
PORT BLAIR	77.53	285.3	11	50	-1	21	43	7			14	50 PP
WUWEI	78.81	313.5	12	1	3							
TOCKLAI	80.47	300.4	12	10	3							
ULAN-BATOR	80.96	323.9	12	8	-1	22	14	2				
CHITTAGONG	81.56	295.4	12	15A	2	22	30	12			15	27 PP
SHILLONG	82.53	298.4	12	19	1						13	33
UKIAH	83.55	47.4	12	22	-1						12	40
BERKELEY	83.76	48.8	12	24	0						12	38
LICK	84.02	9.5	12	26	1						12	40
KERGUELEN I.	84.16	0.8	12	25	-1						12	52
LHASA	84.54	302.1	12	31A	3	22	55	7			22	47 SKS
IRKUTSK	84.61	326.8	12	27	-1	22	48	-1				
CALCUTTA	84.68	294.6	12	31	3	23	0	11				
SHASTA	84.75	46.2	12	28	-1						12	42
FRESNO	85.19	50.6	12	30	-1							
COLLEGE	85.32	17.8	12	29	-3				12	54		
PASADENA	85.54	53.5	12	31	-2	22	49	-9				
CORVALLIS	85.66	42.3	12	39	6							
RENO	86.16	48.0	12	37	1							
ALBERNI	86.64	37.6	12	38	0							
CHATRA	86.94	298.4	12	40	0							
VICTORIA	87.17	38.7	12	40	-1							
BOKARO	87.29	295.1	12	42	1							
HORSESHOE B.	87.60	37.9	12	42K	-1							
COLOMBO	88.55	277.4	12	48	1	23	34	8				
TIKSI	88.66	348.8	12	45	-3	23	29	2				
EUREKA	88.94	49.0	12	47	-2				13	14	16	34 PP
TUCSON	90.85	57.1	12	58	0				13	24	16	53 PP
KODAIKANAL	91.63	280.1	13	8	6							
SALT LAKE C.	92.34	48.7	13	2	-3				13	30		
HUNGRY HORSE	92.97	41.0	13	8	0						38	32 PKPPKP
BUTTE	93.26	43.5	13	30	21							
BOZEMAN	94.19	44.2	13	35	22							
DEHRA DUN	95.57	299.7	13	36	16						17	11
POONA	96.87	287.4	13	26	0						16	47
LAHORE	98.95	300.3	13	34	-1	24	9	-48			16	40
RAPID CITY	99.31	46.9									17	53 PP
WARSAK DAM	101.66	302.3	13	46	-1						16	51
NAMANGAN	102.50	309.4									18	2 PP
KARACHI	104.36	293.5	13	59	0						18	13 PP
QUETTA	105.01	297.9	14	2	777	24	46	-42			18	25 PP
FAYETTEVILLE	105.10	55.9	18	25	777							
RESOLUTE	105.15	15.8	13	58A	777	25	55	22			27	43 PS
SAN SALVADOR	106.51	79.5									22	13
SVERDLOVSK	110.00	325.8	17	39	-45							
TANANARIVE	111.97	243.0	18	30	2						19	13 PP
HUANCAYO	113.44	109.6	18	34	3						19	27 PP
TALA POZO	115.77	130.2									26	36 SKKS
APATITY	118.06	341.5	12	39	-1							
LA PAZ	118.14	117.2	18	42	2						19	44 PP
OTTAWA	118.80	45.5	18	40	-2						28	58 PKKP
GRAHAMSTOWN	119.90	218.2	18	44	0							
PIETERMZBURG	119.90	223.9	18	44K	0							
SODANKYLA	120.18	343.3	18	43	-1						19	0
BREBEUF	120.23	45.0	18	44	0							
SHAWINIGAN	120.58	43.7	18	44	-1							
PALISADES	120.84	50.2				25	42	5			20	3 PP
KIRUNA	121.45	345.7	18	45	-2						22	19 PKS
TIFLIS	122.61	311.0	18	50	1						30	11 PS
PULKOVO	123.82	335.2									29	43 PS

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KIMBERLEY	124.16	220.9	18	52K	0								
SKALSTUGAN	126.88	346.0	18	56A	-1						22	16	PKS
HALIFAX	127.29	43.7									38	23	
UPPSALA	128.43	340.7	18	59	-1						22	22	PKS
SAN JUAN	129.09	77.2	19	0	-1						19	30	
SIMFEROPOL	129.12	317.6	19	0	-1								
BERMUDA	129.57	59.1									22	26	PKS
KSARA	131.16	303 2	19	8	3						21	30	PP
BERGEN	131.24	347.9									29	5	
IASI	132.18	323.0	19	17	10								
BUCHAREST	134.48	320.4									21	42	PP
KRAKOW	134.59	330.3	19	15	3						21	45	PP
RACIBORZ	135.39	331.4									21	48	PP
LWIRO	135.43	252.6	19	14	1						18	47	PP
HELWAN	135.77	299.0	19	14	0						21	54	PP
HAMBURG	135.99	340.2	19	11A	-3						21	40	PP
COLLMBERG	136.73	336.1	19	5	-11						21	58	PP
HALLE	136.98	337.0	19	21	5						22	16	PP
PRAGUE	137.09	333.9	19	29	13						21	44	PP
SOFIA	137.09	319.8	19	15	-1						22	2	PP
PRUHONICE	137.10	333.7	19	15	-1						21	55	PP
BRATISLAVA	137.23	330.1	19	17	0						21	53	
JENA	137.58	336.8	19	17	0						22	4	PP
WITTEVEEN	137.68	342.1	19	20	3								
DURHAM	137.82	349.9	19	3	-15	26	5	-15			22	2	PP
ATHENS	139.13	313.4	19	19A	-1						22	14	PP
RATHFARNHAM	139.91	353.5	19	26	5								
STUTTGART	140.23	336.7	19	14	-8						19	41	
KARLSRUHE	140.33	337.6	19	20A	-2						19	27	
TRIESTE	140.64	329.8	19	23	0	26	39	14			22	26	PP
EBINGEN	140.80	336.4	19	16	-7								
STRASBOURG	140.93	337.8	19	24A	1						22	48	PP
BASLE	141.87	337.0	19	2	-23								
PARIS	142.46	342.9	19	25	-1								
NEUCHATEL	142.55	337.1	19	23	-3						22	48	PP
BESANCON	142.70	338.2	19	26	0						22	37	PP
FLORENCE X	143.22	329.9	19	22A	-5	26	18	-11			22	38	PP
ROME	143.94	326.6	19	21	-8						22	29	PP
REGGIO CALA.	144.51	318.9	19	26A	-4								
MESSINA	144.52	319.1	19	29A	-1						22	44	PP
CLERMONT-FD.	144.97	339.9	19	29A	-1						20	18	
MONACO	145.03	333.4	19	30	-1								
TORTOSA	150.24	338.7	19	47	8								
TOLEDO	152.50	344.5	19	43	1						23	23	PP
ALGIERS UNI.	152.61	330.6	19	41A	-1						23	36	PP
RELIZANE	154.59	333.1	19	46	1						23	49	PP
TAMANRASSET	159.92	300.0	19	53A	1						24	15	PP
MBOUR	176.31	75.9	20	5	2						25	41	PP

NOVEMBER 5 9.M 54.M 32.S EPICENTRE -12.94 168.73 DEPTH= 620.KM

DEPTH OF FOCUS= 0.093R

A=-0.95612 B= 0.19053 C=-0.22256 D= 0.1954 E= 0.9807
G= 0.2183 h=-0.0435 K=-0.9749 HT= 6.1

SE= 2.02

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
NOUMEA	9.56	192.8	2	17A	2						2	31	PP
SUVA	10.68	120.2	2	40	14	4	25	2					
RABAUL	18.52	296.5	3	40	-1	6	38	0			14	1	SCS
APIA	18.98	94.8	3	46	1								
BRISBANE	20.61	223.1	4	OK	0	7	12	0					
CHARTERS TS.	22.65	249.0	4	18K	0	7	44	-1					
KARAPIRO	25.60	167.5	4	44	0								
RIVERVIEW	26.24	214.7	4	49A	-1	8	39	-3			7	54	PCP
TONGARIRO	26.84	168.2	4	54	-1								
WELLINGTON	28.72	170.5	5	8	-3	9	14	-6					
MELBOURNE	32.60	216.3	5	44	0								
GUAM	35.41	317.0	6	8	1				7	52	8	19	PCP
KOROR	39.54	298.7	6	40	-1				8	31			
HONOLULU	47.11	44.1	7	38	-2								
BAGUIO CITY	55.82	300.2	8	42	0								
TUKUBASAN	55.87	332.1	8	42	-1				8	58	10	47	PP

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MATUSIRO	57.02	330.8	8	50A	0	15	50	-9			
KYOTO	57.05	327.8	8	50	-1	15	58	-2			
CAPE HALLETT	59.34	179.4	9	3K	-3					31	43 PKKP
ZO-SE	63.25	314.9	9	29K	-2	17	15	-1			
HONG KONG	63.92	302.9	9	36K	1						
NHATRANG	64.11	290.5	9	37	0					10	2 PCP
SCOTT BASE	64.92	180.5	9	41	-1						
CANTON	65.01	303.2	9	43K	1						
NANKING	65.46	314.4	9	45K	0						
CHANGCHUN	68.97	327.8	10	5K	-1						
PEKING	71.79	320.1	10	24K	1						
MIRNY	72.53	204.0	10	26	-1						
BYRD STATION	74.19	170.1	10	44	8				12	43	
KUNMING	74.62	300.7	10	43	4						
CHENGTU	75.77	306.5	10	47K	2						
SOUTH POLE	77.14	180.0	10	51	-1				13	6	38 17 PKPPKP
LANCHOW	78.21	311.5	10	59K	1	20	7	3			
BERKELEY	81.93	48.3	11	17A	0						
LICK	82.18	49.0	11	19A	0				13	30	
SHASTA	82.96	45.6	11	22	0						
CHITTAGONG	83.10	294.7	11	25	2	20	59	7			
FRESNO	83.33	50.0	11	25	1						
MINERAL	83.38	46.2	11	24	-1				13	36	
PASADENA	83.65	53.0	11	25	-1						
SHILLONG	83.99	297.8	11	29K	1						
COLLEGE	84.20	17.2	11	27	-2						
RENO	84.34	47.5	11	30	1						
LHASA	85.90	301.5	11	29K	-8	21	6	-13			
EUREKA	87.10	48.6	11	43	1				13	54	
TUCSON	88.91	56.7	11	52	1				14	11	
HUNGRY HORSE	91.27	40.6	12	2	0	21	33	-34	14	16	15 48 PP
RAPID CITY	97.51	46.6	14	47	137						16 36 PP
QUETTA	106.48	297.9									17 36
HUANCAYO	111.78	108.7									28 25 SPP
COLUMBIA	113.83	58.4	15	43	-106						
OTTAWA	117.01	45.5	17	35	-1						
SHAWINIGAN	118.82	43.8	17	39A	0						
SEVEN FALLS	119.99	42.8	17	40A	-1						
SODANKYLA	120.19	344.0	17	41	-1						
KIRUNA	121.38	346.5	17	43	-1						
KIMBERLEY	125.85	219.6	17	54	1						
HELSINKI	125.86	338.6	17	54	1						
SKALSTUGAN	126.79	347.1	17	55	1						
UPPSALA	128.53	341.8	17	58	0						20 21 SKP
JENA	137.81	338.5	18	15	0						
STUTTGART	140.46	338.7	18	16	-5						
EBINGEN	141.04	338.4	18	16	-6						
TAMANRASSET	161.28	303.8	18	52K	2						19 42 PKP2

NOVEMBER 6 13.H 12.M 55.S EPICENTRE 44.94 149.63 DEPTH= 0.KM

A=-0.61274 B= 0.35909 C= 0.70399 D= 0.5056 E= 0.8628
G=-0.6074 H= 0.3559 K=-0.7102 HT= -3.5

SE= 3.27

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
KURILSK	1.28	283.7	0	27	2							
NEMURO	3.33	242.5	0	54	0	1	28	-7			1	12
ABASHIRI	3.94	258.3	1	5	2	1	53	2				
KUSIRO	4.25	244.4	1	9	2	1	53	-6				
Y.-SAKHLINSK	5.22	295.1	1	25K	4							
ASAHIGAWA	5.33	260.0	1	25	2	2	30	4				
WAKKANAI	5.64	277.7	2	2	35	3	41	68				
URAKAWA	5.71	243.1	1	29	1	2	31	-4				
SAPPORO	6.26	255.5	1	38A	.2	2	45	-4			2	56
TOMAKOMAI	6.31	250.3				2	47	-3			1	49
UGLEGORSK	6.62	311.4	1	46A	5						3	14
MURORAN	6.80	250.5	1	44	1	2	56	-7				
SUTTSU	7.12	255.8	1	53	5	3	9	-2				
MORI	7.17	249.8	1	47	-2	3	13	1				
HAKODATE	7.22	247.2	1	49	0	3	19	6				
HATINOHE	7.41	236.3	1	57	5	3	4	-14				
AOMORI	7.69	240.7	1	53	-3	3	15	-10				
MIYAKO	7.76	229.7	2	0	3	3	11	-15				
MORIOKA	8.16	233.0	1	56	-6	3	18	-19				

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MIZUSAWA	8.58	230.4	2	13	5	3	32	-15		
AKITA	8.77	236.8	2	8	-3	3	47	-5		
ISINOMAKI	8.99	226.5	2	16	2	3	38	-19		
SENDAI	9.33	227.4	2	23	4	3	50	-16	3	45
SAKATA	9.47	233.8	2	54	33					
YAMAGATA	9.64	229.3	2	27	4					
HUKUSIMA	9.95	226.9	2	40	13	4	4	-17		
PETROPAVLOVK	10.10	32.6	2	43	14					
ONAHAMA	10.35	222.6	3	26	53	5	34	63	4	11
SHIRAKAWA	10.56	225.5	3	3	27	4	21	-15		
NIIGATA	10.59	232.2	3	18	42				4	57
AIKAWA	10.98	234.9	2	38	-3	4	27	-19		
MITO	11.02	222.2	2	51	9	4	29	-18		
UTUNOMIYA	11.17	224.8	2	50	6	4	35	-16		
KAKIOKA	11.28	222.8	2	40	-5	4	49	-4	4	34
TUKUBASAN	11.32	223.0	2	40	-6	4	36	-18	2	48 PP
TAKADA	11.62	231.6				4	35	-27		
MAEBASI	11.70	226.8	3	8	17	5	10	6	4	49
KUMAGAYA	11.73	225.1	2	55	3	4	55	-9		
TOKYO C M.O.	11.92	222.5				4	52	-17	4	14
NAGANO	11.96	230.2	2	58	3					
TITIBU	12.02	225.5	2	53	-2					
OIWAKE	12.02	228.1	3	21	25					
MATUSIRO	12.04	229.8	2	51A	-5	5	12	0		
YOKOHAMA	12.17	222.1				5	1	-14	5	20
WAZIMA	12.20	236.2	3	1	3	5	6	-10		
MATUMOTO	12.39	229.6	2	51	-9	5	12	-9		
TOYAMA	12.49	233.1	3	1	-1					
MERA	12.51	220.2	3	0	-2					
KOHU	12.55	226.0	3	11	8	5	8	-16		
HUNATU	12.55	225.0	4	27	84				5	13
MISIMA	12.76	223.4							5	7
VLADIVOSTOK	12.89	268.1	3	7A	0	5	30	-3		
SHIZUOKA	13.15	224.6							5	9
KLYUCHI	13.39	27.7							3	37
GIHU	13.68	230.3	3	27	9					
NAGOYA	13.74	229.1	3	13	-5					
HIKONE	14.06	231.2	3	14	-9					
KAMEYAMA	14.25	229.5	3	16	-9					
MAGADAN	14.65	2.4	3	38	8					
OSAKA	14.91	231.3							7	13
TOKUSIMA	15.87	232.0	3	47	1					
CHANGCHUN	17.41	275.0	4	5	-1	7	20	1		
OOITA	18.18	236.1	4	17	2	7	38	2		
HUKUOKA	18.66	239.2	4	19	-2	7	47	0	4	38
SAGA	18.96	238.6	4	25	0					
KUMAMOTO	19.02	237.0	4	22	-4					
NAGASAKI	19.57	238.2	4	31	-1					
KAGOSIMA	20.00	234.7	4	36	-1				5	25
PEKING	25.05	270.5	5	26A	-1	9	44	-6		
ZO-SE	26.17	247.9	5	37A	-1	10	6	-2		
NANKING	27.17	252.4	5	45	-2	10	24	-1		
TIKSI	28.57	346.4	5	58	-2				8	1 PPP
ULAN-BATOR	29.33	291.3	6	17	11					
LANCHOW	35.53	271.9	7	3A	2					
CANTON	36.76	245.8	7	8	-3					
BAGUIO CITY	37.47	230.0	7	14	-3					
CHENGTU	38.26	264.1	7	22A	-1					
COLLEGE	39.07	37.0	7	31	1					
KOROR	39.72	203.9	7	47	11					
KUNMING	42.59	258.3	7	58A	-1	14	24	1		
PHU-LIEN	42.73	250 1	7	57	-3				8	25
LHASA	48.04	272.3	8	43	0				10	36 PP
RABAUL	48.97	176.6	8	41	-9					
SHILLONG	49.88	267.4	8	54	-3					
CHITTAGONG	51.94	264.3	9	10A	-3	16	30	-5		
CHATRA	52.45	272.0	9	14	-2					
RESOLUTE	53.31	17.4	9	21K	-2	17	2	8		
HORSESHOE B	56.19	51.8	9	44	0					
VICTORIA	56.57	52.7	9	46	-1					
DEHRA DUN	56.79	281.3	9	45	-3	17	36	-5		
STALINABAD	58.31	294.5	9	58	-1	17	57	-4		
LAHORE	58.64	284.7	9	59	-2	18	1	-4		
WARSAK DAM	59.09	288.7	10	2A	-2					
SODANKYLA	60.04	338.0	10	8	-3				10	55 PCP
KIRUNA	61.25	340.4	10	20	1					
SHASTA	61.56	59.8	10	22	1					
HUNGRY HORSE	61.83	48.8	10	24	1					

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MINERAL	62.25	59.7	10	26	0						
RENO	63.83	59.5	10	38	2						
BUTTE	64.04	50.2	10	39	1						
LICK	64.04	62.4	10	51	13						
QUETTA	64.50	287.9	10	39A	-2	19	15	-4		13	0 PP
BOZEMAN	65.09	49.7	10	48	4						
ASHKABAD	65.25	299.5	10	44A	-2	19	26	-3			
EUREKA	66.20	57.5	10	51	-1						
SKALSTUGAN	66.68	340.7	11	6	11						
POONA	67.17	273.7	10	57	-1						
KARACHI	67.19	284.2	11	0	2						
SALT LAKE C.	67.79	54.2	11	4	2						
PASADENA	68.24	63.2	11	2	-2						
UPPSALA	68.42	336.2	11	4	-2						
RAPID CITY	70.31	47.0	11	18	1					14	32 PP
KIROVOBAD	70.50	308.3	11	18	0	20	31	0			
TIFLIS	70.69	309.9	11	21	1	20	35	1			
GORIS	71.36	307.4	11	20	-4	20	38	-3			
BRISBANE	72.14	176.8	11	28	0					20	53
SIMFEROPOL	73.83	318.1	11	38A	0						
TUCSON	74.09	60.3	11	41	1						
LWOW	74.42	326.9	11	43	1						
IASI	75.06	323.3	11	45	0						
KRAKOW	75.77	329.2	11	32	-17						
RACIBORZ	76.37	330.2	11	53	0						
COLLMBERG	77.06	333.7	11	55	-2						
HALLE	77.22	334.4	11	56	-1					12	6
PRAGUE	77.67	332.3	12	1	1	21	21	-31		14	54 PP
PRUHONICE	77.70	332.2	12	0	0					12	32
JENA	77.83	334.4	12	0	-1						
BUCHAREST	77.88	322.3	12	0	-1					12	31
BRATISLAVA	78.37	329.8	12	3	-1						
RIVERVIEW	78.41	178.7				22	16	16			
RATHFARNHAM	79.98	345.6	12	13	0						
STUTTGART	80.46	334.7	12	15K	0						
KEW	80.52	341.5	12	16	1						
FAYETTEVILLE	80.85	47.4	12	12	-5						
EBINGEN	81.06	334.6	12	19	1						
STRASBOURG	81.06	335.5	12	18	0	22	29	2			
KSARA	81.26	309.6	12	20	1						
TRIESTE	81.71	330.4	12	40	18	22	43	9		22	53 SKS
BASLE	82.06	335.1	12	18	-5						
JERUSALEM	83.16	308.6	12	41	12						
FLORENCE X.	84.21	331.1	11	5	-89						
MORGANTOWN	84.75	36.2	12	38	1						
HELWAN	86.77	310.0	12	48	1						
MESSINA	87.46	325.5	12	38	-13	23	25	-6		16	12 PP
HUANCAYO	129.62	63.8	19	11	0					22	31 PKS
BYRD STATION	134.03	166.0	19	18	-1						
SOUTH POLE	134.75	180.0	19	16	-5						
HALLEY BAY	149.28	181.9	19	49	3					20	3 PP

NOVEMBER 9 23 H 55.M 51.S EPICENTRE 38.32 22.41 DEPTH= 0.KM

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G= 0.5709 H= 0.2354 K=-0.7866 HT= -1.1

SE= 3.81

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	1.09	108.3	0	26K	3	0	43	4					
SKOPJE	3.73	348.4	1	1A	0	1	50	4					
SOFIA	4.43	8.9	1	16	6						2	42	
TARANTO	4.53	299.8	1	20	8								
REGGIO CALA.	5.33	269.7	1	42	19						2	13	
MESSINA	5.40	270.8	1	27	3	2	31	3			1	37	P*
ISTANBUL KA.	5.83	59.8	1	30	0	3	2	23					
BELGRADE	6.66	347.9	1	42K	0						3	39	
BUCHAREST	6.70	23.3	1	34	-8	3	18	18					
SZEGED	8.10	348.7	2	15	13						2	53	PG
ZAGREB	8.88	329.5	2	54	41						4	22	SG
BUDAPEST	9.47	346.1	3	13	52	5	12	62					
TRIESTE	9.75	321.4				4	15	-1			5	10	SGSG
FLORENCE X.	10.03	306.4	3	33	64	5	51	88					
BRATISLAVA	10 57	340 3	2	34	-2	4	33	-4			5	43	SG

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SKALNATE PL	10 97	352.5	2 33	-9	4 33	-13					
SIMFEROPOL	10.98	49.2	2 41	-1							
HELWAN	11.21	136.1	2 44	-1	4 50	-2					
KSARA	11.79	108.3	2 54	1	5 12	6					
KRAKOW	11.86	352.2	3 8	14					3 15	PP	
JERUSALEM	12.36	118.0	3 6	5	5 24	4					
PRUHONICE	12.94	336.8	3 3	-5	5 16	-18			5 40		
PRAGUE	13.05	336.7	3 14	4					5 1		
RAVENSBURG	13.28	319.5			5 39	-3			6 31		
CHEB	13.76	331.9	3 21	2	6 1	7			6 31		
EBINGEN	13.87	319.6	3 18	-3					3 29	PP	
TUBINGEN	14.05	320.8	3 19	-4	5 41	-20					
STUTTGART	14.15	321.8	3 21A	-3	5 39	-24			3 33	PP	
PLAUEN	14.19	332.4			6 29	25			7 38		
BASLE	14.21	315.1	3 47K	22	6 31	26					
NEUCHATEL	14.28	312.3	3 25	-1							
COLLMBERG	14.57	335.9	3 28	-2							
STRASBOURG	14.74	318.7	3 41	9	6 24	7			6 48		
JENA	14.75	332.2	3 34	2	6 31	13			3 58		
BESANCON	14.98	311.8			6 24	1			6 46	SSS	
HALLE	15.09	334.2	3 41	4	6 31	5			4 1	PP	
TIFLIS	17.48	71.7	4 19	12							
HAMBURG	17.49	334.7	4 7A	0							
PARIS	17.79	312.5	4 11	0					4 55		
KEW	20.68	316.8			8 36	5					
TAMANRASSET	21 19	227.9	4 47	-3	8 40	-2			8 58	PCP	
UPPSALA	21.76	353.5	4 53	-3	8 49	-3					
HELSINKI	21.93	3.4	4 37	-20							
PULKOVO	22.05	10.7	4 57	-2							
RATHFARNHAM	24.76	316.5							5 43		
SKALSTUGAN	26.02	349.7	5 34	-3							
KIRUNA	29.58	358.5	6 8	-1							
LWIRO	40.80	170.2	7 37	-8							
NORD	45.53	352.5	8 21	-3							
OTTAWA	68.91	311.6	11 11K	2							
HUNGRY HORSE	85.42	332.5	12 41	0							
SOUTH POLE	128.13	180.0	19 11	2					21 50	PP	

NOVEMBER 10 2.H 36.M 25.S EPICENTRE -7.20 155.56 DEPTH= 0.KM

A=-0.90333 B= 0.41047 C=-0.12450 D= 0.4137 E= 0.9104
G= 0.1133 H=-0.0515 K=-0.9922 HT= 6.9

SE= 2.03

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
RABAUL	4.50	311.3	1	1	-9								
TRUK	15.04	345.7	3	34	0	6	2	-19					
CHARTERS TS.	15.61	214.4	3	41K	0	6	46	11					
NOUMEA	18.32	146.2	4	13	-3						5	28	
BRISBANE	20.31	186.5	4	35A	-3	8	25	4					
GUAM	23.17	332.4	5	12	5								
SUVA	24.79	118.2	5	25	2	9	52	10					
KOROR	25.50	304.0	5	30	0	9	45	-9			6	7	PP
RIVERVIEW	26.81	188.2	5	40K	-2	10	13	-3			6	21	PP
MELBOURNE	31.97	196.0	6	26K	-2	11	34	-4					
APIA	32.75	104.3	6	31	-4						7	5	PP
KARAPIRO	35.54	152.3	7	2	3						8	22	PP
TONGARIRO	36.58	153.6	7	10	2								
COBB RIVER	37.04	158.3	7	13	2								
WELLINGTON	38.00	156.2	7	20	1						8	31	
GEBBIES PASS	39.32	160.3	7	32	1								
ROXBURGH	40.02	164.9				13	41	0			9	1	PP
MANILA	40.55	302.3	7	39	-2						8	27	PP
BAGUIO CITY	41.82	304.4	7	48	-3	14	8	0					
PERTH	44.42	230.9	8	14	2	14	54	8			10	0	PP
HSINKONG	45.00	313.0	8	17	0	14	58	4					
HONGO	45.20	341.8	8	19	1						19	17	SS
HWALIEN	45.36	314.1	7	32	-48	14	3	-56					
TUKUBASAN	45.57	342.4	8	19	-2	15	28	26	A	29			
KYOTO	45.98	337.2	8	22	-3	15	12	4					
TAIPEI	46.09	315.2									9	47	PCP
MATUSIRO	46.46	340.7	8	27A	-1	15	2	-13			10	31	
MIZUSAWA	48.00	344.9	8	42	1	15	37	0					
DJAKARTA	48.39	268.1				15	1	-42			9	45	PP
HONG KONG	50.03	307.0	8	58A	2	16	12	7					

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ZO-SE	50.33	321.0	8	58A	0	16	13	4					
CANTON	51.14	307.3	9	2A	-3								
NANKING	52.46	320.1	9	15A	0	16	41	2					
PHU-LIEN	55.53	301.2	9	35	-2	17	24	4					
CHANGCHUN	57.70	334.4	9	51A	-2								
PEKING	59.40	325.5	10	3A	-2	18	12	1					
PETROPAVLOVK	60.15	2.1	10	8	-2								
KUNMING	60.62	303.9	10	14A	1	18	27	0					
CHENGTU	62.07	310.2	10	23A	0	18	46	1					
LANCHOW	64.87	315.4	10	42A	1	19	20	0					
PORT BLAIR	65.25	286.3	10	48	4	19	45	20			20	22	
CAPE HALLETT	65.67	175.1	10	45	-1	19	33	3			23	52	SS
WILKES	66.53	198.2	10	52K	0	19	38	-3			23	55	SS
MAGADAN	66.64	357.4	10	52	0								
CHITTAGONG	68.95	297.2	11	7A	0	20	11	2			13	44	PP
ULAN-BATOR	69.59	327.4	11	12	1	20	22	5					
OASIS-BUNG.	69.76	200.7	11	10	-2	20	15	-4					
SHILLONG	69.90	300.4	11	12K	-1	20	25	4	12	0	13	57	PP
SCOTT BASE	70 86	177.5	11	17	-2	20	38	6			21	24	SCS
LHASA	71.92	304.2	11	27A	2	20	47	3					
CALCUTTA	72.08	296.4	11	27	1	20	56	10					
IRKUTSK	73.53	330.0	11	33	-1	20	55	-7					
CHATRA	74.30	300.3	11	40	1	21	20	9					
MADRAS	77.51	285.0	11	59	2	21	50	4			15	0	PP
KODAIKANAL	79.66	281.8	12	16	7								
HYDERABAD	79.97	289.1	12	12	2	22	18	6			23	29	PPS
TIKSI	80.62	351.7	12	12	-2								
BYRD STATION	82.07	169.9	12	21	-1	22	34	0					
SOUTH POLE	82.85	180.0	12	24	-1						15	49	PP
DEHRA DUN	82.94	301.7	12	29	3	22	43	0			15	49	PP
POONA	84.47	289.4	12	34	0	22	53	-5			15	44	PP
BOMBAY	85.49	289.6	12	40	1	23	6	-2					
SEMIPALATNSK	86.25	321.7	12	44	1								
LAHORE	86.31	302.3	12	43	0	23	15	-1			16	11	PP
BERKELEY	88.24	51.7	12	53	1								
LICK	88.63	52.3	12	55	1						16	17	PP
SHASTA	88.65	48.9	12	55	1								
WARSAK DAM	89.04	304.3	12	55	-1								
MINERAL	89.18	49.3	12	56	-1								
FRESNO	89.98	53.1	13	1	1								
SEATTLE	90.00	42.1				23	41	-10					
NAMANGAN	90.08	311.2	13	1	0								
RENO	90.41	50.3	13	4	2								
PASADENA	90.92	55.9	13	4	-1	23	19	-40					
KARACHI	91.77	295.7	12	56	-13								
QUETTA	92.38	300.0	13	11A	-1	24	12	0			16	52	PP
EUREKA	93.34	50.8	13	16	0						38	54	PKPPKP
HUNGRY HORSE	95.59	42.1	13	27	1								
TUCSON	96.83	58.4	14	22	50						17	30	PP
SVERDLOVSK	98.68	326.4	13	37	-3	24	17	-48					
RESOLUTE	102.02	14.8	13	56	1								
TIFLIS	110 23	311.8									19	7	PP
KIRUNA	112.46	343.2									28	49	PS
PULKOVO	113.40	333.2	18	47	9								
SIMFEROPOL	117.08	317.1									19	56	PP
SKALSTUGAN	117.85	342.4									19	53	PP
KSARA	118.56	304.6	18	47	-1	25	52	11			20	10	PP
UPPSALA	118.64	337.3									20	5	PP
CLEVELAND	119.16	46.3									29	58	
JERUSALEM	119.48	302.4	18	52	2						21	4	
SANTA LUCIA	120.37	135.6	19	35	44								
HERMANUS	121.55	222.1				25	57	6			31	43	PPS
OTTAWA	121.71	40.3	18	55A	1								
WARSAW	121.75	329.0									20	28	PP
HELWAN	123.13	301.0	18	57	0						38	35	
COPENHAGEN	123.51	335.9									20	42	PP
PALISADES	124.70	44.4				26	5	4			20	47	PP
HUANCAYO	125.90	110.4	19	7	5						23	7	PKS
HAMBURG	126.02	335.4	19	9A	7								
LWIRO	126.05	262.0	19	1	-1						20	59	PP
COLLMBERG	126.27	331.7	19	3	0						21	3	
HALLE	126.62	332.5	19	13	10						19	42	
JENA	127.18	332.2	19	3	-1						21	4	PP
LA PLATA	127.53	145.1									22	23	PKS
TALA POZO	128.12	133.9				26	10	-1			27	45	SKKS
CHINCHINA	129.08	89.4	19	12	4								
DURHAM	129.14	343.1	19	8	0						22	32	
TRIESTE	129.48	325.8									22	29	

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STUTTGART	129.78	331.5	19	11	2	26	7	-8	22	43	SKP
KARLSRUHE	129.98	332.2							21	24	PP
EBINGEN	130.31	331.1	19	13	3						
BOGOTA	130.58	90.1	19	11	0				22	38	SKP
STRASBOURG	130.59	332.2							21	29	PP
LA PAZ	130.78	118.9	19	15A	4				21	31	PP
BASLE	131.43	331.4	18	49	-24						
KEW	131.57	340.0							22	38	PKS
RATHFARNHAM	131.72	345.5	19	51	38						
FLORENCE X.	132.03	325.3							21	50	PP
PAVIA	132.26	328.1							21	7	PP
BESANCON	132.38	332.2							22	54	SKP
MESSINA	132.50	316.6	19	13	-2	26	19	-3	22	44	PKS
PARIS	132.71	336.0							21	39	PP
CLERMONT-FD.	134.80	332.8							21	59	PP
BERMUDA	135.01	50.6	19	23	4	26	8	-19	22	8	PP
SAN JUAN	137.96	70.6	19	25	0						
TRINIDAD	143.22	81.8	19	31	-3						
FORT FRANCE	143.23	75.1	19	28	-6				23	20	SKP
ST. LUCIA	143.46	76.2	19	35	1						
GRANADA	144.64	330 6	19	35	-1				22	47	PP
LISBON	145.72	338.5	19	41A	3						
TAMANRASSET	147.28	301.5	19	43A	2				23	18	PP
MBOUR	169.77	314.8	20	10	3	27	16	9	25	15	PP

NOVEMBER 10 5.H 28.M 11.S EPICENTRE -24.35-175.76 DEPTH= 0.KM

A=-0.90958 B=-0.06744 C=-0.41002 D=-0.0739 E= 0.9973
G= 0.4089 H= 0.0303 K=-0.9121 HT= 3.5

SE= 1.72

	DELTA DEG.	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	8.21	317.6	2	5	1	3	51	13				
APIA	11.15	20.4	2	38	-6	4	32	-19				
ONERAHI	14.22	214.6	3	40	15						4	0
NOUMEA	16.47	273.5	3	58	4							
WELLINGTON	18.64	202.8				7	29	-18				
BRISBANE	28.21	256.9	5	56	-1						6	46
RIVERVIEW	30.31	244.2				11	16	0				
CHARTERS TS.	35.36	269.4	6	57A	-3							
MELBOURNE	35.95	238.6	7	3K	-2							
SCOTT BASE	54.20	184.5	9	30A	0							
BYRD STATION	60.52	170.4	10	12	-3	18	30	0				
SOUTH POLE	65.79	180.0	10	48	-2							
TUKUBASAN	73.26	324.0	11	34	-1							
MATUSIRO	74.52	323.0	11	41	-2	21	26	8				
BERKELEY	79.71	40 3	12	12A	0							
LICK	79.72	41.0	12	12A	0							
PASADENA	79.85	45.3	12	12	0							
FRESNO	80.47	42.4	12	16	0							
SHASTA	81.52	38.1	12	22	1							
MINERAL	81.74	38.8	12	23A	1							
HONG KONG	82.34	298.5	12	26	1							
CANTON	83.44	298.8	12	31	0							
TUCSON	83.70	50.6	12	34	2							
NANKING	83.95	309.0	12	33A	-1							
EUREKA	84.52	42.2	12	37	0							
SEATTLE	86.27	33.0	12	49	4							
CHANGCHUN	86.69	321.6	12	47A	0							
SALT LAKE C.	87.83	43.0	12	53	0							
PEKING	90.06	314.6	13	3A	0							
BUTTE	90.43	38.5	13	5	0							
LUBBOCK	90.84	53.3	13	9	2							
HUNGRY HORSE	90.99	36.0	13	8	0							
BOZEMAN	91.10	39.4	13	9	1							
KUNMING	92.94	296.1	13	17A	0							
CHENGTU	94.28	301.6	13	23A	0							
HUANCAYO	94.39	105.2	13	25	2							
RAPID CITY	95.00	43.6	13	26	0							
SHILLONG	102.13	292.6	13	52	-6							
COLOMBO	105.88	270 5	19	59	777							
KIRUNA	135.38	351.3	19	22	-1							
UPPSALA	143.31	348.7	19	33	-4							
LWIRO	144.38	225.5	19	35	-4							

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DURHAM	149.31	6.6	19	32	-15				21	22
RATHFARNHAM	150.02	12.7	19	54A	6					
HAMBURG	150.50	353.0	19	56A	7				20	30
KSARA	150.88	296.2	19	52	3				23	36 PP
KRAKOW	151.58	338.5	19	52	2				23	39 PP
JERUSALEM	151.75	292.2	19	59	9					
HALLE	152.25	349.6	19	59	8				23	37 PP
KEW	152.70	6.2	20	9	17					
JENA	152.87	349.8	19	59	7				20	37
PRAGUE	153.13	345.4	20	2	10				22	5
PRUHONICE	153.18	345.2	20	0	7				23	49 PP
HELWAN	155.30	288.8	19	57	2				21	9
STUTTGART	155.32	352.1	19	56K	1				20	19
STRASBOURG	155.66	354.3	20	24	28					
EBINGEN	155.92	352.2	20	0	4				20	41
BASLE	156.72	354.3							18	14
BESANCON	157.11	357.0	20	29	31					
FLORENCE X.	159.78	345.2	20	37	36					
TAMANRASSET	178.04	217.2	20	14	1				25	46 PP

NOVEMBER 10 5.H 49.M 3.S EPICENTRE -6.46 146.99 DEPTH= 22.KM

A=-0.83329 B= 0.54141 C=-0.11180 D= 0.5448 E= 0.8385
G= 0.0938 H=-0.0609 K=-0.9937 HT= 6.9

SE= 2.70

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
RABAUL	5.63	66.7	1	25	1	2	48	19			4	16
CHARTERS TS.	13.49	182.9	3	11K	-1	5	57	15				
TRUK	14.67	19.4	3	28	0	6	11	1				
KOROR	18.53	317.5	4	16	0	7	38	-1				
GUAM	19.93	353.6	4	32	-1	8	7	-3				
BRISBANE	21.68	165.3	4	48K	-3	8	51	7				
NOUMEA	24.51	131.9	5	18	0							
RIVERVIEW	27.50	172.5	5	50A	4	10	30	6			6	34 PP
MELBOURNE	31.28	183.1	6	19	-1	11	18	-6			7	37
SUVA	32.78	113.6				11	57	10				
MANILA	33.20	309.2	6	31	-6							
PERTH	38.57	224.9	7	26	4	12	17	-59			8	50 PP
DJAKARTA	39.91	268.1	7	38	5						17	44
TONGARIRO	41.52	145.9	7	48	1							
KYOTO	42 60	346.3	7	55	-1	14	18	2				
TUKUBASAN	42 95	351 8	7	57	-1	14	17	-4	8	6	9	34 PP
HONG KONG	43 01	312.6	8	0	1	14	28	6				
ROXBURGH	43 50	157.2				14	15	-14			10	13 PP
MATUSIRO	43.57	349.7	8	3K	0	14	1	-29				
CANTON	44.13	312.8	8	8A	0	14	39	0				
ZO-SE	44.77	328.0	8	12A	-1	14	47	-1				
MIZUSAWA	45.68	353.6	8	25	5	14	59	-2				
NANKING	46.78	326.6	8	30	1	15	18	1				
PHU-LIEN	48.01	305.4	8	40	1	15	38	4				
KUNMING	53.28	307.8	9	19A	0	16	50	3				
CHANGCHUN	53.76	340.6	9	20	-2							
PEKING	54.29	331.0	9	25A	-1	17	0	-1				
CHENGTU	55.27	314.4	9	32	-1	17	14	0				
LANCHOW	58.56	319.5	10	7A	10	18	2	5				
PETROPAVLOVK	60.18	8.1	10	8	0	18	24	6				
CHITTAGONG	61.11	299.8	10	15	1	18	35	5			12	32 PP
SHILLONG	62.27	303.2	10	21	-1	18	47	2				
LHASA	64.57	307.0	10	38	1	19	16	3				
ULAN-BATOR	64.62	331.4	10	35	-2							
WILKES	64.76	195.5	10	37	-1	19	16	0				
MAGADAN	65.87	2.1	10	41	-4							
CHATRA	66.66	302.7	10	51	1	19	46	7				
OASIS-BUNG.	67.58	198.5	10	53	-3	19	52	2				
IRKUTSK	68.85	333.5	11	3	-1	20	9	4				
MADRAS	69.12	286.5	11	11	5	20	13	5			20	39 PS
KODAIKANAL	71.18	283.1	11	25	7							
HYDERABAD	71.71	290.7									21	25
SCOTT BASE	72.10	175.7	11	23	-1	20	52	9			15	45 PPP
DEHRA DUN	75 36	303.5	11	44	1	21	22	2				
POONA	76 22	290 8	11	50	2	21	35	6			22	1 PS
BOMBAY	77.25	291.0	11	58	4	21	44	4				
LAHORE	78.77	303.8	12	1	-1							

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TIKSI	78.85	354.2	12	0	-2	21	36	-21		
NAMANGAN	83.24	312.5	12	25	0	22	41	-2		
SOUTH POLF	83.58	180.0	12	24	-3					
KARACHI	83.81	296.8	12	23	-5	22	43	-5		
BYRD STATION	84.29	169.9	12	30	-1	22	57	4		
QUETTA	84.67	301.1	12	29	-4	22	54	-3	15 45	PP
SHASTA	94.64	49.7	13	20	0					
LICK	94.96	53.1	13	18	-3					
MINERAL	95.21	50 1	13	26	4					
TANANARIVE	96.79	250.1	13	25	-5					
PASADENA	97.59	56.5	13	37	4					
HALLEY BAY	98.06	181.6	19	7	332				21 9	PP
EUREKA	99.50	51.2	13	46	4					
TIFLIS	103.37	311.2	17	34	215					
SIMFEROPOL	110.67	315.6							28 15	
JERUSALEM	111.87	301.5	18	6	-26					
HELWAN	115.41	299.9							19 40	PP
ATHENS	119.95	310.3	15	25	-203					
OTTAWA	126.43	36.4	19	5	4					
SANTA LUCIA	126.62	140.5	19	50	49					
COLUMBIA	127.91	51.5	19	8	4					
PALISADES	129.91	40 2							21 17	PP
HUANCAYO	134.08	113.5	19	20	5				22 55	PKS
CHINCHINA	137.59	89.7	19	24	2					
LA PAZ	138.44	123.7	19	22	-1				22 16	PP
BOGOTA	139.10	90.4	19	28	4				22 58	SKP
TAMANRASSET	139.51	297.7	19	22	-3				22 12	PP
BERMUDA	140.83	44.7							22 33	PP
SAN JUAN	145.64	66.8	19	37	1				20 24	
ANTIGUA	150.58	66.6	19	50	6					
FORT FRANCE	151.18	71.2	19	48K	3					
ST. VINCENT	151.39	74.4	19	51	6					
ST. LUCIA	151.48	72.5	19	50	5					
TRINIDAD	151.51	79.6	19	52	7					
MBOUR	162.38	297.8	20	51	52					

NOVEMBER 10 8.H 26.M 6.S EPICENTRE 34.27 139.33 DEPTH= 0.KM

A=-0.62815 B= 0.53973 C= 0.56047 D= 0.6517 E= 0 7585
G=-0.4251 H= 0.3653 K=-0.8282 HT= 0.4

SE= 3.01

	DELTA DEG.	AZ DEG	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S
OSIMA	0.50	4.7	0	10A	-4	0	14	-9				
MERA	0.77	32.3	0	15A	-2	0	28	-2				
AJIRO	0.80	346.4	0	15	-3	0	29	-2				
MISIMA	0.91	339.9	0	17K	-2	0	29	-4				
OMAESAKI	0 98	290.2	0	18K	-2	0	33	-2			0	55
SHIZUOKA	1.04	312.7	0	18K	-3	0	37	0				
YOKOHAMA	1.19	12.7	0	22	-1	0	41	1				
HATIDYOZIMA	1.24	160.2	0	25	1	0	38	-4				
HUNATU	1.31	339.6	0	25	0	0	44	0				
HAMAMATU	1.40	289.2	0	24	-2						0	35
TOKYO C.M.O.	1.45	13.6	0	26A	-1	0	46	-1				
HONGO	1.48	14.0	0	27	-1	0	50	2				
KOHU	1.50	335.6	0	27	-1	0	49	1				
TITIBU	1.72	353.2	0	30	-1	0	54	0				
TYOSI	1.91	40.3	0	32	-2	0	56	-3				
TUKUBASAN	2 05	17 7	0	34	-2							
KAKIOKA	2.08	19.3	0	34	-2	1	4	1				
MAEBASI	2.14	354.4	0	38	1	1	7	2				
NAGOYA	2.14	295.5	0	36	-1	1	3	-2				
OIWAKE	2.15	343.0	0	40	3	1	5	0				
MATUMOTO	2.27	331.0	0	38	-1	1	12	4				
MITO	2.30	23.5	0	39	0	1	3	-6				
UTUNOMIYA	2.32	10.8	0	38	-1	1	5	-4				
TU	2.37	282 0	0	44	4	1	21	11				
GIHU	2.39	298.9	0	39	-1	1	8	-3			2	38
KAMEYAMA	2.43	284.6	0	39	-2	1	13	1				
MATUSIRO	2.45	338.6	0	41K	0	1	16	4				
TAKAYAMA	2.53	318.4	0	42	-1							
NAGANO	2.57	339.3	0	48	5	1	20	5				
OWASE	2.60	266.5	0	41	-3	1	10	-6				
IBUKISAN	2.67	295.4	0	43	-1	1	21	3				

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HIKONE	2.73	292.4	0	45	0	1	28	9		
NARA	2.92	279.1	0	50	2	1	35	11		
SHIRAKAWA	2.94	14.0	0	47	-1	1	25	0		
TAKADA	2.96	343.0	0	58	9					
TOYAMA	2.98	325.0	0	59	10	1	42	16		
TSURUGA	3.01	298.2	0	49	0	1	32	5		
KYOTO	3.06	285.2	0	48	-2	1	12	-16		
SIOMISAKI	3.07	255.6	0	48	-2				1	51
HUKUI	3.07	306.2	0.	56	6	1	35	7	1	50
KANAZAWA	3.14	316.6	1	2	11					
OSAKA	3.16	278.0	0	52	0	1	26	-5		
MAIZURU	3.39	291.8				2	35	58	1	52
KOBE	3.45	278.0	0	57	1	1	34	-4		
HUKUSIMA	3.60	14.6	0	56	-2	1	43	1		
NIIGATA	3.65	356.5	1	3	5	1	49	6		
WAZIMA	3.68	328.3	1	9	10					
SUMOTO	3 68	272.5	0	53	-6	1	40	-4		
AIKAWA	3 84	347.2	1	5	4	2	8	20		
TORISIMA	3.86	167 5	1	3	1	1	47	-2		
TOYOOKA	3.91	290.0	1	0	-2	1	56	6		
TOKUSIMA	3.94	268.5	1	1	-2	1	47	-4		
YAMAGATA	4.06	11.4	1	4	0					
HIMEJI	4.08	274.6	0	49	-16				2	12
SENDAI	4.19	17.2	1	4	-2	1	55	-2	1	29
TAKAMATU	4.37	272.2	1	5	-4	1	57	-5		
ISINOMAKI	4.45	20.6	1	5	-5	2	9	5	1	16
OKAYAMA	4.49	276.8	1	11	1	2	2	-2	2	43
SAKATA	4.64	4.8	1	13	0					
KOTI	4.88	263.2	1	17	1	2	19	5		
YONAGO	5.05	285.0							3	0
MIZUSAWA	5.06	16.1	1	19	0	2	4	-15		
MATSUE	5.28	284.7	2	19	57	3	23	59		
AKITA	5.48	6.2	1	21	-3	2	35	6	3	17
MATUYAMA	5.48	267.3	1	24	0	2	41	12		
SIMIDU	5.51	256.2	1	22	-3	2	40	10		
MORIOKA	5.62	14.7	1	24	-2	2	33	0	3	18
HIROSIMA	5.71	273.0	1	30	2	2	46	11	3	50
UWAZIMA	5.74	261.5	1	27	-1				3	48
MIYAKO	5.77	20.7	1	34	5	2	41	5		
HAMADA	6.02	278.1	1	34	2	2	34	-9		
HATINOHE	6 49	15.0	1	44	5	2	52	-2		
AOMORI	6.64	9.6	2	2	21					
SIMONOSEKI	6.97	269.7							3	16
MIYAZAKI	7.04	252.8	1	46	0				4	0
KUMAMOTO	7.35	261.1	2	24	33				4	29
KAGOSIMA	7.86	252.4	2	11	13				5	4
MORI	7.88	6.7	2	20	22					
URAKAWA	8.32	18.0	2	3	-1				3	29
YAKUSIMA	8.38	245.4	2	2	-3					
SAPPORO	8.93	9.6	2	21	8				3	30
OBIHIRO	9.15	18.2	2	14	-2					
KUSIRO	9.56	23.0							4	1
NEMURO	10.28	26.4							4	17
WAKKANAI	11.28	8.5							6	46
CHANGCHUN	14.47	315.4	3	27	-1					
ZO-SE	15.61	263.3	3	50	8	6	52	15		
NANKING	17.33	268.4	4	6	2	7	17	0		
TAIPEI	17.99	244.0	4	35	22					
PEKING	19.31	294.1	4	29	0					
GUAM	21.28	165.3	4	45	-5					
PETROPAVLOVK	23.33	30.2	5	11	1				10	0 SS
BAGUIO CITY	24.48	228.1	5	24	3				5	48 PP
HONG KONG	25.09	248.2				10	3	13		
CANTON	25.36	250 8	5	28	-2					
MAGADAN	26.40	13.2	5	44	5	10	16	4		
LANCHOW	28.99	283.8	6	6	3					
CHENGTU	29.93	273.0	6	12	1	11	11	2		
PHU-LIEN	31.80	253.6							13	5 SS
KUNMING	33.00	263.8	6	40	2	11	56	-1		
LHASA	40.93	277.3	7	50	5					
SHILLONG	41 73	271.1	7	50	-2					
FRUNSE	50.23	300.1	9	5	6					
CHARTERS TS	54.38	172.0	9	28K	-2					
STALINABAD	55.67	296.4	9	40	0					
SVERDLOVSK	56.12	319.5	9	39	-4					
QUETTA	60.17	287.9	10	8	-3	18	22	-2	12	24 PP
BRISBANE	62.77	166.3	10	31K	2					
RESOLUTE	65.70	13.7	10	41	-7					
SODANKYLA	66.85	337.2	10	52	-3					

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THULE	68.21	6.8	11	0	-4						
KIRUNA	68.49	339.1	11	6	0						
RIVERVIEW	68.64	169.5				20	10	1			
VICTORIA	69.56	44.7	11	13	1						
TIFLIS	71.18	308.0				20	34	-5			
HELSINKI	71.66	331.3	11	25	0					11	49 PCP
SKALSTUGAN	73.86	338.2	11	35	-3						
SHASTA	74.13	51.5	11	42	2						
UPPSALA	74.68	333.6	11	40	-3						
MINERAL	74.83	51.4	11	46	2						
HUNGRY HORSE	74.97	41.4	11	46	2						
BERKELEY	75.72	53.9	11	49	0						
SIMFEROPOL	76.09	315.1								21	56 SCS
LICK	76.41	54.1	11	53	0						
BUTTE	77.13	42.8	11	58	1						
FRESNO	77.96	53.7	12	2	1						
BOZEMAN	78.19	42.4	12	4	2						
EUREKA	78.92	49.7	12	4	-2					30	3 PKKP
PASADENA	80.53	55.2	12	17	2						
SALT LAKE C.	80.70	46.8	12	19	3						
PRUHONICE	82.93	327.7	12	25	-3					13	1
RAPID CITY	83.50	40.1	12	32	2						
STUTTGART	86.15	329.5	12	42	-2					12	44 PCP
TUCSON	86.59	53.0	12	48	2						
EBINGEN	86.70	329.3	12	42	-4						
RATHFARNHAM	87.82	340.2	13	48	56						

NOVEMBER 10 10 H 21.M 19.S EPICENTRE 7.88 -74.47 DEPTH= 50.KM

DEPTH OF FOCUS= 0.003R

A= 0.26522 B=-0.95451 C= 0.13627 D=-0.9635 E=-0.2677
G= 0 0365 H=-0.1313 K=-0.9907 HT= 6.8

SE= 1 82

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
GALERAZAMBA	2.98	344.7	0	50	3	1	24	2				
CHINCHINA	3.11	201.6	0	49	1	1	27	2				
BOGOTA	3.27	173.0	0	53	2	1	30	1				
BALBOA HTS	5.15	282.3	1	15	-2	2	12	-4				
TRINIDAD	13.08	76.8	3	3	-3	5	30	0				
SAN JUAN	13.22	37.1	3	5	-3	5	24	-10			3	26
ST VINCENT	14.00	66.9	3	18	0							
ST. LUCIA	14.56	64.1	3	23	-2	6	30	24			3	37 PP
FORT FRANCE	14.72	61.3	3	25	-2	6	1	-8				
BARBADOS	15.52	69.2	3	38	1							
ANTIGUA	15.87	53.8	3	32	-10	6	22	-14				
HUANCAYO	19.82	182.5	4	30	0	8	8	3			4	56
LA PAZ	25.03	165.5	5	20K	-1	9	40	1			6	0 PP
BERMUDA	26.02	19.2									11	41 SSS
TACUBAYA	26.57	298.0	5	40	4						6	24 PP
COLUMBIA	26.68	347.8	5	37	0							
CHAPEL HILL	28.22	352.1	6	6	15							
MORGANTOWN	31.99	352.0	6	25	1							
PALISADES	32.99	0 8				11	43	-3				
FAYETTEVILLE	33.35	330 2	6	15	-21				6	48		
WESTON	34 47	4.1	6	48K	3							
LUBBOCK	35.96	319.2	6	58	0							
TALA POZO	36.85	164.8				12	36	-10			17	11 SCS
OTTAWA	37.39	358.6	7	14K	4							
BREBEUF	37.48	1.0	7	12K	1						7	28
SHAWINIGAN	38.55	1.9	7	35	15							
TUCSON	41 55	310 8	7	45	0						9	12 PCP
LARAMIE	43.23	325.4	8	0	2							
RAPID CITY	43.90	330.0	8	3	-1							
SALT LAKE C.	46.64	320.6	8	26	0						13	47 SCP
PASADENA	47.92	309.5	8	35	-1						8	51
EUREKA	48.66	316.9	8	40	-1						9	1
BOZEMAN	49.08	326.4	8	45	0						9	19
BUTTE	50.13	325.9	8	51	-2							
FRESNO	50.17	312.0	8	51	-2							
LICK	51.75	311.9	9	5K	0						9	25
HUNGRY HORSE	52.34	327.5	9	9	0							
BERKELEY	52.41	312.3	9	9K	-1						9	29

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MINERAL	52.92	315.4	9 13	-1						
SHASTA	53.61	315.5	9 16	-3						
CORVALLIS	55.85	319.5	9 35	0						
MBOUR	56.67	78.0	9 42	1						
VICTORIA	57.70	323.6	9 47K	-1						
HORSESHOE B	58.02	324.6	9 47K	-4						
RESOLUTE	67.78	354.2	10 53	-2						
THULE	68.58	1.6	11 1	1						
RATHFARNHAM	70.74	36.2	11 33	20						
KEW	74.00	38.8	11 33	0			11 52			
PARIS	75.52	41.7	11 43	2					11 59	PCP
CLERMONT-FD	75.74	44.9	11 44	2						
NORD	77.74	7.3	11 52	-2						
BESANCON	77.78	43.4	11 56	2						
TAMANRASSET	77.80	68.4	11 55A	1					12 47	
WITTEVEEN	78.41	37.7	11 59	2						
NEUCHATEL	78.43	43.7	11 59	1						
BASLE	78.87	43.2	10 5	-115						
STRASBOURG	79.01	42.1	12 1	0	21 59	5			12 40	
EBINGEN	79.81	42.5	12 6	1					12 27	
STUTTGART	79.95	41.9	12 5K	-1					12 28	
HAMBURG	80.41	37.0	12 9A	1			12 28			
JENA	81.45	39.7	12 13	-1					15 46	PP
FLORENCE X	81.52	46.9	12 32K	18					13 43	
SKALSTUGAN	81.55	26.8	12 14	0			12 36			
HALLE	81.66	39.1	12 10	-5					13 11	
PLAUEN	81.83	40.1	12 14	-2					12 48	
COLLMBERG	82.33	39.3	12 20	2					12 41	
PRAGUE	83.31	40.4	12 25	2					15 2	
PRUHONICE	83.40	40.5	12 24	0					14 16	
UPPSALA	84.30	30 5	12 27K	-1			12 49			
KIRUNA	84.61	22.3	12 30	0	22 58	7	12 51			
BRATISLAVA	85.24	42.2	12 36	3						
KRAKOW	86.84	40.1	12 43	2					12 47	PCP
SODANKYLA	87.03	22 4	12 40	-2			13 2			
HELSINKI	87.89	29.6	12 46	0			13 8			
SOFIA	90 40	46.9	12 59	2						
BYRD STATION	90 69	187.1	12 57	-2						
ATHENS	91.61	51.5	13 5	2						
SOUTH POLE	97.83	180.0	13 30	-2						
LWIRO	103.45	90.4	14 19	22						
QUETTA	127.05	42.6	18 59	0					20 55	PP
RIVERVIEW	130.71	231.7	19 10	4						
BRISBANE	131.08	240.3							22 28	PKS
RABAUL	133.49	271.7	19 12	1					22 44	
CHARTERS TS.	138.79	248.6	19 17	-4					22 54	
SHILLONG	144.19	21.4	19 28A	-3						

NOVEMBER 10 19.H 20.M 6.5 EPICENTRE 34.21 139.36 DEPTH= 0.KM

A=-0.62891 B= 0.53972 C= 0.55963 D= 0.6512 E= 0.7589
G=-0.4247 H= 0.3645 K=-0.8287 HT= 0.4

SE= 2.43

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
OSIMA	0.56	1.3	0 12	-3				
MERA	0.81	28.3	0 17	-2	0 27	-5		
MISIMA	0 97	339.5	0 19K	-2	0 32	-4		
OMAESAKI	1.02	292.7	0 21	-1	0 37	0		
SHIZUOKA	1.16	313.9	0 21K	-2	0 36	-3		
HATIDYOZIMA	1.17	160.5	0 25	1	0 39	-2		
YOKOHAMA	1.24	10.8	0 26A	1	0 44	1		
HUNATU	1.38	339.4	0 26	-1	0 47	1		
HAMAMATU	1.45	291.0	0 24	-4				
TOKYO C M.O.	1.50	12.1	0 28	-1	0 49	0		
HONGO	1.53	12.4	0 29	0	0 51	1		
KOHU	1.56	335.5	0 29K	-1	0 50	-1		
TITIBU	1.78	352.6	0 32	-1	0 56	0		
KUMAGAYA	1.94	0.4	0 36A	1	0 58	-2		
TYOSI	1.94	38.6	0 33	-2	0 59	-1		
KAKIOKA	2.12	18.1	0 36A	-2	1 6	1		
NAGOYA	2.19	296.6	0 38	-1	1 7	0		0 54
MAEBASI	2.20	353.8	0 35	-4	1 8	1		
OIWAKE	2.22	342.8	0 43	4	1 9	2		

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MATUMOTO	2.33	331.1	0	42	1	1	14	4			
MITO	2.35	22.4	0	40A	-1	1	7	-4			
UTUNOMIYA	2.37	9.9	0	40	-1	1	8	-3			
TU	2.41	283.3	0	42	0	1	10	-2			
GIHU	2.44	299.8	0	42	0	1	11	-2			
KAMEYAMA	2.47	285.8	0	42K	-1	1	26	12			
MATUSIRO	2.52	338.5	0	43K	0	1	16	1			
TAKAYAMA	2.60	318.8	0	45	1	1	25	8			
OWASE	2.63	267.9	0	43	-2	1	11	-7			
NAGANO	2.63	339.2	0	46K	1	1	19	1			
IBUKISAN	2.72	296.3	0	46K	0	1	24	4			
HIKONE	2.77	293.3	1	0	13	1	35	13			
NARA	2.96	280.1	0	49	-1	1	27	1			
SHIRAKAWA	2.99	13.2	0	50	0	1	25	-2			
ONAHAMA	3.01	24.2	0	50A	0	1	33	5			1 8
TAKADA	3.02	342.9	0	54	4	1	37	9			
TOYAMA	3.05	325.2	0	50	-1	1	41	12			
SIOMISAKI	3.09	256.8	0	51	0	1	23	-7			
KYOTO	3.10	286.1	0	51	-1	1	30	0			
HUKUI	3.13	306.8	0	52	0	1	28	-3			
OSAKA	3.20	279.0	0	53K	0	1	47	14			
KANAZAWA	3.21	317.0	1	0	7	1	37	4			
MAIZURU	3.44	292.5	0	58	2	1	47	8			
WAKAYAMA	3.48	271.5	0	58	1	1	35	-5			
KOBE	3.49	278.9	0	54	-3	1	33	-7			
HUKUSIMA	3.65	13.9	0	59	0	1	45	1			
NIIGATA	3.71	356.2	1	1A	1	1	54	8			
SUMOTO	3.72	273.4	0	58K	-2	1	50	4			1 15
WAZIMA	3.74	328.4	1	2	1	1	59	12			1 39
AIKAWA	3.91	347.0	1	3	0	2	0	9			
TOYOOKA	3.96	290.7	1	2K	-2	1	56	4			
TOKUSIMA	3.97	269.3	1	2	-2	1	52	-1			1 45
YAMAGATA	4.11	10.9	1	5	-1	1	58	2			
HIMEJI	4.12	275.4	1	4	-2	1	58	2			
SENDAI	4.24	16.6	1	8	0	2	7	8			2 18
TAKAMATU	4.40	272.9	1	9K	-1	1	56	-7			1 21
TOTTORI	4.41	288.4	1	14	4	2	25	21			
MUROTO	4.42	259.0	1	10	0	1	58	-6			3 0
ISINOMAKI	4.50	20.0	1	11	0	2	1	-5			4 8
OKAYAMA	4.52	277.5	1	14	2	1	56	-10			
SAKATA	4.70	4.4	1	17	3	2	22	12			
KOTI	4.90	263.9	1	17	0	2	22	7			
MIZUSAWA	5.11	15.6	1	20	0	2	8	-13			
MATSUE	5.32	285.2	1	32	9	2	42	16			
SAIGO	5.32	293.6	1	29	6	2	46	20			
MATUYAMA	5.51	267.9	1	24	-2	2	34	3			
SIMIDU	5.53	256.8	1	24	-2	2	30	-1			
AKITA	5.53	5.9	1	26A	0	2	35	4			
MORIOKA	5.67	14.3	1	26A	-2	2	31	-4			1 52
HIROSIMA	5.74	273.5	1	26K	-3	2	40	3			
UWAZIMA	5.76	262.1	1	28	-1	2	28	-9			3 4
MIYAKO	5.82	20.3	1	27	-3	2	34	-4			
HAMADA	6.06	278.6	1	33K	0	2	39	-5			
OOITA	6.53	263.5	1	40	0	3	16	20			2 16
HATINOHE	6.54	14.6	1	37	-3	2	54	-3			
AOMORI	6.69	9.3	1	45	3	3	12	12			
MIYAZAKI	7.05	253.3	1	46	-1	3	38	29			3 6
KUMAMOTO	7.37	261.6	1	51	-1	3	23	6			2 16
HUKUOKA	7.46	267.7	1	51	-2	3	20	0			
SAGA	7.61	265.3	1	58	3						4 27
HAKODATE	7 63	7.7	2	1	5	3	35	11			2 17
UNZENDAKE	7.76	261.6	1	56	-1						4 11
KAGOSIMA	7.87	252.9	2	0	1						2 41
MORI	7.93	6.5	2	2	2	3	33	2			2 22
NAGASAKI	8.06	262.1	2	4	2						4 48
MURORAN	8.21	8.4	2	9	5	3	34	-4			4 52
ITUHARA	8.35	272.8	2	14	8						
URAKAWA	8.37	17.7	1	59	-7	3	28	-14			5 39
YAKUSIMA	8.38	245.9	2	6	0						6 6
TOMAKOMAI	8.48	11.2	2	42	35	4	13	28			
SUTTSU	8.60	4.3	2	13	4	3	53	5			4 9
SAPPORO	8.98	9.4	2	16	2	4	7	10			
TOMIE	9.00	262.8									4 12
OBIHIRO	9.20	17.9	2	14	-3						
KUSIRO	9.60	22.7	2	26	3	4	21	8			4 1
NEMURO	10.31	26.2	2	38	5	4	16	-14			
ABASHIRI	10.51	19.8				4	24	-11			
VLADIVOSTOK	10.63	329.0	2	38	1	4	44	6			

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WAKKANAI	11.34	8.3							3	26
KURILSK	12.80	28.2	3	5	-1					
Y.-SAKHLINSK	12.98	10.3	3	6	-3					
CHANGCHUN	14.53	315.5	3	30	1					
DAIREN	15.00	293.3	3	39	4					
SUIHWA	15.55	326.6	3	45	2					
ZO-SE	15.63	263.6	3	43	-1					
NANKING	17.36	268.6	4	7	1					
TAIPEI	17.99	244.2	4	20	7	7	34	2		
HWALIEN	18.54	241.3	4	30	10					
TAICHUNG	19.12	243.3	4	49	22					
HSINKONG	19.25	239.6	4	28	-1	8	18	17		
PEKING	19.36	294.2	4	27	-3					
TAITUNG	19.63	239.2	4	40	7					
GUAM	21.22	165.4	4	49	-1	8	46	4		
LINFEN	22.82	282.7	4	36	-30					
PETROPAVLOVK	23.37	30.1	5	10	-1					
BAGUIO CITY	24.46	228.3	5	21	-1				5	58 PP
HONG KONG	25.09	248.4	5	28	0	9	53	2		
CANTON	25.37	250.9	5	31	0	9	56	1		
MANILA	25.65	224.9	5	30	-3					
MAGADAN	26.45	13.1	5	42	1	10	17	4		
KOROR	27.13	190.7	5	49	2					
ULAN-BATOR	27.82	309.3	5	54	1	10	38	2		
TRUK	29.00	153.8	6	8	4					
LANCHOW	29.03	284.0	6	2	-2	10	52	-3		
CHENGTU	29.96	273.1	6	8	-5					
IRKUTSK	30.86	316.5	6	21	1	11	26	2		
PHU-LIEN	31.81	253.7	6	29K	0	11	38	-1		
KUNMING	33.02	263.9	6	28	-11					
TOCKLAI	38.90	271.3	7	40	11					
RABAUL	40.07	159.9	7	37	-2					
LHASA	40.97	277.3	7	46	0	13	57	-2		
SHILLONG	41.76	271.2	7	50	-3	14	13	2	9	36 PP
CHITTAGONG	43.15	267.0	8	6	2	14	32	0		
CHATRA	45.16	275.3	8	18	-3					
SEMIPALATNSK	45.39	309.5	8	22	0	15	1	-3		
CALCUTTA	45.96	269.2	8	30	3	15	18	6	18	47 SS
BOKARO	47.50	272.2							10	31 PP
FRUNSE	50.29	300.2	9	1A	0	16	15	2	16	38 PS
DEHRA DUN	51.31	283.6	9	7	-1	16	44	17	11	5 PP
COLLEGE	52.37	31.0	9	16	0					
CHARTERS TS.	54.31	172.0	9	29K	-2					
TASHKENT	54.50	299.6	9	29	-3				21	6 SS
STALINABAD	55.72	296.5	9	40	-1	17	26	-1		
SVERDLOVSK	56.19	319.5	9	43	-1				21	24 SS
HYDERABAD	56.55	269.1				17	49	11		
QUETTA	60.22	288.0	10	9	-4	18	22	-4	12	23 PP
COLOMBO	61.02	257.9							12	25 PP
KARACHI	62.01	283.5	10	11	-14					
BRISBANE	62.70	166.3	10	28A	-1	18	58	1		
ASHKABAD	63.57	299.3	10	34	-1					
NORD	63.76	356.2	10	33A	-3					
APATITY	64.58	335.9	10	41K	-1	19	16	-5	13	7 PP
RESOLUTE	65.75	13.7	10	47K	-2	19	40	5	20	31 SCS
SODANKYLA	66.92	337.2	10	55	-2					
THULE	68.26	6.8	11	1	-4					
KIRUNA	68.56	339.1	11	6	-1	20	8	-1		
RIVERVIEW	68.58	169.5	11	7	0	20	13	4	21	8 SCS
SEATTLE	70.67	45.2	11	0K	-20					
TIFLIS	71.24	308.0	11	22	-1					
GORIS	71.30	305.3	11	23	-1				21	18 SCS
HELSINKI	71.73	331.3	11	24	-2					
MELBOURNE	71.86	175.3	11	31	4					
SKALSTUGAN	73.92	338.2	11	38	-1					
SHASTA	74.15	51.5	11	41	1					
SCORESBY SD.	74.74	353.6	11	41	-3					
UPPSALA	74.75	333.6	11	43	-1	21	14	-6		
MINERAL	74.84	51.4	11	46A	1					
HUNGRY HORSE	74.99	41.4	11	44	-1					
BERKELEY	75.73	53.9	11	49K	-1					
SIMFEROPOL	76.15	315.1	11	52	0	21	50	14	14	46 PP
LICK	76.43	54.1	11	53K	-1				12	16
BUTTE	77.16	42.8	11	57	-1				12	31
FRESNO	77.97	53.7	12	2	0					
BOZEMAN	78.22	42.4	12	4	1					
IASI	78.49	319.7	12	9	4					
WARSAW	78.51	326.5	12	7	2	22	0	-1		

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	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
LWOW	78.66	323.3	12 6	0				22 10 SCS
EUREKA	78.93	49.7	12 7	0				
COPENHAGEN	79.67	332.6	12 15	4	22 10	-3		15 13 PP
KRAKOW	80.49	325.3	12 15	-1				15 13 PP
PASADENA	80.54	55.2	12 15	-1	22 20	-3		
SALT LAKE C.	80.72	46.8	12 18	1				
BUCHAREST	81.04	318.2	12 19	0	22 52	24		24 3
RACIBORZ	81.27	326.1	12 23	3				12 29 PCP
KSARA	81.42	305.0	12 25	4				
ISTANBUL KA.	81.44	314.2	12 21	0	22 31	-1		
POTSDAM	81.87	330.1	12 24	1				15 29
HAMBURG	82.21	332.3	12 27A	2				15 36 PP
PRAGUE	82.98	327.8	12 31	2	22 48	0		15 46 PP
HALLE	82.99	330.0	12 25	-4	23 15	27		15 41 PP
PRUHONICE	83.00	327.7	12 28	-1	22 43	-5		15 39 PP
JERUSALEM	83.06	303.7	12 27	-2				
BRATISLAVA	83.13	325.2	12 30	0				
ABERDEEN	83.33	340.0			23 15	24		
RAPID CITY	83.53	40.1	12 32	0				
JENA	83.57	329.8	12 31	-1				15 46 PP
PLAUEN	83.65	329.2	12 32	0				15 47 PP
CHEB	83.87	328.8	12 34	1				18 18
LARAMIE	84.06	43.3	12 34	0				
DURHAM	85.23	338.5	13 18	38	23 25	15		23 3 SKS
STUTTGART	86.22	329.6	12 42	-3	23 4	-15		12 48 PCP
KARLSRUHE	86.36	330.1	12 50	4	23 34	13		
TRIESTE	86.54	325.2			23 19	-4		
TUCSON	86.60	53.0	12 48	1				16 43 PP
EBINGEN	86.77	329.3	12 46	-2				
HELWAN	86.88	304.2	12 48	0	23 24	-2		
STRASBOURG	86.96	330 2	12 50A	1	23 30	3		29 18 SS
KEW	87.63	336.1	12 50	-2				22 50
RATHFARNHAM	87.88	340.2	12 52	-1				25 37
TARANTO	88.53	319.7						29 48
BESANCON	88.75	330.3	13 0A	3				14 3
PARIS	88.85	333.1	13 0	2				16 35 PP
FLORENCE X.	89.12	325.3	12 8	-51	22 25	-82		
ROME	89.94	323.3						29 19
MESSINA	91.07	319.1	13 52	44				
LUBBOCK	91.44	47.0	13 11	1				
OTTAWA	94.63	24.0	13 28	4				
BREBEUF	95.23	22.6	13 31K	4				
PALISADES	99.12	24.9			24 6	-18		26 36 PS
GRANADA	101.05	330.6						18 12 PP
WILKES	102.53	191.6						32 55 SS
LWIRO	108.22	279.9	18 46	777				
TAMANRASSET	108.32	315.5	18 30	777	24 50	-15		18 49 PP
BERMUDA	110.01	21.5						29 43
SOUTH POLE	124.03	180.0	18 59	-2				20 49 PP
KIMBERLEY	124.79	256.5	19 4	2				
BYRD STATION	125.37	167.9	19 3	-1				20 59 PP
HUANCAYO	141.50	63.5	19 32	-2				22 6 PP
LA PAZ	149.68	61.3	19 55A	8				24 10
ANTOFAGASTA	151.98	75.9						24 13

NOVEMBER 13 17.H 22.M 47.S EPICENTRE -32.78-179.27 DEPTH= 35.KM

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SE= 2.55

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ONERAHI	6.01	238.7	1 37	5				
KARAPIRO	6.66	218.2	1 43	5				
TUAI	6.68	204.8	1 40	2	2 56	2		
TONGARIRO	7.67	211.8	1 53	1				
WELLINGTON	9.73	207.6	2 18	-3	4 4	-6		15 33 SCS
COBB RIVER	10.47	215.4	2 28	-3	4 24	-4		
KAIMATA	12.20	214.5	2 58	4	5 4	-6		
GEBBIES PASS	12.61	207.8	2 54	-6	5 10	-10		
SUVA	14.71	351.4	3 28	1				
ROXBURGH	15.50	211.3	3 31	-7				
NOUMEA	16.39	306.0	3 55A	6	6 59	10		5 51

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APIA	20.09	21.6	4	28	-5	8	9	-3		4	45 PP
BRISBANE	24.50	275.1	5	22	5	9	44	12			
RIVERVIEW	24.71	259.4	5	16A	-3					6	7 PPP
MELBOURNE	29.50	250.0	6	6A	3	11	21	27		7	14 PP
CHARTERS TS.	33.24	283.8	6	37A	1	11	56	3			
RABAUL	39.00	310.7	7	25	0	13	20	-1		9	27 PPP
CAPE HALLETT	39.97	184.9	7	35A	2	13	24	-12		9	10 PCP
SCOTT BASE	45.59	184.1	8	21A	2	15	8	10		9	57 PCP
LITTLE AMER.	46.13	175.2								17	42 PP
WILKES	52.54	208.7	9	11	-1	16	38	3		11	14 PP
BYRD STATION	52.80	169.1	9	14	0	16	46	7			
PERTH	54.02	252.1	9	24	1	17	3	8		12	55
OASIS-BUNG.	56.51	208.7	9	39A	-2	17	30	2			
HAWAII V.OB	56.76	27.3	9	41	-2	17	39	7			
SOUTH POLE	57.40	180.0	9	49	2	18	11	31		39	34 PKPPKP
GUAM	57.42	317.3	9	29	-19						
HONOLULU	57.45	23.6	9	44	-4	17	45	4			
KOROR	59.36	303.6	10	0	-1	18	13	7		10	34 PCP
HALLEY BAY	70.54	173.0	11	12	-1					15	59 PPP
DJAKARTA	73.15	273.5	11	27	-2	20	56	3			
MANILA	73.97	299.5	11	31	-3					14	8
BAGUIO CITY	75.46	300.7	11	42	0						
TUKUBASAN	78.46	327.5	11	57	-2				12	10	
KYOTO	79.56	323.8	12	3	-2	22	13	10			
MATUSIRO	79.59	326.4	12	3A	-2	22	19	16		27	40 SS
SENDAI	79.81	329.2	12	6	0						
NAGASAKI	80.89	318.5	12	11	-1	22	31	14			
NHATRANG	81.50	290 4	12	16	1					13	25
HONG KONG	83.85	301.3	12	24	-3	23	9	22			
ZO-SE	84.88	312.1	12	31	-2	22	55	-2		23	48 PS
CANTON	84.98	301.4	12	33	0					15	53 PP
Y.-SAKHLINSK	86.43	335.0	12	40	0						
NANKING	87.01	311.4	12	43	0					16	8 PP
VLADIVOSTOK	87.76	326.5	12	45	-2						
PASADENA	87.90	46.6	12	47A	0	23	13	-13	12	59	16 23 PP
LICK	88.05	42.3	12	48A	0						
BERKELEY	88.07	41.6	12	48A	0	23	36	8		23	14 SKS
UKIAH	88.44	40.2	12	50	0					23	40
PHU-LIEN	88.52	295.8	12	52	2	23	16	-16			
FRESNO	88.71	43.8	12	51	0						
GUADALAJARA	89.87	65.3				23	57	13		13	19
SHASTA	90.00	39.6								13	9
MINERAL	90.18	40.2	12	57A	-1						
RENO	90.61	41.8	13	0	0						
BOULDER CITY	91.17	47.0	13	4	1	24	6	10			
TUCSON	91.37	52.0	13	4	0	23	39	-18		16	45 PP
CHANGCHUN	91.48	323.4	13	4K	0						
CORVALLIS	92.29	36.4	13	14	6						
TACUBAYA	92.34	68.5	13	17	9	24	19	13		16	54 PP
CHIHUAHUA	92.45	57.4								13	55
EUREKA	92.77	43.8	13	10	0					31	1 PKKP
LA PLATA	93.06	135.3				23	25	-47		30	37 SS
TALA POZO	93.75	126.5				23	48	-30		30	53 SS
PEKING	93.86	316.0	13	15	0	23	49	-30		24	9 SKKS
KUNMING	93.93	297.2	13	16	1	24	5	-15		17	8 PP
PORT BLAIR	94.56	280.9	13	19	1	23	19	-66		24	0 PS
VERA CRUZ	94.65	70.3	13	17	-2	24	34	8		19	7 PPP
HUANCAYO	94.98	107.6	13	23	3	23	59	-30		17	27 PP
SALT LAKE C.	96.02	44.8	13	24	-1						
COMITAN	96.29	74.8								25	1
LA PAZ	98.01	115.4	13	20A	-14	24	29	-25		17	31 PP
LUBBOCK	98.25	55.4	13	36	1					17	33 PP
BUTTE	98.87	40.4	13	40	2					17	37 PP
LANCHOW	99.28	306.9	13	40	0					17	50 PP
BOZEMAN	99.50	41.3	13	41	0	24	18	-49			
HUNGRY HORSE	99.56	37.9	13	42	1	24	16	-51		17	42 PP
COLLEGE	100.39	13.1	13	52	7	24	19	-55		18	9 PP
MERIDA	100.76	72.1								29	16
CHITTAGONG	100.89	289.5				24	41	-38		16	31
SHILLONG	102.48	292.4								16	54
COLOMBO	102.82	270.0								17	35
BALBOA HTS.	102.93	87.6								27	23 PS
RAPID CITY	103.14	45.9	14	1	4					18	22 PP
CALCUTTA	103.75	288.0								18	22 PP
ULAN-BATOR	103.94	318.3								18	14 PP
CHINCHINA	104.15	93.2	14	14	13	24	42	-64		18	34 PP
BOGOTA	105.27	94.4				24	45	1		18	45 PP
LINCOLN	105.59	51.4				25	36	-22		33	36 SS
KODAIKANAL	106.57	271.6								17	33

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GALERAZAMBA	107.48	88.3								27	54 PS
IRKUTSK	107.66	321.2								28	1 PS
FLORISSANT	108.88	55.7	19	2	777					25	51 SKKS
ST. LOUIS 1	108.91	55.9	19	10	777	25	0	1		25	52 SKKS
HYDERABAD	109.36	278.6								19	1 PP
GRAHAMSTOWN	109.89	202.8	18	29	2						
TIKSI	110.24	344.6	18	20	-8					25	18 SKKS
HERMANUS	110.93	196.3								28	34 PS
CHICAGO CGS.	112.09	53.8								28	59 PS
COLUMBIA	113.59	63.8								19	43 PP
BOMBAY	114.75	277.2								19	43 PP
DEHRA DUN	115.50	290.8								19	46 PP
CHAPEL HILL	115.85	62.6								19	55 PP
CLEVELAND	116.15	56.0								29	33
MORGANTOWN	116.59	58.5								20	0 PP
PENNSYLVANIA	118.50	57.9								20	25 PP
SAN JUAN	118.91	85.9	18	43	-2					29	53 PS
LAHORE	118.92	290.7	18	45	0					20	43 PP
PHILADELPHIA	120.16	59.6								30	0 PS
FORT FRANCE	121.35	92.2	18	51	1					30	23 PS
FORDHAM	121 38	58.9								37	6 PSS
PALISADES	121.41	58.8	18	49	-1	25	40	-5		20	18 PP
OTTAWA	121.43	53.4	18	49A	-1					20	31 PP
WARSAK DAM	121.99	292.3								34	58
FRUNSE	122.51	303.1	18	51	-1						
KARACHI	122.58	281.6	18	49	-3						
BREBEUF	122.88	53.7	18	52K	-1						
WESTON	123.66	57 9	18	54A	0					30	42 PS
SHAWINIGAN	123.71	52.7	18	53A	-1						
QUETTA	124.31	286.4	18	57	1	26	0	6		20	43 PP
SEVEN FALLS	125.14	52.4	18	56A	-1						
STALINABAD	125.55	296.6	18	58	0					30	52 PP
BERMUDA	125.72	71.4	18	54	-4	26	1	3		21	1 PP
TASHKENT	125.90	300.1	18	58	-1	25	53	-6		20	45 PP
HALIFAX	129.63	56.7	19	5A	-1					22	27 PKS
NORD	130.63	3.3	19	5A	-3						
ASHKABAD	133.36	293.3	19	14	1					22	58
LWIRO	136.20	222.8	19	10	-8					23	8 SKP
SCORESBY SD.	140.24	11.7	19	18	-7					22	29 PP
APATITY	140.33	341.0	19	18	-8						
SODANKYLA	142.19	344.0	19	24	-5					22	58 SKP
TIFLIS	144.13	297.3	19	30	-2	26	24	-12		25	56 PPP
AKUREYRI	145.16	13.5	19	35	1						
REYKJAVIK	145.62	17.4	19	35	0						
VIK	146.92	16.2	19	42	5						
HELSINKI	148.28	337.0	19	44	5						
SKALSTUGAN	148.33	350.2	19	37	-2						
KSARA	150.68	281.8	19	43	0	26	49	4		30	23 SKKS
UPPSALA	150.69	342.6	19	41	-2						
JERUSALEM	150.89	277.5	19	44	1					20	21
SIMFEROPOL	151.50	305.0	19	42	-2					23	18 PP
BERGEN	152.20	355.1	19	52	7						
HELWAN	153.74	271.9	19	47	0					23	48 PP
IASI	155.05	313.1								20	28 PKP2
ABERDEEN	155.53	3.7	20	0	10					43	40 SS
MBOUR	155.60	134.5	19	54	4	26	53	2		23	51 PP
WARSAW	155.62	328.9								34	55
COPENHAGEN	155.68	343.8	19	50	0					23	53 PP
LWOW	155.73	321.5	19	51	1					20	22 PKP2
ISTANBUL KA.	155.96	298.2	19	46	-4					23	54 PP
BUCHAREST	157.11	307.9	19	55	3					20	25 PKP2
DURHAM	157.95	3.6	19	56	3	26	48	-5		24	18 PP
SKALNATE PL.	158.06	324.1								20	55 PKP2
HAMBURG	158.18	345.0	19	54A	1						
RACIBORZ	158.40	328.3	19	55	2					21	10
POTSDAM	158.46	339.1	19	53	0					24	35 PP
RATHFARNHAM	158.88	11.7	19	36A	-18					31	21 SKKS
COLLMBERG	159.42	337.7	19	54	-1	27	37	42		24	23 PP
WITTEVEEN	159.51	349.7	19	55	0						
HALLE	159.57	339.6	19	54	-1					24	13 PP
PRAGUE	159.95	333.6								20	41 PKP2
PRUHONICE	159.98	333.2	19	53	-2					23	18 PKS
JENA	160.18	339.4	19	54	-1					24	27 PP
BRATISLAVA	160.28	326.0	19	55	-1					20	14 PKP2
PLAUEN	160 38	337.9	19	52	-4					24	31 PP
DE BILT	160.42	351.8	19	57A	1					24	18 PP
BELGRADE	160.54	313.9	19	55K	-1					23	2
ATHENS	160.56	291.9	19	58	2					20	35 PKP2

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SONNEBERG	160.78	339.3	19	59	3				20	54	PKP2
BENSBERG	161.22	347.3	19	56	0						
KEW	161.30	2.0	19	57	0				31	13	SKKS
KARLSRUHE	162.79	342.7	20	4	6				24	37	PP
STUTTGART	162.80	340.8	19	57A	-1				31	0	SKKS
TUBINGEN	163.06	340.7							20	19	
STRASBOURG	163.35	343.5	19	58	-1				31	31	SKKS
EBINGEN	163.40	340.4	19	57	-2				20	55	PKP2
TRIESTE	163.69	325.8	19	56	-3	27	0	2	24	36	PP
PARIS	163.93	355.8	20	0	1	26	54	-4	24	38	PP
BASLE	164.37	342.5	19	38K	-22				29	11	
TARANTO	164.69	304.8	20	12	12						
BESANCON	165.00	346.1	20	0A	0				24	47	PP
NEUCHATEL	165.02	343.3	19	59	-1				24	46	PP
PAVIA	165.99	334.6	19	59	-2				24	48	PP
FLORENCE X.	166.27	326.1	19	55	-6				24	45	PP
REGGIO CALA.	166.73	297.8	20	1	-1						
MESSINA	166.77	298.3	20	0	-2	27	1	1	24	57	PP
CLERMONT-FD	166.89	352.6	20	1A	-1				31	53	SKKS
ROME	166.96	317.6	20	0A	-2				24	50	PP
MONACO	167.87	336.3	20	2	0				21	9	PKP2
TAMANRASSET	169.18	204.2	20	5A	2				31	31	SKKS
COIMBRA	169.55	42.2	20	5	2	27	2	0			
LISBON	170.02	50 8	19	53A	-11				21	19	PKP2
TOLEDO	171 93	27.2	20	6	1				25	18	PP
GRANADA	174.35	37.8	20	7A	1	24	4	-179	25	30	PP
ALICANTE	174.35	9.7	20	5	-1	27	7	4	25	33	PP
ALMERIA	175.16	32.0	20	6	0	27	6	2	25	36	PP
ALGIERS UNI.	175.58	335.0	20	6A	0				25	35	PP
RELIZANE	177.03	2.8	20	8A	2	26	59	-5	21	49	PKP2

NOVEMBER 15 7.H 52.M 33.S EPICENTRE 8.49 123.59 DEPTH= 66.KM

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G=-0.0812 H= 0.1222 K=-0.9892 HT= 6.7

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	
MANILA	6.57	337.3	1	32	-4	2	52	1					
BAGUIO CITY	8.41	339.8	2	0	-2	4	12	36					
KOROR	10.85	95.4	2	35	0	4	11	-25					
TAWU	14.02	349.7	3	26	9								
NHATRANG	14 62	285.9	3	7	-18								
HONG KONG	16.45	327.6	3	47K	-1	6	59	11					
CANTON	17.56	326.9	4	1K	-1	7	21	8					
PHU-LIEN	20 44	308.6	4	33	-1	8	27	12					
DJAKARTA	22.18	229.4	4	51	-1	8	55	8					
ZO-SE	22.60	354.6	4	57K	1								
NANKING	23.86	349.9	5	10K	2								
NAGASAKI	24.81	12.7	5	17	0	9	40	7					
KUNMING	25.85	312.1	5	27K	0								
PORT BLAIR	30.55	278.5	6	12	2	11	11	6			7	11	PP
MATUSIRO	30.94	23.3	6	13	0	10	50	-21			7	5	
RABAUL	31.18	112.8	6	17	2								
PEKING	32.09	349.2	6	23K	0	11	35	5			7	29	PP
LANCHOW	32.85	329.7	6	30K	0								
CHITTAGONG	33.49	298.0	6	37K	2	11	57	6			9	20	PCP
SENDAI	33.50	25.1	6	37	2								
SHILLONG	34.62	303.3	6	44K	-1	12	4	-5	7	6	8	9	PP
CHANGCHUN	35.23	2.2	6	49	-1						8	14	PP
CHARTERS TS.	36.06	142.0	6	57A	0	12	33	2					
LHASA	37.05	309.0	7	7K	1	12	52	6					
CHATRA	39.00	302.5	7	20	-2								
BOKARO	39.21	297.4	7	24	0	13	20	1					
MADRAS	42.85	279.9	7	55	2	14	19	6			9	31	PP
COLOMBO	43.34	271.1	7	47	-10	14	19	-1					
HYDERABAD	44.78	286.1	8	10	1	14	48	7			18	28	SS
KODAIKANAL	45.51	276.0	8	26	11								
BRISBANE	45.73	142.4	8	16A	-1	14	58	4					
IRKUTSK	46.40	343.7	8	22	0								
DEHRA DUN	47 72	303 5	8	34	2	15	26	4			11	5	PPP
POONA	49.24	287.1	8	47	3	15	47	3			10	47	PP
RIVERVIEW	49.56	149.6	8	47A	1	15	59	11			10	38	PP

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MELBOURNE	50.23	157.9	8	52K	0						
BOMBAY	50.25	287.5	8	52	0	16	3	5	10	48	PP
LAHORE	51.13	303.8	9	6	8	16	16	6			
NOUMEA	51.96	126.9	9	7K	2				9	18	
WARSAK DAM	54.04	306.0	9	20K	0						
SEMIPALATNSK	55.03	327.6							10	1	PCP
NAMANGAN	56.10	314.1	9	34	-1						
KARACHI	56.29	295.3	9	33	-3						
QUETTA	57.02	300.4	9	41K	-1	17	30	1	11	54	PP
TIKSI	63.16	1.9	10	21	-3	18	49	1			
ROXBURGH	67.62	147.0							20	27	
SVERDLOVSK	68.30	328.2	10	55	-1	19	53	2			
GEBBIES PASS	68.34	143.9	10	56	-1						
WILKES	75.12	185.4	11	38	1	21	11	2	26	0	SS
TIFLIS	76.04	310.8	11	42	0						
OASIS-BUNG.	76.33	189.3	11	44	0	21	26	4			
MIRNY	78.09	192.0	11	51	-3	21	42	1			
TANANARIVE	79.71	249.0	12	1A	-1				22	51	
SOTCHI	79.77	312.8	12	2	-1	22	0	1			
COLLEGE	81.77	25.6	12	15	2						
APATITY	82.27	337.2	12	14	-2						
KSARA	83.44	303.1	12	23	1	22	47	11	15	39	PP
SIMFEROPOL	83.70	314.4	12	22	-1						
JERUSALEM	84.21	301.2	12	28	2				12	50	
PULKOVO	84.38	329.5							12	31	PCP
SODANKYLA	84.90	337.3	12	31	2						
CAPE HALLETT	86.11	167.1	12	35A	0	22	53	-10	15	54	PP
KISHINEV	87.09	316.9	12	40	0						
KIRUNA	87.12	338.3	12	41	1	23	18	6			
HELWAN	87.78	299.7	12	42	-1	23	25	7			
NORD	88.09	354.6	12	46	1						
UPPSALA	90.61	331.0	12	55	-2						
WARSAW	90.96	323.1							16	43	
RESOLUTE	93.69	9.5	13	11	0	24	21	10			
THULE	94.94	2.8	13	11	-5				16	56	PP
LWIRO	95.07	268.5	13	17	0				16	34	PP
PRUHONICE	95.52	322.2	13	17	-2						
PRAGUE	95.57	322.3							23	43	
COLLMBERG	95.98	323.8	13	12	-9						
TARANTO	96.75	312.5							17	47	
TRIESTE	97.52	318.3							17	27	PP
SOUTH POLE	98.44	180.0	13	30	-2						
MESSINA	98.68	310.7							23	37	
STUTTGART	99.22	322.4							17	43	
ROME	99.69	315.0							17	46	
FLORENCE X	99.86	317.2	13	41	2	25	14	11			
DE BILT	100 07	326.6							21	27	
STRASBOURG	100.16	322.6				24	17	-49	17	55	PP
PAVIA	100.69	319.1							17	52	
DURHAM	102.16	331.0	13	54	5				24	15	
HUNGRY HORSE	104.12	35.5	16	35	157				18	18	PP
RATHFARNHAM	105.26	331.5							24	58	
EUREKA	107.15	44.3	17	44	777				18	37	PP
TAMANRASSET	111.91	298.6	18	38	10	25	11	7	19	8	PP
RAPID CITY	112.73	34.7							19	22	PP
TUCSON	114.19	49.1							19	50	PP
PALISADES	128.17	16.8							38	20	SS
BERMUDA	138.60	10.6							40	39	
HUANCAYO	161.05	102.3	20	7	14				20	44	PKP2
LA PAZ	166.07	126.0	20	3	6				24	7	PP

NOVEMBER 15 16.H 30.M 27.S EPICENTRE 51.38 157.87 DEPTH= 0.KM

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SE= 2.34

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
PETROPAVLOVK	1.82	15.0	0	40	7	1	3	6			0	52	*SP
KLYUCHI	5.24	18.0	1	31	9	2	42	18					
KURILSK	9.06	231.1	2	16	1	4	3	4			2	29	*SP
MAGADAN	9.11	336.7	2	25	9	4	19	18					
UGLEGORSK	10.38	263.4	2	38	5	4	42	10			2	51	*SP

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Y.-SAKHLINSK	10.86	251.8	2 45	5	4 53	9	3 0	*SP
NEMURO	11.58	230.7	2 52	2				
WAKKANAI	12.29	247.3	3 19	20	5 29	11		
KUSIRO	12.42	232.7	2 55	-6	5 9	-12	3 22	
ASAHIGAWA	12.92	240.0	3 22	14				
OBIHIRO	13.07	235.4	3 15	5				
URAKAWA	13.84	234.0	3 19	-1	5 53	-3		
SAPPORO	13.94	239.8	3 36	15	6 4	6	6 41	
TOMAKOMAI	14.20	237.7	4 6	41				
MURORAN	14.65	238.4	4 3	32				
MORI	15.03	238.6	3 36	0				
HAKODATE	15.17	237.4	3 39	2	6 21	-6	3 59	
MORIOKA	16.48	231.4	3 51	-3	6 42	-16		
MIZUSAWA	16.95	230.2	4 3	3	7 10	2		
AKITA	17.00	233.6	4 2	1	7 18	8		
SENDAI	17.74	228.9	4 11	1	7 31	4	5 9	
SAKATA	17.76	232.4	4 13	3				
HUKUSIMA	18.36	228.8	4 18	0				
ONAHAMA	18.81	226.5	4 31	8	8 5	14	4 59	
NIIGATA	18.91	231.9	5 21	56				
SHIRAKAWA	18.98	228.2	4 26	0	7 51	-4		
AIKAWA	19.23	233.6	4 32	4	8 8	8		
VLADIVOSTOK	19.39	255.0	4 26	-4			8 25	
MITO	19.47	226.4	4 32	1	8 16	10	5 26	
UTUNOMIYA	19.61	227.9	4 29	-4	8 7	-2	4 49	
KAKIOKA	19.73	226.7	4 33	-1				
TUKUBASAN	19.77	226.8	4 32	-3	8 2	-10	4 41	4 58 PP
MAEBASI	20.10	229.1	4 36	-2	8 21	2		5 4
KUMAGAYA	20.16	228.1	4 38	-1	8 21	0		
NAGANO	20.31	231.2	4 41	1	8 30	6		
TOKYO C.M.O.	20.38	226.6	4 35	-6	8 27	2		5 16
MATUSIRO	20.39	231.0	4 40A	-1	8 23	-2		8 53
WAZIMA	20.41	234.8	4 37	-4	8 33	7		
OIWAKE	20.41	230.0	4 41	0				
TITIBU	20.44	228.4	4 41	-1				
YOKOHAMA	20.63	226.4	4 44	0	9 16	46		5 56
SUIHWA	20.72	268.9	4 44	-1				
MATUMOTO	20.75	230.9	4 45	0	8 38	5		
TOYAMA	20.78	233.1	4 45	0				
KOHU	20.97	228.8	4 48	1	8 34	-3		
MERA	20.97	225.3	4 47	0	8 4	-33		
HUNATU	20 98	228.2	4 45	-2	8 51	14		5 20
MISIMA	21.21	227.3	4 53	3	8 41	-1		5 47
OSIMA	21.30	225.9	5 3	12				
IIDA	21.41	230.0	4 53	1	8 49	4		
SHIZUOKA	21.58	228.1	4 53	-1	9 13	24		8 55
HUKUI	21.75	233.6	4 55	0				
OMAESAKI	21.97	227.8	5 1	4				9 15
GIHU	22.02	231.7	4 57	-1	8 55	-2		5 23 PP
NAGOYA	22.10	231.0	4 59	0				9 20
IBUKISAN	22.23	232.3	5 2	2				
HIKONE	22.38	232.4	5 2	1	9 4	1		
KAMEYAMA	22.60	231.3	5 4	0	8 27	-40		
TU	22.68	231.1	5 6	2				
KYOTO	22.83	232.8	5 7	1	9 13	1		
TOYOOKA	22.90	235.2	5 6	-1				9 20
CHANGCHUN	23.07	263.7	5 6A	-2				
OSAKA	23.23	232.6	5 12	2				
OWASE	23.36	230.6	5 12	1				
YONAGO	23.74	237.3	5 17	2	9 26	-2		
SUMOTO	23.79	233.2	5 15A	0	9 24	-4		
TIKSI	24.10	337.9	5 19	1	9 33	-1		5 58 PP
TOKUSIMA	24.16	233.3	5 19A	0				9 43
TAKAMATU	24.24	234.5	5 19	-1				
HAMADA	24.82	238.4	5 24	-1	9 42	-4		
KOTI	25.11	234.2	5 29	1	9 30	-21		5 44
SIMIDU	26.00	234.0	5 35	-1				6 0
OOITA	26.34	236.6	5 41	1				6 25
HUKUOKA	26.71	238.9	5 43A	0	9 57	-21		6 2
SAGA	27.03	238.6	5 51	5				
KUMAMOTO	27.15	237.4	5 53	6				
COLLEGE	30.60	42.9	6 19	1				6 49
PEKING	30.85	264.9	6 17	-3	11 16	-8		
IRKUTSK	32.48	293.0	6 33A	-2	11 39	-10		7 57 PPP
ULAN-BATOR	32.64	284.3	6 36	0				
ZO-SE	33.73	247.3	6 44A	-1	12 4	-5		
SITKA	38.05	54.6	7 25	3				
LANCHOW	40.98	269.7	7 45A	-1				
CANTON	44.38	247.6	8 13A	-1	14 43	-6		

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CHENGTU	44.45	263.6	8	14A	-1					
HONG KONG	44.47	246.0	8	15K	0					
RESOLUTE	45.43	20.9	8	23A	1	15	0	-4		
BAGUIO CITY	45.78	234.2	8	23	-2					
SEMIPALATNSK	46.78	300.9	8	35	2					
MANILA	47.14	232.5	8	32	-4				10	29
NORD	47.23	358.9	8	36	-1					
ALBERNI	47.24	60.5	8	37	0					
KOROR	47.98	212.0	8	42	-1				11	0 PP
HORSESHOE B.	48.01	59.6	8	43	0					
THULE	49.11	13.0	8	47	-4	15	51	-5	10	35 PP
KUNMING	49.26	259.4	8	51A	-2	15	52	-7		
PHU-LIEN	50.04	252.1	8	59	0	16	7	-2		
LHASA	53.27	273.0	9	23A	0	16	50	-4		
HUNGRY HORSE	53.53	56.0	9	25	0	16	58	1		
SHASTA	53.77	68.0	9	28	1				9	41
UKIAH	54.30	70.0	9	46	16					
APATITY	54.31	337.0	9	30	-1					
FRUNSE	54.40	296.1							11	40 PP
NHATRANG	55.35	243.2	9	38	0				11	36 PP
RABAUL	55.58	186.9	9	37	-3				10	59
SHILLONG	55.62	268.8	9	38A	-2	17	17	-8	17	41
BERKELEY	55.70	70.6	9	40A	-1	17	29	3	23	56
RENO	56.02	67.5	9	45	2				9	58
SODANKYLA	56.04	339.5	9	42	-1					
BOZEMAN	56.82	56.9	9	50	1				10	58 PCP
KIRUNA	56.93	342.2	9	48K	-1					
CHATRA	57.66	273.5	9	38	-17					
FRESNO	57.89	70.0	10	0	4				10	11
CHITTAGONG	57.98	266.2	9	59	2					
EUREKA	58.27	65.2	10	0	1					
TASHKENT	58.39	297.8							12	7 PP
SCORESBY SD.	58.45	359.9	10	0	0	17	58	-5	13	27 PPP
CALCUTTA	60.03	269.1	9	52	-19				18	37
STALINABAD	60.57	295.8							22	51 SS
PASADENA	60.65	71.1	10	16	1	18	32	1	10	43
DEHRA DUN	60.84	282.9	10	13	-4	18	23	-11		
BOULDER CITY	61.33	67.4	10	21	1					
RAPID CITY	61.96	53.8	10	26	2	18	47	-1	12	56 PP
WARSAK DAM	62.15	290.3	10	21	-5					
LAHORE	62.23	286.5	10	24	-2					
SKALSTUGAN	62.25	343.4	10	24	-2					
LARAMIE	62.71	57.4	10	29	0					
BOULDER	63.77	58.2	10	35	-1					
UPPSALA	64.57	339.1	10	40	-1				11	17 PCP
REYKJAVIK	64.83	359.9	10	48	5					
PORT BLAIR	65.50	257.6	10	48	1	19	48	16	11	12 PCP
IVIGTUT	65.85	13.5	10	15	-35				10	48 PCP
TUCSON	66.31	67.7	10	54	1					
ASHKABAD	66.72	301.9	10	53	-2	19	40	-7	13	17 PP
QUETTA	67.60	290.5	10	59	-2	19	49	-8	13	33 PP
COPENHAGEN	69.52	339.9	11	12	-1	20	19	-1	20	53
LUBBOCK	70.39	60.7	11	19	1				11	33
TIFLIS	70.56	313.1	11	18	-1				13	53 PP
ABERDEEN	70.57	348.6	11	45	26				13	47
KIROVOBAD	70.61	311.4	11	20	1				15	48 PPP
KARACHI	70.76	287.4	11	19	-1					
CHARTERS TS.	71.81	191.5	11	24A	-3				11	38
HAMBURG	72.01	340.5	11	28A	0				12	21 PCP
DJAKARTA	72.03	234.4	11	22	-6	20	51	2		
POONA	72.05	277.3	11	29	1	20	42	-8	21	25 PPS
BOMBAY	72.42	278.3	11	28	-2	20	48	-6	11	56 PCP
SIMFEROPOL	72.46	321.7	11	28	-2	20	46	-8	15	51 PPP
KRAKOW	72.80	333.1	11	57	25				12	41
DURHAM	72.84	347.7	11	31	-2	20	53	-6	21	33 SKS
IASI	72.93	327.0	11	47	14				12	46
OTTAWA	73.09	36.3	11	34K	0					
SHAWINIGAN	73.17	33.9	11	35K	0					
RACIBORZ	73.25	334.2	11	42	7					
SEVEN FALLS	73.34	32.4	11	36A	0					
WITTEVEEN	73.38	342.2	11	36	0					
COLLMBERG	73.46	337.9	11	36	0				12	27
HALLE	73.51	338.6	11	56	19				12	54
NOUMEA	73.74	171.7	11	38	0					
BREBEUF	73.77	35.0	11	37	-1					
CLEVELAND	74.07	42.3				20	54	-18		
JENA	74.13	338.6	11	39	-1				13	37
PRAGUE	74.25	336.5	11	39	-2				14	21 PP

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PRUHONICE	74.30	336.4	11	39	-2				11	53 PCP
DE BILT	74.35	342.9	11	40A	-1	21	13	-3		
PLAUEN	74.40	338.1	11	41	-1				12	27
RATHFARNHAM	74.85	350.2	11	42K	-2				12	35
BENSBERG	75.05	341.3	11	46	0					
BRATISLAVA	75.29	334.0	11	47	0				12	8
KEW	75.88	346.1	11	49	-1	21	27	-5	21	49 SKS
MORGANTOWN	76.28	42.3	11	53	1					
STUTTGART	76.69	339.3	11	55A	0	21	38	-3	12	47
STRASBOURG	77.18	340.2	11	56A	-2	21	42	-5	26	21 SS
EBINGEN	77.30	339.2	11	57	-1					
BELGRADE	77.35	330 4	12	0A	2	21	45	-4	12	42 PP
PALISADES	77.53	37.5	11	58	-1	21	38	-12	12	10 PCP
ISTANBUL KA.	77.70	322 9	11	56	-4					
HALIFAX	77.87	28.9	12	2A	1	21	49	-5		
PARIS	77.99	343.6	12	1A	-1	21	50	-5	14	59 PP
BASLE	78.22	339.9	12	3A	0				13	20
TRIESTE	78.51	335.2	12	4	-1					
BRISBANE	78.63	184.4	12	4A	-1	21	57	-5		
BESANCON	78.82	340.9	12	8K	1				13	42
CHAPEL HILL	79.78	43.7	12	11	-1					
PAVIA	80.09	338.1	12	14	1	22	8	-10	23	33 PS
CLERMONT-FD.	80.81	342.4	12	17A	0				13	37
FLORENCE X.	80.90	336.2	12	17A	-1	22	24	-2	15	21 PP
KSARA	81.07	314.4	12	19	0	22	28	0	15	25 PP
TARANTO	82.29	330.8	12	38	13				22	28
ROME	82.34	334.7	12	24A	-1	22	35	-6	19	15
ATHENS	82.39	325.1	12	25	0					
TACUBAYA	82.83	68.0	12	22	-6	22	24	-22	13	3
JERUSALEM	83.08	313.8	12	29	0				19	17
MESSINA	84.89	331.1	12	37	-1	22	54	-12	15	54 PP
TORTOSA	86.08	343.0							24	21 PS
HELWAN	86.44	315.6	12	45	-1	23	15	-6		
TOLEDO	87.75	346.2	12	52	0	23	18	+16		
BERMUDA	88.59	34.9	12	59	3	23	43	1	29	33 SS
ALICANTE	88.65	343.1	12	56	-1	23	40	-2		
ALGIERS UNI.	89.48	340.0							25	18 PS
MELBOURNE	89.55	190.2	13	1K	0					
GRANADA	90.33	345.3	12	49K	-15	24	19	21	15	31 PP
TAMANRASSET	102.26	334.0	13	58	-1	25	0	-40	18	15 PP
LWIRO	115.16	301 0				25	59	26		
HUANCAYO	121.93	67.4	18	59	2				20	42 PP
WILKES	122.68	200.8							30	9 PS
OASIS-BUNG.	125.02	204.6							20	49 PP
MIRNY	127.42	207.1							21	6 PP
SCOTT BASE	129.08	177.6	19	9	-1					
LA PAZ	129.61	63.6	19	15	3				22	38 PKS
SOUTH POLE	141.19	180.0	19	25	-8					
HALLEY BAY	155.70	177.3	20	21	25				24	10 PP

NOVEMBER 16 1.H 48.M 47.S EPICENTRE 51.43-177.01 DEPTH= 0.KM

A=-0.62519 B=-0.03262 C= 0.77979 D=-0.0521 E= 0.9986
G=-0.7787 H=-0.0406 K=-0.6260 HT= -5.9

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
COLLEGE	20.20	37.1	4	37	-2						4	59
SITKA	24.70	60 5	5	34	10							
Y.-SAKHLINSK	26.45	276.2	5	30	-10							
TIKSI	31.14	330.2	6	34	12							
ALBERNI	32.80	72.8	6	37	0							
HORSESHOE B	33.67	71.9	6	46	2							
TUKUBASAN	33.94	260.3	6	46	-1							
VICTORIA	33.95	73.4	6	47A	0							
MATUSIRO	34.89	262.5	6	55	0	12	26	0			8	3 PP
SEATTLE	35.01	74.2	6	58	2							
KYOTO	37.42	262.7	7	18	2							
SHASTA	38.55	84.2	7	28	2							
CHANGCHUN	38.70	282.0	7	25A	-2							
RESOLUTE	39.23	24.6	7	30	-1	13	25	-8			9	39 PPP
MINERAL	39.24	84.1	7	33	2							
HUNGRY HORSE	39.59	68.8	7	36	2	13	34	-4			17	40 SCS
BERKELEY	40.31	87.6	7	41	1							

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RENO	40.83	83.8	7 46	1				
LICK	41.02	87.8	7 47	1				
BUTTE	41.63	71.2	7 50	-1				
FRESNO	42.52	87.1	8 0	2				
BOZEMAN	42.71	70 8	8 1	1			8 47	
EUREKA	43.25	81.2	8 6	2				
THULE	44.74	18.5	8 9	-8			9 53	PP
SALT LAKE C.	45.01	77.1	8 19	0				
PASADENA	45.22	88.8	8 14	-6	14 57	-4	8 37	
BOULDER CITY	46.13	84.3	8 27	0	15 12	-2		
PEKING	46.46	283.2	8 31	1	15 17	-2		
ULAN-BATOR	47.29	297.3	8 40	3				
RAPID CITY	48.21	68.2	8 44	0	15 40	-3		
LARAMIE	48.47	72.5	8 45	-1				
ZO-SE	49.12	270.4	8 50	-1				
BOULDER	49.43	73.7	8 54	1				
NANKING	49.96	273.2	9 3	6				
TUCSON	51.07	85.2	9 6	0			9 43	
LUBBOCK	55.73	77.6	9 39	-1				
LANCHOW	56.46	287.3	9 48A	2	17 31	-5		
SCORESBY SD.	57.07	9.7	9 49	-1			22 31	
FAYETTEVILLE	58.62	70.3	9 59A	-2				
CHENGTU	60.08	282.6	10 10A	-1	18 19	-4		
BAGUIO CITY	60.17	258.6	10 9	-3			10 23	
KIRUNA	60.35	352.5	10 10	-3				
MANILA	61.34	257.0	10 15	-5				
OTTAWA	62.16	51.4	10 24	-1				
SHAWINIGAN	62.74	48.8	10 28	-1				
BREBEUF	63.11	50 1	10 30	-1				
SEVEN FALLS	63.23	47.3	10 37	5				
PITTSBURGH	63.57	57.8	10 27A	-7				
KUNMING	64.92	279.2	10 42A	-1				
SKALSTUGAN	65.10	355.4	10 45	1				
PALISADES	66.28	53.6	10 51	-1	19 30	-11	24 34	SS
CHAPEL HILL	67.35	60.6	10 57	-2				
COLUMBIA	67.68	63.3	11 1	0				
UPPSALA	68.45	352.1	11 4	-2				
LHASA	68.58	290.8	11 7A	1	20 10	2		
NAMANGAN	70 30	311.5	11 16	-1				
SHILLONG	71.11	287.4	11 22A	0				
CHATRA	72.94	291.6	11 32	-1				
CHITTAGONG	73.55	285.2	11 37A	1				
DURHAM	74.10	2.7	11 53	14	21 23	11		
HAMBURG	75.21	355.7	12 15A	29			12 50	
LAHORE	76.41	303.7	11 51	-2				
BERMUDA	77.62	53.3	12 0	1	21 53	2		
JENA	77.76	354.4	11 58	-2			14 52	PP
BENSBERG	77.93	357.3	12 0	-1				
CHARTERS TS.	78.08	215.1	12 1A	-1				
PLAUEN	78.15	354.0	12 0	-2			12 50	
PRAGUE	78.41	352.5	12 37	33			12 57	
PARIS	80.14	0.3	12 14	1			12 53	
STRASBOURG	80.29	356.8	12 21	7			12 55	
TIFLIS	80.35	329.6	12 12	-2				
QUETTA	81.25	308.1	12 18A	-1	22 23	-6	15 25	PP
BESANCON	81.67	357.9	12 28	7			12 48	
KARACHI	84.78	305.5	12 39A	2				
FLORENCE X.	84.90	354.0	12 31	-7	23 3	-3	23 52	PS
POONA	87.04	296.2	12 49	1				
SAN JUAN	88.14	62.6	12 54	0				
MESSINA	90.07	350.1					23 0	
KSARA	90.32	333.1	13 2	-2	23 56	-1	16 39	PP
CAPE HALLETT	123.75	184.6	18 59A	-1				
SCOTT BASE	129.40	184.4	19 10	-1				
SOUTH POLE	141.24	180 0	19 27	-5				
PRETORIA	147.97	313.6	19 1	-43				
PIETERMZBURG	150.15	306.3	19 53	6				

NOVEMBER 17 5.H 57.M 47.S EPICENTRE 48.17 148.75 DEPTH= 347.KM

DEPTH OF FOCUS= 0.050R

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G=-0.6351 H= 0.3853 K=-0.6695 HT= -4.7

SE= 1.74

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	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KURILSK	3.00	192.0	0	59	-1	1	46	-1					
Y -SAKHLINSK	4.26	255.7									1	25	
UGLEGORSK	4.53	284.2	1	20K	5	2	18	4			2	22	*SP
ABASHIRI	5.18	218.5	1	22	-1	2	23	-4					
NEMURO	5.32	205.8	1	22A	-2	2	23	-7					
WAKKANAI	5.58	243.1	1	30	3	2	41	6					
KUSIRO	6.02	212.1	1	33	1	2	39	-5					
ASAHIGAWA	6.25	227.8	1	37	2	2	53	4					
OBIHIRO	6.53	218.7	1	39	1	2	53	-2					
SAPPORO	7.27	228.3	1	48	1	3	8	-2			2	37	
URAKAWA	7.35	217.2	1	47	-1	3	1	-11					
TOMAKOMAI	7.57	224.5	1	51	1	3	13	-4					
MURORAN	8.01	226.1	1	54	-1	3	19	-7					
PETROPAVLOVK	8.01	48.0	1	56K	0	3	26	0			3	10	*SP
SUTTSU	8.04	231.3	1	56K	0	3	27	0					
MORI	8.38	226.6	1	58	-2	3	31	-3			6	2	
HAKODATE	8.55	224.7	1	59K	-3	3	31	-7			2	27	
HATINOHE	9.22	216.8	2	7	-3	3	43	-9					
AOMORI	9.29	220.7	2	10	-1	3	44	-10					
MIYAKO	9.81	212.3	2	17	0	3	56	-9					
MORIOKA	10.07	215.6	2	18	-2	4	2	-9					
AKITA	10.49	219.6	2	24	-1	4	13	-7			3	45	
MIZUSAWA	10.58	214.2	2	26	0	4	16	-6					
KLYUCHI	10.98	37.5	2	32K	1	4	32	2					
ISINOMAKI	11.13	211.8	2	32	-1	4	28	-6					
SAKATA	11.29	218.2	2	35	0	4	34	-3					
SENDAI	11.42	212.9	2	38	2	4	35	-5			3	5	
MAGADAN	11.47	5.2	2	40A	3	4	47	6					
YAMAGATA	11.65	214.8	2	37	-2	4	41	-4					
HUKUSIMA	12.04	213.2	2	45	1	4	50	-3					
NIIGATA	12.45	218.2	2	52	3	5	8	6					
ONAHAMA	12.61	210 1	2	50	-1	5	4	±1			3	12	
SHIRAKAWA	12 69	212.7	2	51	-1	5	5	-2					
AIKAWA	12 70	220 9	2	53	1	5	3	-5					
VLADIVOSTOK	12.82	253 1	2	52K	-1	5	9	-1					
MITO	13.27	210 4	2	58	0	5	26	6					
UTUNOMIYA	13.32	212.7	3	0	1	5	16	-5			3	21	
TAKADA	13.48	218.7	3	3	2								
KAKIOKA	13.50	211.1	2	52	-9	5	22	-3					
TUKUBASAN	13.54	211.3	2	58	-4	5	23	-3			7	43	PCP
MAEBASI	13.75	214.8	3	4K	0	5	33	3					
WAZIMA	13.84	223.2	3	6	1	5	32	0					
KUMAGAYA	13.86	213.4	3	4	-1	5	37	4					
NAGANO	13.87	217.9	3	7K	2	5	39	6					
MATUSIRO	13.96	217.6	3	5K	-1	5	33	-2			10	57	SCP
OIWAKE	14.02	216.2	3	9	2	5	41	5					
TITIBU	14.12	214.0	3	8	0	5	42	4					
TOKYO C.M.O.	14.15	211.4	3	9	1	5	40	1			3	59	
TOYAMA	14.26	220.8	3	10	0	5	11	-30					
MATUMOTO	14.32	217.7	3	11	1	5	46	4					
YOKOHAMA	14.41	211.3	3	15	4						4	14	
KOHU	14.62	214.8	3	13	-1	5	49	1					
HUNATU	14.66	214.0	3	16	2	5	48	-1					
TAKAYAMA	14.71	219.5	3	16	2								
MERA	14.81	209.9	3	17	1	5	57	5					
SUIHWA	14.82	272.1	3	18	2								
MISIMA	14.94	212.8	3	17	0	5	57	2					
AJIRO	14.94	212.2	3	18	1	5	56	1					
IIDA	15.01	216.7	3	18	0	5	57	1					
OSIMA	15.10	211.0	3	23	4						4	1	
HUKUI	15.22	221.9	3	20	0								
SHIZUOKA	15.27	214.1	3	19	-2	6	8	7					
GIHU	15.55	219.3	3	24	1	6	9	2					
NAGOYA	15.66	218.3	3	25	0	6	11	2					
OMAESAKI	15.67	213.9	3	28	3								
IBUKISAN	15.73	220.2	3	47	22	6	35	25					
HIKONE	15.88	220.3	3	30	3	6	19	6					
KAMEYAMA	16.15	219.0	3	32	2	6	27	9					
TOYOOKA	16.31	224.4	3	36	5	6	26	5					
KYOTO	16.32	221.2	3	34	2	6	29	8					
NARA	16.56	220.3	3	35	1	6	33	7					
OSAKA	16.72	221.0	3	37	1	6	36	7					
CHANGCHUN	16.84	263.8	3	36	-1	6	31	0					
OWASE	16.93	218.3	3	37	-1	6	37	4					
TAKAMATU	17.66	223.8	3	45	0								
HIROSIMA	18.40	227.4	3	52K	-1	7	2	2					

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MATUYAMA	18.68	225.8	3	55	-1	7	6	0		6	28
OOITA	19.72	227.1	3	59	-7	7	27	3			
HUKUOKA	20 04	230.0	4	12A	3	7	35	5			
SAGA	20 36	229.7	4	15	3					6	42
KUMAHOTO	20 50	228.2	4	16	3						
MIYAZAKI	20 88	225.3	4	22	5						
NAGASAKI	20 99	229.6	4	19K	1	7	52	6			
KAGOSIMA	21.59	226.4	4	21	-3					4	52
DAIREN	21.64	254.7	4	29	5						
YAKUSIMA	22.54	224.9	4	34	1						
PEKING	24.63	262.9	4	52K	0	8	46	-1	5 57	6	39 *SP
KWANTING	24.91	263.8	4	56	1						
TIKSI	25.30	345.4	4	58	0	8	57	0		8	19 PCP
TATUNG	26.52	265.6	5	13	4						
ZO-SE	27.02	240.9	5	13K	-1	9	24	-1	6 21	11	23 *SS
ULAN-BATOR	27.74	285.4	5	22	2						
NANKING	27.77	245.5	5	20	0	9	36	-1	6 29	11	30 *SS
TAIYUAN	28.18	261.9	5	26	2						
IRKUTSK	28.38	295.2								6	37 PP
YINCHUAN	32.03	268.4	6	0	3						
SIAN	32.65	259.6	6	4	1						
TIENSHUI	34.55	262.9	6	21	2						
WUWEI	34.75	270.3	6	23	3						
LANCHOW	34.97	266.7	6	24K	2	11	27	-1			
COLLEGE	36.91	39.5	6	39	1	11	58	0		14	9 *SS
CANTON	37.66	241.0	6	45K	0						
HONG KONG	37.75	239.2	6	46	1						
CHENGTU	38.13	259.3	6	49K	0	12	13	-3			
BAGUIO CITY	39.19	225.8	6	57	0						
MANILA	40 59	223.9	7	7	-2					8	44 *SP
KOROR	42.46	201 2	7	24	0						
KUNMING	42.77	254.1	7	27K	1	13	22	-2	8 44	9	14 *SP
SEMIPALATNSK	43.30	299.7	7	31	0	13	27	-5			
PHU-LIEN	43.38	246.0	7	34	3	13	32	-1			
LHASA	47.40	268.8	8	5K	2	14	32	2			
SHILLONG	49.52	264.0	8	18K	-1	14	57	-2		8	46
NORD	50.25	357.2	8	23A	-1						
RESOLUTE	50.42	18.0	8	26A	1					17	40 SCS
CHITTAGONG	51.75	261.1	8	36A	1	15	31	2			
RABAUL	52.23	175.7	9	53	74						
THULE	53.45	10.2	8	44	-4				9 59	10	44 PP
ALBERNI	53.94	54.0	8	50A	-1						
TASHKENT	54.50	294.5	8	54	-1	16	6	0		18	26 *SS
APATITY	54.84	334.9	8	57A	-1						
VICTORIA	55.13	54.1	8	59A	-1						
DEHRA DUN	55.64	278.6				16	19	-2			
STALINABAD	56.47	292.1	9	4	-5	16	25	-7			
SODANKYLA	56.83	336.9	9	11	-1						
LAHORE	57.30	282.2	9	15	0	16	41	-2			
CORVALLIS	57.54	57.8	9	17	1						
KIRUNA	58.02	339.4	9	19A	-1						
PORT BLAIR	58.96	251.5				17	4	0			
HUNGRY HORSE	60.18	49.7	9	35	1					10	17 PCP
SHASTA	60.48	60 9	9	37A	1				10 58	10	17
MINERAL	61.17	60.7	9	41A	0				11 2	10	20
SCORESBY SD.	61.48	356.5	9	42	-1						
BERKELEY	62.39	63.2	9	49A	0				11 10	10	24
BUTTE	62.46	51.0	9	50	1					10	27 PCP
RENO	62.74	60.4	9	47	-4						
HELSINKI	62.79	332.1	9	50	-2	17	52	0		19	2 SCS
QUETTA	62 99	285.8	9	53	0	17	53	-1	11 13	10	32 PCP
LICK	63.11	63.3	9	54A	0				11 15	10	28
ASHKABAD	63.18	297.6	9	54A	0	17	58	1		20	20 *SS
SKALSTUGAN	63.44	339.9	9	55A	-1				11 14		
BOZEMAN	63.48	50.5	9	56	0				11 17		
FRESNO	64.58	62.7	10	3	0						
EUREKA	64.99	58.3	10	6	0				11 23	10	36 PCP
UPPSALA	65.23	335.2	10	6A	-1	18	20	-2		10	35 PCP
KARACHI	65.87	282.2	10	14	3	-18	34	5			
SALT LAKE C.	66.41	54.9	10	16	1					10	49 PCP
POONA	66.42	271.7	10	15	0				11 48		
BOMBAY	66.85	272.8				18	41	0		22	41
PASADENA	67.34	63.8	10	20	0				11 43		
CHARTERS TS.	67.90	182.5	10	24A	0				11 44		
BOULDER CITY	68.05	60.3	10	25	0				11 47	10	47 PCP
KIROVOBAD	68.06	306.8	10	25	0	18	55	0			
TIFLIS	68.18	308.5	10	27	1	18	59	2		21	22 *SS
RAPID CITY	68.56	47.4	10	28	0				12 6	19	5 SCS
SIMFEROPOL	71.04	317.0	10	43A	0	19	28	-2	12 6	27	55 SSS

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LWOW	71.40	325.8	10	48	3	19	36	2	12	9	13	34	PP
KRAKOW	72.70	328.3	10	52	-1	19	45	-4			20	26	SP
HAMBURG	72.79	335.7	10	54A	1								
POTSDAM	72.95	333.4	10	55	1								
TUCSON	73.03	60.6	10	55	0				12	21			
RACIBORZ	73.28	329.3	10	56	0								
COLLMBERG	73.91	332.9	11	0	0				12	21	13	50	PP
HALLE	74.05	333.6	10	59	-2				12	22	13	49	PP
WITTEVEEN	74.35	337.2	11	3A	1								
DURHAM	74.44	342.7	11	3	0								
PRAGUE	74.54	331.4	11	3	0				12	23	14	17	
PRUHONICE	74.58	331.3	11	3	-1				12	27	14	36	
JENA	74.67	333.5	11	4	0	20	8	-2	12	29	13	41	PP
PLAUEN	74.87	333.0	11	2	-3								
SONNEBERG	75.27	333.5	11	7	0								
BRATISLAVA	75.29	328.9	11	8	0				12	30	14	3	PP
TIMISOARA	75.83	325.1	11	25	14								
BENSBERG	75.90	336.1	11	11	0								
RATHFARNHAM	76.71	344.9	11	13A	-2				12	38			
BELGRADE	76.91	325.0	11	17A	0								
LUBBOCK	77.10	53.9	11	18	0				12	44			
KEW	77.27	340.8	11	18	-1	20	37	-1	12	41			
STUTTGART	77.29	333.9	11	18A	-1				12	44	14	19	PP
KARLSRUHE	77.31	334.5	11	19A	0						13	18	
SOFIA	77.53	322.0	11	20	0								
TUBINGEN	77.55	333.9	11	21A	1								
STRASBOURG	77.88	334.7	11	22A	0						14	22	PP
EBINGEN	77.89	333.8	11	22A	0				12	45	14	25	PP
TRIESTE	78.62	329.6	11	25A	-1						19	37	
KSARA	78.76	308.6	11	26	-1								
BASLE	78.88	334.3	11	27A	0						19	28	
SHAWINIGAN	78.95	27.8	11	28A	0								
OTTAWA	79.01	30.2	11	27A	-1	20	54	-3	12	50			
SEVEN FALLS	79.03	26.3	11	27A	-1								
PARIS	79.09	338.0	11	29	1				12	52			
FAYETTEVILLE	79.11	47.3	11	29A	1								
NEUCHATEL	79.55	334.5	11	31	0								
BESANCON	79.59	335.2	11	31K	0				12	55	13	54	
BREBEUF	79.62	28.8	11	31	0	21	2	-1					
FLORENCE X.	81.11	330.3	11	39	0				13	2	12	27	
ATHENS	81.29	319.1	11	37A	-3								
CLERMONT-FD.	81.74	336.5	11	42A	0				13	5			
ROME	82.35	328.6	11	45A	0						15	4	PP
MONACO	82.37	332.8	11	45	0								
PALISADES	83.51	31.1	11	51	0	21	38	-4	13	15	24	10	
HELWAN	84.25	309.2	11	55	0	21	45	-4					
MESSINA	84.47	324.8							13	36	20	12	
MELBOURNE	85.68	183.0	12	4	2								
CHAPEL HILL	86.05	37.1	12	3	-1								
COLUMBIA	86.88	39.4	12	8	0				13	33			
ALICANTE	89.62	336.3	12	9	-11	22	19	-20			17	47	PPP
LISBON	91.29	342.9	12	27A	-1								
GRANADA	91.53	338.2	12	4K	-25	22	55	-1			14	57	PP
TAMANRASSET	102.06	325.6	13	18	1						17	26	PP
SCOTT BASE	126.23	175.3	18	21	-1								
HUANCAYO	128.65	60.6	18	29	2				20	2	21	14	SKP
LA PAZ	136.33	56.5	18	44	3	25	38	22			21	41	PP
SOUTH POLE	137.97	180 0	18	33	-11				20	5	21	36	SKP

NOVEMBER 17 17.H 55.M 7.S EPICENTRE 30.41 138.40 DEPTH= 449.KM

DEPTH OF FOCUS= 0.066R

A=-0.64601 B= 0.57357 C= 0.50368 D= 0.6639 E= 0.7478
G=-0.3766 H= 0.3344 K=-0.8639 HT= 1.7

SE= 2.02

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
TORISIMA	1.64	87.2	0	59	0	1	46	0				
HATIDYOZIMA	2.94	24.1	1	6	-1	1	56	-4				
OWASE	4.10	333.5	1	18	1	2	17	0				
OMAESAKI	4.18	358.0	1	19	1	2	18	-1			1	46
HAMAMATU	4.33	352.6				2	24	2				
OSIMA	4.42	10.5	1	20	0	2	18	-5				

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SHIZUOKA	4.54	0.0	1	20K	-1	2	21	-4			
TU	4.59	340.3	1	24	3						
MERA	4.65	14.6	1	20	-2	2	22	-4			
AJIRO	4.66	7.1	1	20	-2	2	23	-4			
KAMEYAMA	4.71	340.3	1	28	5				2	9	
MISIMA	4.72	5.5	1	21	-2	2	21	-7			
OSAKA	4.87	330.9	1	31	7	2	32	2			
TOKUSIMA	4.88	319.4				2	32	2			
NAGOYA	4.89	346.1	1.	26	2	2	31	0			
SUMOTO	4.93	323.7				2	22	-9			
HUNATU	5.08	3.4	1	26	0	2	30	-4			
YOKOHAMA	5.11	11.5	1	25	-1	2	29	-5	1	38	
KYOTO	5.12	334.6	1	27	1						
IIDA	5.12	354.8	1	28	2	2	34	0			
GIHU	5.16	345.0	1	27	0	2	35	0			
HIKONE	5.17	340.1	1	28	1	2	38	3			
KOHU	5.21	1.5	1	28	1	2	36	0			
IBUKISAN	5.24	341.6	1	34	6	2	36	-1			
TAKAMATU	5.36	317.8				3	47	68			
TOKYO C.M.O.	5.37	11.8	1	27	-2	2	34	-5			
TSURUGA	5.58	340.1				2	42	-1			
TITIBU	5.58	5.7	1	29	-2						
TYOSI	5.68	20.6	1	31	-1	2	40	-5			
KUMAGAYA	5.78	7.9	1	32	-1	2	39	-7			
MATUMOTO	5.83	356.6	1	35	1	2	46	-1			
HUKUI	5.90	343.0	1	36	2	2	50	2			
OIWAKE	5.90	1.2	1	36	2						
TOYOOKA	5.92	330 4				2	49	1			
TUKUBASAN	5.96	13.4	1	31	-4						
KAKIOKA	5.99	13.9	1	33K	-2	2	42	-8			
MAEBASI	6.00	5.2	1	39	4	2	47	-3			
MATUSIRO	6.12	358.6	1	35	-2	2	47	-6			
MITO	6.20	15.7	1	35	-2	2	48	-6			
UTUNOMIYA	6.24	11.0	1	35	-3	2	48	-7	2	39	
NAGANO	6.24	358.5	1	38	0	2	40	-15			
TOYAMA	6.35	351.3	1	53	14	2	57	0			
TAKADA	6.67	359.0				2	59	-3			
ONAHAMA	6.84	17.1	1	41	-3	2	59	-8	1	59	
SHIRAKAWA	6.86	12.3	1	42	-2	3	0	-7			
KUMAMOTO	6.99	292.1				3	11	2			
SAGA	7.45	294.4	2	54	63						
HUKUOKA	7.48	297.0				3	22	3			
NIIGATA	7.51	3.9				3	11	-8			
HUKUSIMA	7.52	12.6	1	50	-2	3	14	-6			
AIKAWA	7.59	359.1				3	15	-6			
NAGASAKI	7.63	289.8	1	53	0	3	25	3			
YAMAGATA	7.98	11.1	1	57	0	3	25	-4			
SENDAI	8.11	14.1	1	56	-2	3	25	-6			
ISINOMAKI	8.35	16.0	1	59	-2	3	30	-6			
SAKATA	8.55	7.5	2	4	1	3	39	-1			
MIZUSAWA	8.98	13.7	2	7	-1	3	45	-4			
AKITA	9.39	8.1	2	11	-1	3	54	-3			
MORIOKA	9.54	13.0	2	13	-1	3	53	-7			
MIYAKO	9.67	16.6	2	11	-4	3	58	-4			
HATINOHE	10 41	13.3	2	22	-1	4	13	-4			
AOMORI	10.56	9.9	2	26	1	4	20	-1			
HAKODATE	11.50	8.7	2	35	0	4	39	0			
MORI	11.79	7.9	2	41	2	4	45	0			
MURORAN	12.07	9.2				4	48	-3			
URAKAWA	12.23	15.6	2	45	2	4	53	-1			
TOMAKOMAI	12.35	11.1	2	47	2				5	16	
SUTTSU	12.45	6.3				4	56	-2			
SAPPORO	12.85	9.8	2	48A	-2	5	2	-4			
OBIHIRO	13.06	15.8	2	52	0						
KUSIRO	13.43	19.3	2	57	1	5	19	1			
ASAHIGAWA	13.71	12.2	2	58	-1						
NEMURO	14.11	22.0	3	2	-1	5	33	2			
NANKING	16.85	280.6	3	31K	0						
Y.-SAKHLINSK	16.85	10.3	3	37	6						
CHANGCHUN	16.95	325.8	3	33	1						
PEKING	20.49	303.9	4	5K	-2						
BAGUIO CITY	21.44	233.5	4	14	-2						
MANILA	22.47	229.3	4	22	-3	6	25	-93			
KOROR	23.26	189.9	4	31	-1						
LANCHOW	29.37	290.4	5	26	0	9	46	-2			
CHENGTU	29.56	279.4	5	27	-1	9	46	-5			
MAGADAN	30.32	12.5	5	35	0						
KUNMING	31.98	269.2	5	48K	-1	10	24	-4			
LHASA	40.77	281.3	7	3	1						

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SHILLONG	41.15	275.0	7	4	-1					11	1	
CHITTAGONG	42.25	270.5	7	14K	0	12	59	-2				
CHARTERS TS.	50.70	170.4	8	20	1							
COLLEGE	56.05	29.6	8	56	-1				10	43	9	16
HONOLULU	57.23	83.0	9	8	3							
BRISBANE	59.24	164.9	9	20	1							
POONA	59.25	274.5	9	19	0						9	45
QUETTA	60.66	289.7	9	28	0	17	8	-1	11	0	11	54 PP
KARACHI	62.15	285.0	9	35K	-3							
NORD	67.48	356.2	10	10A	-2							
APATITY	67.71	336.4	10	12	-1							
RESOLUTE	69.62	13.1	10	24A	0						13	6 PP
SODANKYLA	70.10	337.5	10	26	-1							
KIRUNA	71.81	339.3	10	37	0				12	18		
THULE	72.12	6.4	10	38	-1							
CORVALLIS	74.74	47.1	10	56	2							
SKALSTUGAN	77.13	338.2	11	6	-1						14	7 PP
SHASTA	77.17	50.3	11	9A	1							
UPPSALA	77.78	333.7	11	9A	-2	20	21	-5			11	30
MINERAL	77.87	50.3	11	12A	1							
HUNGRY HORSE	78.39	40.5	11	15	1				12	52		
SCORESBY SD.	78.41	353.4	11	10	-4				12	53		
BERKELEY	78.64	52.8	11	17A	2				12	56		
LICK	79.33	53.0	11	20A	1				12	59		
RENO	79.46	50.3	11	21A	1							
BUTTE	80.50	41.9	11	27	2							
FRESNO	80.89	52.8	11	27	0							
BOZEMAN	81.58	41.6	11	32	1							
EUREKA	82.02	48.8	11	35	2				13	14	11	56
PASADENA	83.39	54.3	11	41	1				13	21		
COLLMBERG	85.53	329.1							13	35		
PRUHONICE	85.76	327.5							13	35		
RAPID CITY	86.96	39.4	11	59	2						15	33 PP
STUTTGART	89.06	329.2	12	7	0							
TUCSON	89.55	52.4	12	11	2						16	10 PP
SOUTH POLE	120.24	180.0	18	0	1							
HUANCAYO	143.83	67.0	18	46	2						21	44 SKP

NOVEMBER 18 10.H 12.M 0.S EPICENTRE 51.29-179.32 DEPTH= 0.KM
A=-0.62792 B=-0.00746 C= 0.77824 D=-0.0119 E= 0.9999
G=-0.7782 H=-0.0092 K=-0.6280 HT= -5.9

SE= 1.88

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
PETROPAVLOVK	13.63	286.4	3	17	0							
MAGADAN	18.73	307.8	4	26	4							
COLLEGE	21.19	38.1	4	48	-1	8	48	7				
Y -SAKHLINSK	25.03	275.0	5	15	-12	9	29	-20				
TIKSI	30.55	330 6	6	48	31							
TUKUBASAN	32.49	258.3	6	33	-1							
MATUSIRO	33.44	260.6	6	42	0	12	8	4				
HORSESHOE B.	35.09	70.6	6	57	1							
VICTORIA	35.37	72.0	6	58	-1							
SEATTLE	36.44	72.7	7	12	4							
CORVALLIS	37.33	77.8	7	20	5							
RESOLUTE	39.97	24.3	7	38	0	14	2	18			9	43 PPP
SHASTA	40.00	82.4	7	39	1							
MINERAL	40.69	82.3	7	43K	0							
BERKELEY	41.76	85.8	7	52	0							
RENO	42.28	82.1	8	2	6							
LICK	42.47	86.0	7	58K	0							
BUTTE	43.04	69.7	8	2	-1							
FRESNO	43.98	85.3	8	10	0							
BOZEMAN	44.12	69.3	8	11	0						9	9
EUREKA	44.70	79.6	8	17	1							
IRKUTSK	45.17	302.6	8	19	-1							
THULE	45.33	18.1	8	19	-2							
ULAN-BATOR	46.06	296.2	8	27	0							
SALT LAKE C.	46.45	75.5	8	30	0							
NORD	47.03	3.4	8	34	-1							
BOULDER CITY	47.58	82.6	8	39	0							
RAPID CITY	49.60	66.7	8	54	-1	16	6	3				
TUCSON	52.53	83.4	9	16	-1						10	19 PCP

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FAYETTEVILLE	60.03	68.7	10	9K	-1						
SODANKYLA	60.06	348.7	10	9	-2						
KIRUNA	60.28	351.5	10	11A	-1						
SVERDLOVSK	61.49	327.2				18	53	12			
OTTAWA	63.37	50.0	10	36	3						
SEVEN FALLS	64.37	45.9	10	37	-3						
MORGANTOWN	65.45	56.9	10	47	1						
PALISADES	67.52	52.1	10	58	-2	19	46	-10		19	56 PS
UPPSALA	68.37	350.9	11	4	-1						
CHAPEL HILL	68.67	59.0	11	4	-3						
SHILLONG	69.77	285.8	17	59	405						
CHITTAGONG	72.19	283.6	11	28A	0	20	49	-2			
COPENHAGEN	72.95	353.1	11	33	0						
HAMBURG	75.22	354.3	11	48	2						
LAHORE	75.27	302.1	11	46	0	21	40	15		11	57 PCP
WITTEVEEN	76.14	356.3	11	52	1						
CHARTERS TS.	77.15	213.0	11	54A	-3						
KRAKOW	77.72	347.4	12	1	1						
JENA	77.74	353.0	12	0	0						
PRUHONICE	78.42	350 9	12	2	-2					13	16
BERMUDA	78.86	51.6	12	8	2	22	6	2		27	8 SS
TIFLIS	79.72	328.0	12	11	0						
BRATISLAVA	79.93	348.9	12	13	1						
STUTTGART	80.06	354.3	12	12	-1						
QUETTA	80.19	306.4	12	14A	1	22	20	2		15	14 PP
PARIS	80 27	358.8	12	15A	1						
EBINGEN	80.66	354.4	12	9	-7						
NEUCHATEL	81.94	355.7	12	22	0						
BRISBANE	82.13	204.6								22	39
TRIESTE	82.78	350.8				22	23	-22		15	28 PP
KARACHI	83.67	303.8	12	32A	1						
POONA	85.80	294.4	12	41	-1						
SAN JUAN	89.48	60.8	13	0	0						
WILKES	128.67	209.3								39	12 SSS
SOUTH POLE	141.10	180.0	19	27	-5					23	16 PP
PIETERMZBURG	149.04	302.9	19	50	5						
KIMBERLEY	151.13	312.0	19	55K	6						
GRAHAMSTOWN	153.96	303.6	20	1	8						

NOVEMBER 18 15.H 13.M 5.S EPICENTRE 44.24 148.10 DEPTH= 78.KM
DEPTH OF FOCUS= 0.007R

A=-0.61019 B= 0.37985 C= 0.69526 D= 0.5285 E= 0.8489
G=-0.5902 H= 0.3674 K=-0.7188 HT= -3.3

SE= 2.69

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KURILSK	1.00	350 8	0	20	1	0	37	3				
NEMURO	2.04	244.3	0	29K	-4	0	51	-7				
ABASHIRI	2.76	266.7	0	43	0	1	15	0				
KUSIRO	2.97	246.1	0	43K	-3	1	15	-6				
OBIHIRO	3.80	251.3	0	55	-2	1	38	-3				
ASAHIGAWA	4.16	265.6	1	3	1							
URAKAWA	4.41	243.6	1	1	-5	1	47	-10				
Y.-SAKHLINSK	4.65	307.6	0	57	-12							
SAPPORO	5.03	258.9	1	13K	-1	2	5	-7				
TOMAKOMAI	5.05	252.4	1	23	8	2	4	-8				
MURORAN	5.54	252.3	1	18	-3	2	18	-6				
MORI	5.91	251.4	1	24	-2	2	29	-4				
HAKODATE	5.94	248.1	1	23	-4	2	25	-9			1	37
HATINOHE	6.11	234.9	1	29	0	2	27	-12				
UGLEGORSK	6.37	321.5	1	35	2	2	52	7				
AOMORI	6.39	240 2	1	31	-2	2	33	-13				
MIYAKO	6.47	227.0	1	37	3	2	32	-15				
MORIOKA	6.87	231.1	1	35	-5	2	39	-18			2	23
MIZUSAWA	7.30	228.0	1	39	-7	2	53	-15				
AKITA	7.47	235.6	2	14	26	3	1	-11				
ISINOMAKI	7.72	223.6	2	5	13	3	1	-17				
SENDAI	8.06	224.7	2	0	4	3	13	-13				
SAKATA	8.18	232.1	1	54	-4	3	20	-9				
YAMAGATA	8.36	226.9	2	19	19	3	19	-15				
HUKUSIMA	8.67	224.2	2	2	-2	3	28	-14				
ONAHAMA	9.11	219.4				3	19	-33			3	35

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SHIRAKAWA	9.29	222.7	2	47	34	3	41	-16			
NIIGATA	9.30	230.3								3	49
MITO	9.77	219.1								3	39
UTUNOMIYA	9.91	222.0	2	25	4					2	56
KAKIOKA	10.03	219.8	2	16	-7	3	57	-18			
TUKUBASAN	10.07	220.0	2	15	-8	3	56	-20			
MAEBASI	10.43	224.4	2	53	25	4	12	-12			
KUMAGAYA	10.47	222.5	2	25	-4	4	11	-14			
NAGANO	10.67	228.3	2	48	16						
TOKYO C.M.O.	10.68	219.6				4	14	-16		3	48
OIWAKE	10.75	225.9	3	6	33						
MATUSIRO	10.75	227.8	2	26K	-7	4	16	-16			
WAZIMA	10.90	234.9	2	38	3						
YOKOHAMA	10.93	219.3				4	21	-15		3	19
MERA	11.28	217.2				4	28	-17			
KOHU	11.28	223.6	2	53	13	4	33	-12			
HUNATU	11.29	222.5				4	6	-39		4	35
MISIMA	11.51	220.8				4	32	-18			
VLADIVOSTOK	11.79	270.2	2	44	-2						
GIHU	12.39	228.4	3	15	20						
MAGADAN	15.42	5.2	3	35	1						
TIKSI	29.01	347.6	5	51	-3					7	5 PPP
COLLEGE	40.29	36.4	7	32	1					8	25
RABAUL	48.36	174.6	8	31	-4						
SHILLONG	48.75	266.9	8	36A	-2						
NORD	54.15	357.3	9	17K	-2						
RESOLUTE	54.31	17.0	9	21A	1						
NAMANGAN	54.42	295.2	9	21	0	16	55	3			
THULE	57.39	9.6	9	40	-2					11	49 PP
STALINABAD	57.60	294.1	9	45	1						
LAHORE	57.75	284.3	9	46A	1	17	38	2			
APATITY	58.22	335.8	9	46A	-2						
SODANKYLA	60.27	337.7	10	1	-1						
KIRUNA	61.54	340.0	10	10	-1						
SHASTA	62.85	58.7	10	20	0						
MINERAL	63.55	58.6	10	23	-1						
QUETTA	63.67	287.3	10	24	-1						
CHARTERS TS.	63.96	181.9	10	24A	-3						
RENO	65.13	58.4	10	35	1						
BUTTE	65.33	49.2	10	36	0						
HELSINKI	66.06	332.7	10	39	-1						
KARACHI	66.30	283.5	10	41	-1						
BOZEMAN	66.37	48.7	10	42	0						
SKALSTUGAN	66.97	340.2	10	46K	0						
EUREKA	67.49	56.4	10	49	0	11	7				
UPPSALA	68.61	335.6	10	55K	-1						
SALT LAKE C.	69.09	53.2	10	58	-1						
PASADENA	69.53	62.0	11	2	0						
TIFLIS	70.29	309.3	11	8	1						
RAPID CITY	71.59	46.0	11	15	1						
SIMFEROPOL	73.61	317.4	11	27	1						
COPENHAGEN	73.63	335.6	11	27A	1						
LWOW	74.40	326.2	11	31	0						
KRAKOW	75.81	328.5	11	39	0					14	58
HAMBURG	76.18	335.8	11	42	1						
COLLMBERG	77.20	333.0	11	47	0						
PRAGUE	77.77	331.5	11	51	1						
WITTEVEEN	77.79	337.2	11	52	2						
PRUHONICE	77.80	331.4	11	50	0					14	45 PP
JENA	77.98	333.6	11	51	0						
BRATISLAVA	78.41	329.0	11	55	2						
BENSBERG	79.30	336.1	11	58	0						
RATHFARNHAM	80.38	344.7	10	17	-107						
KEW	80.82	340.6	12	7	1						
STRASBOURG	81.23	334.6	12	10	1						
BASLE	82.22	334.2	12	14	0					21	5
PARIS	82.55	337.9	12	17	2						
OTTAWA	82.65	29.5	12	15	-1						
SEVEN FALLS	82.76	25.6	12	17A	1						
NEUCHATEL	82.89	334.4	12	18	1						
BREBEUF	83.29	28.1	12	19K	0						
MORGANTOWN	85.95	35.2	12	33	1						
HUANCAYO	130.91	62.9	19	5	3						
SOUTH POLE	134.05	180.0	19	28	20						

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NOVEMBER 19 16.H 13.M 34.S EPICENTRE 46.98 152.25 DEPTH= 139.KM
DEPTH OF FOCUS= 0.017R

A=-0.60599 B= 0.31878 C= 0.72881 D= 0.4656 E= 0.8850
G=-0.6450 H= 0.3393 K=-0.6847 HT= -4.3

SE= 2.82

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
Y.-SAKHLINSK	6.53	273.2	1 27	-8				
PETROPAVLOVK	7.40	31 4	1 56	9				
TUKUBASAN	14.06	224.5	3 16	2				
MATUSIRO	14.75	230.1	3 27K	4				4 44
TIKSI	27.07	343.9	5 28	-3				
COLLEGE	36.34	38.6	6 51	-1			7 21	
HONG KONG	39.28	244.5	7 14	-3				
BAGUIO CITY	40.18	231.4	6 33	-51				
HONOLULU	47.42	105.2			15 36	31		
RABAUL	50 96	180 1	8 51	2				10 6
NORD	51.53	357.9	8 51	-3				16 40
SHILLONG	51.80	267.7	8 59A	3				10 54
SVERDLOVSK	53.26	316.7	9 6	0				
CHITTAGONG	53.95	264.8	9 15A	4	16 42	8	9 37	
THULE	54.18	10.9	9 10	-3			9 40	10 29 PCP
CHATRA	54.20	272.3	9 16	3				
NAMANGAN	55.88	295.5	9 27	2				
APATITY	56.90	336.3	9 30K	-3				
SODANKYLA	58.82	338.4	9 44	-2			10 7	10 34 PCP
SHASTA	58.97	62.2	9 47	0				
HUNGRY HORSE	59.11	50.9	9 47	-1				
LAHORE	59.88	285.2	9 55A	2				13 5
KIRUNA	59.94	340.9	9 51A	-3				
BOZEMAN	62.38	51.8	10 9	-1			10 39	
SCORESBY SD.	62.78	357.8	10 11	-2				10 27
EUREKA	63.57	59.8	10 18	0			10 52	
HELSINKI	64.92	333.9	10 25	-2				
SKALSTUGAN	65.34	341.5	10 28K	-1				
QUETTA	65.60	288.6	10 33A	2	19 5	1	10 51	13 45
CHARTERS TS.	66.89	186.1	10 12A	-27	16 36	-163		
UPPSALA	67.27	337.1	10 40A	-2			11 7	
RAPID CITY	67.59	49.0	10 43	-1				
KARACHI	68.45	285.1	11 1A	12				13 45
POONA	68.85	274 8	10 55	4				12 49
TUCSON	71.51	62.5	11 41	34				
COPENHAGEN	72.28	337.4	11 13	1				
BRISBANE	74.11	179.3	11 27A	4				13 30
IASI	74.49	324.4	11 26	1				11 34
HAMBURG	74.81	337.8	11 27	0				
KRAKOW	74.93	330.4	11 27	0				
POTSDAM	75.04	335.5	11 28	0				
RACIBORZ	75.48	331.4	11 31	1				
COLLMBERG	76.02	335.0	11 33	0				
HALLE	76.14	335.7	11 34	0				11 51
WITTEVEEN	76.32	339.3	11 36	1				
PRAGUE	76.68	333.6	11 38	1			12 4	15 17
PRUHONICE	76.73	333.5	11 37	0				13 13 *SP
JENA	76.75	335.7	11 37	-1			11 56	
PLAUEN	76.98	335.1	11 38	-1				
BRATISLAVA	77.50	331.1	11 43	1				11 58
BENSBERG	77.91	330.3	11 44A	0				
ISTANBUL KA.	78.84	319.8	11 48	-1				
KEW	79.14	342.9	11 51	0				
STUTTGART	79.37	336.1	11 52A	0				12 46
BREBEUF	79.47	30.9	11 51	-1				
TUBINGEN	79.62	336.1	11 54A	1				
SOFIA	79.90	324.4	11 43	-12				
STRASBOURG	79.93	336.9	11 56A	1			12 19	12 25 *SP
EBINGEN	79.97	336.0	11 56A	1				
RIVERVIEW	80.44	180.9	11 51K	-7				
BASLE	80.95	336.6	12 8A	8				17 10
PARIS	81.04	340 3					12 28	
KSARA	81.34	311.0	12 2	0				
NEUCHATEL	81.60	336.8	12 4	0				
BESANCON	81.63	337.5	12 6K	2				12 37 *SP
JERUSALEM	83.29	310.2	12 15	3				
ATHENS	83.72	321.5	12 14K	0			12 34	
MELBOURNE	84.68	185.8	12 10	-9				12 22
HELWAN	86.82	311.7	12 32	2				12 44

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NANKING	57.13	280.5	9	47	-1					
TRUK	57.92	233.6	9	51	-3					
APATITY	58.22	351.9	9	54A	-2	17	51	-5	18	14 PS
GEORGETOWN	58.50	66.1	9	59	1	17	57	-2	12	8 PP
WASHINGTON	58.50	66.1	9	57	-1				12	9 PP
KIRUNA	58.63	357.7	9	56	-3	18	5	4		
PALISADES	58.67	62.4	10	0A	1	17	57	-5	12	9 PP
PHILADELPHIA	58.77	64.0	10	2	2	17	59	-4	19	45 SCS
FORDHAM	58.80	62.5	10	3	3	18	2	-1		
SODANKYLA	58.86	354.9	9	57	-4				10	47 PCP
YINCHUAN	59.56	294.4	10	8	3					
CHAPEL HILL	59.56	69.8	9	56	-9					
COLUMBIA	59.85	72.7	10	4	-3	18	12	-5	22	40 SS
TACUBAYA	60.14	97.9	10	19	10	18	21	1	12	21 PP
HALIFAX	61.19	53.1				18	32	-2		
VERA CRUZ	62.10	95.4				18	47	2	19	57
LANCHOW	62.64	294.2	10	25	-1					
TIENSHUI	62.70	291.8	10	28	1					
SEMIPALATNSK	62.75	319.3	10	26	-1	18	52	-2		
SKALSTUGAN	62.94	1.5	10	26	-2				10	58 PCP
HELSINKI	66.12	354.7	10	47	-2	19	34	-1		
CHENGTU	66.61	290.2	10	49	-3	19	38	-3		
UPPSALA	66.69	358.7	10	50	-2	19	47	5		
KOROR	67.11	250.1	10	54	-1	19	49	2	21	48 SCS
HONG KONG	67.14	276.8	10	55A	0	19	51	3		
BAGUIO CITY	67.90	267.7	10	57	-3	19	57	0		
RABAUL	68.08	227.3	10	59	-2					
ABERDEEN	68.49	10.1				20	8	4	27	5 SSS
MANILA	69.10	266.2	11	6	-2				12	45
BERMUDA	70.02	62.4	11	12	-1	20	24	2	13	57 PP
COPENHAGEN	70.86	1.7	11	18	0	20	42	10	20	56 PS
DURHAM	70.91	10.3	11	19	0	20	34	2	21	16 SKS
FRUNSE	71.15	318.1	11	21	1	21	29	54	15	47 PPP
KUNMING	71.67	287.3	11	23	0	20	42	1		
RATHFARNHAM	71.78	13.4	11	29A	5	21	0	18		
PHU-LIEN	72.71	281.6	11	30K	1	20	53	0		
HAMBURG	72.91	3.3	11	31	0	20	58	3		
SUVA	73.10	196.8							21	40 PS
WITTEVEEN	73.51	5.4	11	35	1					
DE BILT	74.14	6.5	11	36A	-2	21	14	5		
POTSDAM	74.18	1.4	11	42	4					
WARSAW	74.24	356.3	11	38A	0	21	30	20		
KEW	74.29	10.1	11	39A	0	21	12	1	26	15 SS
LHASA	74.40	298.8	11	39	0	21	21	9		
TASHKENT	74.53	320.8	11	38	-2				14	28 PP
HALLE	75.04	2.2	11	43	0				14	37 PP
COLLMBERG	75.26	1.5	11	43	-1					
BENSBERG	75.40	5.3	11	43	-2					
JENA	75.60	2.4	11	45	-1	21	30	5	14	52 PP
PLAUEN	76.05	2.1	11	46	-3				14	54 PP
KRAKOW	76.46	356.9	11	51	0				12	0 PCP
CHEB	76.47	1.9	11	51	0					
RACIBORZ	76.47	358.1	11	51	0					
LWOW	76.49	354.2	11	51	0				21	55 SCS
PRAGUE	76.51	0.6	11	51	0	21	57	22	27	51 SS
PRUHONICE	76.60	0.5	11	51	-1	21	48	12	22	17 PS
STALINABAD	77.13	319.7	11	52	-3				21	41
PARIS	77.20	8.6	11	54	-1	21	28	-15	14	36 PP
SHILLONG	77.22	295.7	11	51	-4	21	45	2		
KARLSRUHE	77.41	4.6	11	56K	0	22	7	22		
STUTTGART	77.68	4.1	11	56	-2				15	9 PP
STRASBOURG	77.80	5.1	11	59	1				22	9 SCS
TUBINGEN	77.92	4.2	11	57	-2					
EBINGEN	78.26	4.3	12	0	-1				12	11 PCP
BRATISLAVA	78.40	358.8	12	12	10	21	55	-1	14	40
BASLE	78.84	5.3	12	4A	0				16	50
IASI	78.84	351.5	12	4	0					
BESANCON	79.02	6.4	12	7	2				14	50 PP
ZURICH	79.05	4.6	12	5	0					
BUDAPEST	79.05	357.4	12	8	3	22	23	20	15	45 PP
NEUCHATEL	79.33	5.8	12	6	-1	22	11	6		
CHUR	79.61	4.0	12	8K	0					
NOUMEA	79.77	207.0	12	11	2	22	5	-5		
CHITTAGONG	79.83	293.8	12	7	-2	22	9	-2	15	10 PP
BALBOA HTS.	79.97	88.6	12	15	5	22	15	3		
DEHRA DUN	80.24	308.7	12	12	0	22	17	2	15	14 PP
CLERMONT-FD.	80.27	8.6	12	12	0				23	24 PPS
SAN JUAN	80.32	72.3	12	10	-2					

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SIMFEROPOL	80.32	346.6	12	13A	1						22	18 SCS
TIMISOARA	80.70	355.8	12	17	3	22	28	8				
ZAGREB	80.76	359.5	12	20	6							
OROPA	80 77	5.2	12	21	7						20	51
LAHORE	80.88	312.1	12	23	8							
TRIESTE	80.92	1.1	12	16	1	22	37	15			22	21 SKS
PAVIA	81.26	4.4	12	22K	5	23	8	42	12	37	24	24
ASHKABAD	81.36	326.9	12	16	-2						22	29 SCS
TIFLIS	81.54	338.1	12	20	2						22	37 SCS
CALCUTTA	81.56	296.6	12	6	-13	22	15	-14				
BELGRADE	81.66	356.3	12	21A	2	22	56	26				
BUCHAREST	81.73	352.2	12	24	5	22	53	23				
BOLOGNA	82.02	2.9	12	26	5				12	53	20	59
PRATO	82.64	3.1	12	3	-21	22	53	13				
FLORENCE X.	82.74	2.9	12	23A	-2	23	6	25				
GORIS	83.30	336.3	12	29	1						22	50 SCS
COIMBRA	84.17	18.0	12	31K	-1							
ANTIGUA	84.21	69.2	12	29	-3							
ROME	84.65	2.1	12	36A	2	23	6	6			28	38 SS
CHARTERS TS.	84.72	225.5	12	34A	-1						22	58
QUETTA	85.18	317.0	12	36	-1	23	6	1			15	53 PP
TOLEDO	85.22	14.8	12	38	1	23	5	0			28	30 SS
LISBON	85.47	18.9	12	39K	1	23	12	4				
CHINCHINA	85.49	87.8	12	38	-1	23	0	-8				
FORT FRANCE	86.05	70.5	12	33	-8	23	13	0				
TARANTO	86.10	358.5	12	50	8	23	27	13			27	2
CUGLIERI	86.22	5.2	13	43	61	24	53	98				
BOGOTA	86.69	86.8	12	51	7	23	17	-3				
ST. LUCIA	86.71	70.8	12	45	0							
ALICANTE	87.22	12.4	12	41	-6	23	16	-9			18	0 PPP
ST. VINCENT	87.25	71.5	12	46	-1							
GRANADA	87.93	15.0	12	52A	2	22	37	-54			16	17 PP
PORT BLAIR	87.98	286.9	12	55	4	23	32	0				
ATHENS	88.32	353.3	12	50	-2							
MESSINA	88.38	359.8	13	5	12	23	34	-1			16	29 PP
ALMERIA	88.43	14.2	12	51	-2							
BRISBANE	88.82	216.7	13	0A	5	23	20	-20				
KARACHI	88.98	314.9	12	56	0	23	43	2			23	30 SKS
TRINIDAD	89.14	73.2	12	55	-1							
ALGIERS UNI.	89.18	9.8	13	23	27	22	57	-46			16	55 PP
RELIZANE	89.91	11.9	13	1	1							
KSARA	90.94	343.0	13	7A	2	24	4	5			16	44 PP
POONA	92.25	305.9	13	11	0	23	43	-27				
BOMBAY	92.43	306.9	13	11	-1	24	19	7			16	57 PP
MADRAS	93.75	297.8	13	18	0	24	29	6			26	7 PS
RIVERVIEW	95.26	215.6	13	31	7	24	45	9			17	26 PP
HELWAN	95.53	346.0	13	26	0	24	1	-38				
WELLINGTON	96.33	195.4				24	47	2			23	58 SKS
HUANCAYO	99.25	97.7	13	43	0	24	11	-59			17	55 PP
ROXBURGH	101.42	198.3				25	23	-5			24	20 SKS
TAMANRASSET	103.28	9.3	14	2	1	26	2	18			18	18 PP
MBOUR	106.71	32.7	14	26	777						18	46 PP
LA PAZ	107.00	94.7				24	57	0			18	53 PP
PERTH	109.37	242.4									29	3
CAPE HALLETT	127.01	189.3	19	12	8						21	1
LWIRO	127.43	342.9	15	54	-191						21	1 PP
SCOTT BASE	132.56	187.9	19	16	2							
WILKES	135.55	215.2									22	0 PP
BYRD STATION	136.03	169.7	19	23	2						22	48 PP
SOUTH POLE	143.61	180.0	19	29	-5						23	9 SKP
PRETORIA	150.39	336.0	19	0	-46							
PIETERMZBURG	153.45	329.5	19	55	5							
KIMBERLEY	154.03	340.7	19	55	4							
GRAHAMSTOWN	158.01	334.1	20	32	36							

NOVEMBER 21 5.H 11.M 34.S EPICENTRE -0.89 127.51 DEPTH= 0.KM

A=-0.60877 B= 0.79319 C=-0.01538 D= 0.7933 E= 0.6088
G= 0.0094 H=-0.0122 K=-0.9999 HT= 7.2

SE= 1.91

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
KOROR	10.73	40.3	2	36	-2	4	12	-28				
MANILA	16.67	337.4	3	56	-1	7	8	6				

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BAGUIO CITY	18.51	338.6	4	19	-1	7	49	5			
DJAKARTA	21.29	255.2	4	51	0	8	51	8			
GUAM	22.26	49.6	5	7	6						
RABAUL	24.85	98.0	5	26	0				6	4	
TRUK	25.66	70.7	5	31	-2						
CHARTERS TS.	26.42	137.2	5	41A	0	10	23	10			
HONG KONG	26.46	331.4	5	26	-15	10	14	0			
CANTON	27.56	330.7	5	50A	-1	10	27	-5			
PHU-LIEN	29.70	317.7	6	13	3	11	6	0			
NANKING	33.78	346.6	6	52	6						
KUNMING	35.25	318.7	7	0	1	12	32	-1			
BRISBANE	36.03	139.4	7	4K	-1	12	45	0			
CHENGTU	38.52	326.5	7	26	0				8	55	PP
MATUSIRO	38.56	13.9	7	24	-3				14	58	
RIVERVIEW	39.56	148.4				13	38	0			
MELBOURNE	40.13	158.4	7	40	0						
CHITTAGONG	41.76	305.8	7	53	0	14	8	-3			
LANCHOW	42.88	331.4	8	1	-1						
SHILLONG	43.33	309.9	8	6A	0	14	33	-1			
HOWRAH	44.72	303.9	8	18	1						
LHASA	46.17	314.2	8	28K	-1	15	15	0			
CHATRA	47.61	308.5	8	40	0						
ULAN-BATOR	51.82	342.5							9	13	
POONA	56.13	293.0	9	44	0						
DEHRA DUN	56.34	307.9	10	0	14	17	31	-4			
BOMBAY	57.16	293.2	9	51	0	17	41	-5			
LAHORE	59.76	307.7	10	8K	-2	18	18	-2	17	21	
WARSAK DAM	62.84	309.3	10	29	-1						
KARACHI	64.05	299.3	10	39K	1						
QUETTA	65.30	303.9	10	45	-1	19	26	-4	13	5	PP
NAMANGAN	65.48	316.5	10	46	-2						
WILKES	66.30	187.4				19	43	1			
OASIS-BUNG.	67.87	191.4	11	3	0						
MIRNY	69.89	194.0				20	0	-25			
TIKSI	71.16	0.2	11	27	4						
TANANARIVE	80.21	251.1	12	15K	1						
SOUTH POLE	89.12	180.0	12	58	-1				13	4	
BYRD STATION	93.03	170.7	13	18	1						
EUREKA	110.81	47.8	18	45	10						
BOZEMAN	112.13	40.2	19	20	42						
TUCSON	116.93	54.0	19	58	71						
TAMANRASSET	119.65	295.7	19	8	15				20	20	PP
HUANCAYO	153.93	120.2	20	5	11						
LA PAZ	156.84	138.9	20	2	5				24	2	PP

NOVEMBER 22 16.H 5.M 39.S EPICENTRE -22.63 172.01 DEPTH= 0.KM

A=-0.91495 B= 0.12839 C=-0.38260 D= 0.1390 E= 0.9903
G= 0.3789 H=-0.0532 K=-0.9239 HT= 4.0

SE= 1.50

	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
NOUMEA	5.16	272.6	1	19	-1	2	19	-2				
SUVA	7.49	54.6	1	36	-17							
KARAPIRO	15.54	169.6	3	41	-1							
TONGARIRO	16.79	170.5	3	58	0							
BRISBANE	17.86	250.4	4	11	0	7	31	2				
WELLINGTON	18.74	173.5	4	22	0	7	57	8				
GEBBIES PASS	21.02	178.7	4	49	2							
RIVERVIEW	21.46	234.1	4	55	3	8	55	9			5	23 PP
CHARTERS TS.	24.12	271.4	5	18	0	9	35	1				
MELBOURNE	27.71	230.7	5	54	2							
CAPE HALLETT	49.70	180.7	8	55K	0							
SCOTT BASE	55.33	181.4	9	37	0							
WILKES	58.09	204.8	10	52	55							
OASIS-BUNG.	61.96	205.8	10	20	-4							
MIRNY	65.10	205.7	10	43	-1	19	24	-2				
MATUSIRO	66.96	330.9	10	55	-1	20	24	35				
SOUTH POLE	67.51	180.0	10	57	-3						13	30 PP
BERKELEY	86.18	46.3	12	45	1							
LICK	86.31	47.0	12	46	1							
FRESNO	87.27	48.3	12	50	1							
SHASTA	87.61	43.9	12	50	-1							
RENO	88.68	45.9	12	57	1							

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CHITTAGONG	89.94	294.2	13	2A	0					
BOULDER CITY	90.38	50.9	13	5	1					
SHILLONG	91.22	297.1	13	8A	0					
TUCSON	91.67	55.7	13	11	1				13	50
COLLEGE	92.55	16.0	13	12	-2				13	23
QUETTA	113.53	294.2	18	41	1	27	26	120	26	33 SKKS
SODANKYLA	130.32	343.2	19	45	33					
LWIRO	136.42	240.2	19	26	2					
KSARA	140.04	296.1	19	31	1				22	29 PP
ISTANBUL KA.	143.89	309.4	19	33	-4					
HELWAN	144.14	290.0	19	33	-4					
RACIBORZ	145.77	329.6	19	30	-10					
COLLMBERG	147.07	335.6	19	44	2					
PRAGUE	147.45	332.8	19	54	11					
PRUHONICE	147.47	332.6	19	45	2					
BRATISLAVA	147.60	328.0	19	46	3					
JENA	147.90	336.5	19	45	1					
ATHENS	148.83	306.6	19	48A	3				19	58 PKP2
STUTTGART	150.56	336.6	19	52	4					
EBINGEN	151.13	336.1	19	49	0					
GARCHY	153.85	342.8	20	13	20					
TAMANRASSET	167.53	273.3	20	9	2				25	2 PP
MBOUR	168.17	132.4	20	10	2					

NOVEMBER 22 18.H 3.M 8.S EPICENTRE 29.09 139.75 DEPTH= 443.KM

DEPTH OF FOCUS= 0.065R

A=-0.66802 B= 0.56549 C= 0.48371 D= 0 6461 E= 0.7633
G=-0.3692 H= 0.3125 K=-0.8752 HT= 2.1

SE= 2.33

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP M	SUPP S
TORISIMA	1.46	18.9	0	55	-3	1	38	-6				
MERA	5.81	0.6	2	22	49							
MISIMA	6.05	353.8	1	39	3	2	49	-2				
YOKOHAMA	6.32	359.2	2	52	73							
KAMEYAMA	6.38	334.9	1	44	5	2	57	0				
HUNATU	6.44	352.8				2	57	-2				
TOKYO C.M.O.	6.57	360.0	1	39	-2	2	56	-5				
KOHU	6.60	351.6	1	47	5	3	1	-1				
OSAKA	6.60	328.1	1	42	0	2	55	-7				
TOKUSIMA	6.64	319.7	1	42	0	3	3	1				
SUMOTO	6.69	322.9	1	42	-1	3	3	0				
GIHU	6.78	338.9				3	3	-2				
KYOTO	6.82	331.0	1	43	-1							
HIKONE	6.84	335.2	1	44	0	3	5	-1				
IBUKISAN	6.89	336.4	1	48	3							
KUMAGAYA	7.05	357.5	1	47	1	3	6	-4				
TUKUBASAN	7.11	2.3	1	43	-4	3	6	-6				
KAKIOKA	7.13	2.8	1	45	-2	3	8	-4				
OIWAKE	7.29	352.3	1	56	7							
MITO	7.29	4.6	1	47	-2	3	10	-5				
MATUMOTO	7.29	348.6	2	41	52							
MAEBASI	7.31	355.7				3	10	-5				
UTUNOMIYA	7.44	0.7	1	49	-2	3	12	-6				
MATUSIRO	7.55	350 6	1	49K	-3	3	18	-2				
NAGANO	7.67	350.6	2	41	48	4	8	45				
ONAHAMA	7.90	6.7				3	22	-5			4	2
SHIRAKAWA	8.02	2.7				3	16	-13				
OOITA	8.10	302.7	1	58	0	3	31	0				
HUKUSIMA	8.66	3.8	2	0	-4	3	34	-8				
SAGA	9.10	299.5	2	10	1							
HUKUOKA	9.15	301.6	2	10	0	3	56	4				
SENDAI	9.20	5.7	2	9	-1	3	49	-4				
ISINOMAKI	9.40	7.6				3	56	-1				
MIZUSAWA	10.08	6.1	2	22	2	4	12	1				
AKITA	10.61	1.5				4	24	2				
MORIOKA	10.65	5.9	2	25	-1	4	20	-2				
KUSIRO	14.36	13.9				5	53	17				
SHILLONG	42.46	277.0	7	14K	-2							
CHARTERS TS.	49.22	171.9	8	9	1							
LAHORE	55.76	290.1	8	54	-2							
COLLEGE	56.62	29.2	9	2	0							

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WARSAK DAM	57.37	293.7	9	6K	-1					
QUETTA	62.22	290.8	9	38K	-1					
SODANKYLA	71.76	338.0	10	37	-1					
KIRUNA	73.45	339.8	10	47K	-1					
CORVALLIS	74.77	47.3	10	56	1					
SHASTA	77.10	50.6	11	9	1					
BERKELEY	78.50	53.1	11	16A	1					
HUNGRY HORSE	78.62	40.8	11	18	2			12	57	
SKALSTUGAN	78.79	338.8	11	16	-1					
LICK	79.18	53.4	11	20A	1					
UPPSALA	79.48	334.2	11	20K	-1					
RAPID CITY	87.22	40.0	12	1	2					
STUTTGART	90.79	329.8	12	16	0					
GARCHY	94.55	332.1	12	29	-4					
HUANCAYO	143.22	69.9	18	44	1					21 44 PP

NOVEMBER 23 0.H 58.M 45.S EPICENTRE 52.96-167.58 DEPTH= 68.KM

DEPTH OF FOCUS= 0.005R

A=-0.59082 B=-0.13009 C= 0.79624 D=-0.2150 E= 0.9766
G=-0.7776 H=-0.1712 K=-0.6050 HT= -6.5

SE= 1.92

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
COLLEGE	15.61	32.5	3	38	1	7	16	48					
SITKA	18.84	64.6	4	17	0								
PETROPAVLOVK	20.20	284.1	4	31	0	8	19	10					
VICTORIA	27.96	81.1	5	46	0								
SEATTLE	29.02	82.1	5	57	2								
CORVALLIS	29.95	88.2	6	5	1								
SHASTA	32.72	93.6	6	29	1								
UKIAH	33.19	96.6	6	33	1						7	22	
MINERAL	33.41	93.4	6	35A	1						9	14	PCP
HUMGRY HORSE	33.60	75.9	6	36	0						9	15	PCP
BERKELEY	34.58	97.4	6	45A	1	12	14	7			9	18	PCP
RENO	34.99	93.0	6	49	2								
LICK	35.29	97.6	6	51A	1						9	20	PCP
RESOLUTE	35.37	26.0	6	50A	--1	12	21	2					
BUTTE	35.63	78.5	6	53	0						9	21	PCP
BOZEMAN	36.71	78.1	7	2	0						7	39	
FRESNO	36.78	96.6	7	3	0								
SENDAI	38.05	268.4	7	15	2						7	41	
SALT LAKE C.	39.04	85.2	7	22	1						9	30	PCP
PASADENA	39.53	98.3	7	26	1	13	28	5			7	40	
TUKUBASAN	39.87	266.6	7	28	0				7	33	7	45	*SP
BOULDER CITY	40.30	93.3	7	32	0								
MATUSIRO	40.79	268.6	7	36A	0	13	24	-18			9	37	PCP
RAPID CITY	42.23	75.2	7	48	0								
KYOTO	43.32	268.9	7	57	0	14	25	6					
ABUYAMA	43.51	268.9	7	57	-1	14	25	3					
CHANGCHUN	43.96	286.2	8	0	-2								
NORD	44.78	5.8	8	7	-1								
TUCSON	45.26	93.9	8	14	2	14	42	-5			10	50	PPP
NAGASAKI	48.42	271.2	8	37	0	15	14	-18					
IRKUTSK	50.17	306.9	8	49	-1								
ULAN-BATOR	51.61	301.2	9	3	2								
FAYETTEVILLE	52.63	77.6	9	10A	1								
SCORESBY SD.	54.40	13.5	9	17	-5	16	56	2					
GUAM	54.50	242.0	9	19	-4						10	10	PCP
ZO-SE	54.82	276.4	9	23A	-2	17	1	2					
NANKING	55.57	279.0	9	29A	-2	17	16	7					
TRUK	56.04	231.0	9	32	-2								
OTTAWA	56.55	57.6	9	36A	-2	17	27	5					
SHAWINIGAN	57.24	54.9	9	42	0								
BREBEUF	57.55	56.3	9	42	-3								
SEVEN FALLS	57.79	53.3	9	39	-7	17	40	2			19	22	SCS
APATITY	58.78	350.7	9	53	0								
KIRUNA	59.38	356.5	9	56	-1						10	42	PCP
SODANKYLA	59.52	353.7	9	56	-2						10	44	PCP
PALISADES	60.58	60.1	10	5	-1	18	17	2			19	51	SCS
PHILADELPHIA	60.68	61.7	10	41	35	18	22	6					
HARVARD	60.72	57.5	10	6	0								
WESTON	60.93	57.4	10	7K	-1								
LANCHOW	61.39	292 7	10	11A	0						12	26	PP

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CHAPEL HILL	61.47	67.5	10	10	-2					
COLUMBIA	61.74	70.3	10	12	-1					
TACUBAYA	61.75	95.0	10	20	7					
SVERDLOVSK	63.67	332.8	10	25	-1					
SKALSTUGAN	63.80	0.1	10	25	-2					
KOROR	65.20	247.8	10	35	-1				11	10 PCP
CHENGTU	65.26	288.5	10	36A	0					
CANTON	65.46	276.2	10	38A	0					
HONG KONG	65.51	274.9	10	38	0					
BAGUIO CITY	66.13	265.7	10	39	-3					
RABAUL	66.26	224.7	10	39	-4					
PULKOVO	66.70	350.2	10	44	-2	19	33	2		
HELSINKI	66.77	353.2	10	45	-1					
MANILA	67.32	264.1	10	47	-2					
UPPSALA	67.47	357.2	10	49	-1					
KUNMING	70.26	285.5	11	7A	-1	20	19	6		
BERMUDA	71.94	60.2	11	23	5	20	39	7	25	20 SS
DURHAM	72.01	8.5	10	58	-20	20	20	-13		
RATHFARNHAM	72.97	11.6	11	38	14					
NAMANGAN	73.38	317.2	11	27	1					
TOCKLAI	73.47	292.4	11	30	3					
HAMBURG	73.82	1.5	11	29	0					
KEW	75.39	8.2	11	38	0					
HALLE	75.91	0.3	11	41	0				12	24
SHILLONG	76.01	293.8	11	40K	-1					
JENA	76.48	0 5	11	43	-1					
PLAUEN	76.92	0.2	11	45	-1				12	27
KRAKOW	77.17	355.0	11	48	0				13	46
RACIBORZ	77.22	356.2	11	49	1					
PRAGUE	77.33	358.7	11	51	2				14	22
PRUHONICE	77.42	358.6	11	49	0				14	54 PP
CHATRA	77.57	298.0	11	50	0					
PARIS	78.26	6.7	11	55	1					
CHITTAGONG	78.57	291.8	11	56A	0	22	0	15	14	59 PP
STUTTGART	78.61	2.2	11	57A	1				13	45 PP
STRASBOURG	78.76	3.1	11	57A	0					
TUBINGEN	78.85	2.3	11	59	2					
EBINGEN	79.20	2.3	11	57	-2				12	10
WARSAK DAM	79.32	313.5	11	59	-1					
KISHINEV	79.42	348.7	11	59	-1					
MAKHACH-KALA	79.78	334.6	12	2	0	22	3	5		
BASLE	79.80	3.3	12	9A	7				14	3
ZURICH	80.00	2.6	12	5	2					
LAHORE	80.13	310.1	12	4A	0	22	19	17		
NEUCHATEL	80.31	3.8	12	6	1					
SIMFEROPOL	80.71	344.6	12	8	1					
CLERMONT-FD.	81.33	6.6	12	11A	1					
TIFLIS	81.64	336.1	12	13	1	22	24	7		
TRIESTE	81.76	359.1	12	13	0	22	27	8		
SAN JUAN	82.22	69.9	12	16	1					
MONACO	83.59	3.6	12	24	2					
FLORENCE X.	83.63	0.9	12	23A	1	22	42	5	13	30
QUETTA	84.59	314.9	12	28A	1	22	51	4	15	42 PP
CHINCHINA	87.26	85.5	12	41	1	23	19	6		
KARACHI	88.32	312.7	13	1A	16					
BOGOTA	88.47	84.4	12	39	-7	23	13	-11	24	43 PPS
KSARA	91.20	340.6	12	59	0	23	40	-9	16	25
POONA	91.32	303.5	13	0	1					
RIVERVIEW	93.60	213.4				24	22	12		
HELWAN	95.89	343.6	13	21	1	23	55	-34		
TAMANRASSET	104.35	6.6	13	58	0	24	39	-61	18	25 PP
CAPE HALLETT	125.92	188.2	18	54	0					
LWIRO	127.66	339.1	19	0	2					
SOUTH POLE	142.77	180.0	19	20	-5					
PIETERMZBURG	153.20	323.4	19	51	9					
GRAHAMSTOWN	157.90	327.0	20	24	36					

NOVEMBER 25 4.H 11.M 9.S EPICENTRE 62.88-151.00 DEPTH= 122.KM

DEPTH OF FOCUS= 0.014R

A=-0.40086 B=-0.22218 C= 0.88879 D=-0.4848 E= 0.8746
G=-0.7774 H=-0.4309 K=-0.4583 HT= -9.8

SE= 1.45

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	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
COLLEGE	2.45	33.8	0	40	-1								
RESOLUTE	22.37	35.4	4	52K	3	8	51	9					
CORVALLIS	24.26	126.0	5	14	7								
HUNGRY HORSE	24.99	108.2	5	14	0						8	46	PCP
BUTTE	27.42	109.9	5	35	-2				5	57			
SHASTA	27.97	129.1	5	41	-1								
BOZEMAN	28.35	108.5	5	45	0								
MINERAL	28.56	128.3	5	47A	0						6	36	
THULE	28.67	29.2	5	47	-1								
RENO	29.92	126.6	5	57	-2								
BERKELEY	30.53	131.5	6	4A	0				6	27			
LICK	31.22	131.1	6	10A	0								
EUREKA	31.43	121.6	6	12	0				6	45			
SALT LAKE C.	32.00	115.2	6	17	0								
FRESNO	32.38	129.0	6	20	-1								
RAPID CITY	33.07	101.9	6	40	14								
BOULDER CITY	34 92	123.3	6	43	1								
PASADENA	35.31	128.9	6	45	-1								
TUCSON	39.76	121.3	7	23	0								
LUBBOCK	42.31	110.3	7	43	-1								
FAYETTEVILLE	43.58	100.5	7	52A	-2								
OTTAWA	44.54	76.3	8	1A	-1								
SHAWINIGAN	44.95	73.0	8	5	0								
SEVEN FALLS	45.36	71.0	8	8	0								
BREBEUF	45.39	74.6	8	8K	0								
MORGANTOWN	47.21	84.7	8	22	-1								
WESTON	48.88	75.4	8	37	1								
KIRUNA	49.44	4.3	8	40K	0								
APATITY	49.83	357.8	8	43	0								
SODANKYLA	50.03	1.2	8	43	-2								
COLUMBIA	51.31	89.8	8	54	0								
SKALSTUGAN	53.24	9.2	9	9A	0								
HELSINKI	57.24	2.4	9	37	0								
SHILLONG	78.89	305.0	11	52A	0								
QUETTA	82.44	327.5	12	11	0	22	31	16					
HUANCAYO	94.21	108.1	13	7	0								
SCOTT BASE	142.82	193.6	19	15	-5								
KIMBERLEY	145.75	6.6	19	26	1								
PIETERMZBURG	146.72	357.8	19	1	-25								
SOUTH POLE	152.72	180.0	19	33	-2						19	53	

NOVEMBER 25 22.H 35.M 14.S EPICENTRE -1.78 115.92 DEPTH= 100.KM

DEPTH OF FOCUS= 0.011R

A=-0.43693 B= 0.89897 C=-0.03080 D= 0 8994 E= 0.4371
G= 0.0135 H=-0.0277 K=-0.9995 HT= 7.2

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	
DJAKARTA	10.07	244.0	3	28	65	5	46	91					
MAMBAJAO	14.59	41.2	4	32	69								
MANILA	17.0	17.0	3	53	0	8	11	73					
BAGUIO CITY	18.66	14.1	4	10	-3	7	44	10					
KOROR	20.61	63.8	4	33	0	8	22	9					
PHU-LIEN	24.21	338.4	5	9	0	9	28	11					
TAWU	24.47	11.2	5	14	3	9	36	15					
CANTON	24.84	354.2	5	15	0	9	37	10					
TAINAN	24.98	9.4	5	34	18								
HSINKONG	25.29	11.8	5	22	3	9	54	19					
HWALIEN	26.18	11.9	5	6	-21	9	36	-14					
KUNMING	29.60	335.1	5	59A	1	10	56	12			7	2	PP
PERTH	30.01	180 2	6	1	-1	10	58	7			8	43	
GUAM	32.36	61.2	6	20	-2	11	29	1			7	22	PP
ZO-SE	33.07	8.3	6	29A	1	11	48	9			7	34	PP
CHITTAGONG	33.60	316.9	6	32A	-1	11	56	9			7	47	PP
CHENGTU	34.19	341.6	6	36	-2	12	2	6			7	48	PP
CHARTERS TS.	34.75	123.6	6	41A	-2	12	11	6					
TOCKLAI	34.94	325.7	6	48K	4								
SHILLONG	35.79	321.0	6	51A	-1	12	28	7	7	13	8	18	PP
CALCUTTA	36.16	313.5	6	54	-1	12	37	11			8	16	PP
RABAUL	36.28	94.6	7	0	4								

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COLOMBO	37.00	283.8	6	56	-6	12	48	9	8	31 PP
TRUK	37.00	75.2	7	1	-1				8	26 PP
SAGA	37.39	20.0	7	22	17					
TIENSHUI	37.40	346.1	7	7	2	12	52	7		
VIZIANAGRAM	37.59	303.2	7	7	0					
HUKUOKA	37.73	20.0	7	8	0	12	58	8	7	38
LINFEN	37.90	354.2	7	18	9					
MADRAS	38.38	293.5	7	13A	0	13	9	9	8	48 PP
BOKARO	38.80	312.8	7	17	0	13	18	12		
LHASA	39.26	324.6	7	23A	2	13	25	12	13	18 PCS
LANCHOW	39.32	344.5	7	23A	2	13	26	12	8	59 PP
TAIYUAN	39.49	355.8	7	44	22					
CHATRA	39.72	317.7	7	24	0	13	40	20		
KODAIKANAL	40.09	288.1	7	27A	0	13	42	16	9	9 PP
YINCHUAN	41.03	348.4	7	41	6					
KYOTO	41.04	25.1	7	32	-3	13	46	6		
WUWEI	41.37	344.0	7	40	2					
HIKONE	41.48	25.4	7	40	1				9	14 PP
HYDERABAD	41.57	298.9	7	40A	0	13	55	7	9	28 PP
PEKING	41.61	0.3	7	30A	-10				9	19 PP
IBUKISAN	41.62	25.5	7	43	3					
NAGOYA	41.70	26.2	7	37	-4					
MISIMA	42.57	28.3	7	47	-1	14	9	7		
HUNATU	42.80	27.8	8	4	14					
KOHU	42.81	27.5	7	50	0					
MATUMOTO	43.05	26.4	7	53	1					
TOYAMA	43.09	25.3	7	54	2					
OIWAKE	43.38	26.9	7	54	0					
TOKYO C.M.O.	43.41	28.6	7	51	-4				9	31 PP
MATUSIRO	43.41	26.4	7	53A	-2	14	20	5	9	35 PP
NAGANO	43.50	26.3	7	56	1	14	22	6		
MAEBASI	43.67	27.3	7	46	-11				8	6
BRISBANE	43.75	129.2	7	56K	-1	14	27	7		
TUKUBASAN	44.01	28.5	7	57	-2	14	36	13	8 8	9 49 PP
UTUNOMIYA	44.17	28.0	7	56	-5					
MELBOURNE	44.71	146.9	8	4A	-1	14	42	9		
SHIRAKAWA	44.79	27.8	8	6	0					
NIIGATA	44.92	26.1	8	14	7					
HUKUSIMA	45.42	27.5	8	9	-2					
RIVERVIEW	45.84	138.0	8	14A	0	15	1	12	10	2 PP
POONA	46.03	298.0	8	14	-1	14	58	6	10	6 PP
SENDAI	46.04	27.5	8	15	-1	14	58	6		
CHANGCHUN	46.18	9.4	8	16A	-1					
MIZUSAWA	46.84	27.0	8	22	0	15	9	5		
AKITA	46.87	25.7	8	22	0					
BOMBAY	47.08	297.9	8	23	-1	15	19	12	10	16 PP
AOMORI	48.07	25.4	8	32	1					
DEHRA DUN	48.18	314.6	8	37	5	15	40	17	10	24 PP
MORI	49.04	24.3	8	39	0	15	43	8		
ULAN-BATOR	50.12	352.1	8	48	1	16	0	10		
SAPPORO	50.17	24.2	8	47	-1	15	56	6	18	37
LAHORE	51.52	313.6	8	56A	-2				10	3 PCP
NOUMEA	53.13	116.7	9	10	0					
KARACHI	54.62	303.6	9	20A	-1				10	24 PCP
IRKUTSK	54.73	351.3	9	20	-2	17	4	12		
WARSAK DAM	54.80	314.7	9	24	2					
QUETTA	56.44	308.4	9	32A	-2	17	19	4	11	41 PP
FRUNSE	57.94	325.0	9	44	0	17	46	11		
NAMANGAN	58.54	321.7	9	48	-1				21	35
SEMIPALATNSK	60.26	334.5	9	59	-1	18	12	7		
ROXBURGH	63.86	141.1				18	55	5	23	29 SS
COBB RIVER	64.29	135.4	10	29	2					
WILKES	64.42	182.4	10	26A	-2	19	4	7	12	46 PP
OASIS-BUNG.	65.16	186.7	10	32	-1	19	16	10		
GEBBIES PASS	65.23	138.1	10	32	-1					
KARAPIRO	65.24	131.3	10	35	2					
PETROPAVLOVK	65.30	26.7	10	32	-2	19	17	9		
TONGARIRO	65.65	132.6	10	35	-1					
WELLINGTON	65.80	135.0	10	37	0					
MIRNY	66.63	189.8	10	41	-1	19	32	8		
TUAI	66.73	131.8	10	43	0					
MAGADAN	66.97	18.4	9	51	-53				19	40
TANANARIVE	68.98	250.5	10	57K	0					
APIA	72.39	103.8	11	22	5					
SVERDLOVSK	73.31	331.9	11	18	-5	20	48	6		
TIKSI	73.76	4.2	11	23	-2	20	51	4		
GORIS	75.51	311.5	11	36	1	21	17	11		
MAKHACH-KALA	75.59	315.2	11	36	0	21	16	9		

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TIFLIS	77.19	313.4	11	46	1	21	34	16		
CAPE HALLETT	78.03	165.3	11	50A	1	21	41	8	14	41 PP
SCOTT BASE	80.57	170.4	12	4	1	22	14	14		
SOTCHI	81.25	314.4	12	7	0	22	17	10		
KSARA	82.71	304.2	12	15A	1	22	33	11	15	30 PP
JERUSALEM	83.03	302.1	12	6	-10	22	29	4		
PIETERMZBURG	85.23	240.6	12	58	31					
SIMFEROPOL	85.44	315.2	12	28	0	22	53	4		
HELWAN	86.18	299.9	12	32	1	23	4	8		
LWIRO	87.06	267.9	12	37	1	23	14	10		
PRETORIA	87.20	244.5	11	51	-45					
SOUTH POLE	88.24	180.0	12	41	0	23	27	11	16	7 PP
GRAHAMSTOWN	88.49	236.9	12	45A	2					
APATITY	88.75	337.6	12	45	1					
ISTANBUL KA.	88.78	311.0	12	43	-1	23	34	13		
KISHINEV	89.30	316.9	12	45	-1					
PULKOVO	89.30	329.7	12	48	2	23	36	11		
KIMBERLEY	90.16	241.4	13	51K	61					
IASI	90.17	317.0	12	51	1	23	54	21	23	27 SKS
BUCHAREST	91.10	314.2	12	56A	1	24	0	18	16	34 PP
SODANKYLA	91.35	337.2	12	55	-1					
HELSINKI	92.00	330.0	13	0	1					
LWOW	92.58	319.6	13	2	0					
ATHENS	92.82	307.7	13	2A	-1				16	46 PP
KIRUNA	93.72	337.8	13	6	-1				23	37 SKS
BYRD STATION	93.93	171.7	13	8	0	24	15	9		
COLLEGE	94.27	25.2	13	8	-1					
WARSAW	94.41	322.1	13	4	-6				17	8 PP
HERMANUS	94.53	235.4	13	19	9	24	36	25	17	14 PP
KRAKOW	95.21	319.9	13	11	-3				16	28
UPPSALA	95.70	329.9	13	16K	0				17	12 PP
BRATISLAVA	97.21	318.2	13	23	0				17	20 PP
SKALSTUGAN	97.64	334.0	13	25	0					
TARANTO	97.75	310.4				24	16	-23	17	18 PP
PRUHONICE	98.67	320.2	13	29	0				17	32 PP
PRAGUE	98.74	320.3	13	32	2	23	56	-51	17	32 PP
COPENHAGEN	99.05	326.1	13	34	3				26	28 PS
POTSDAM	99.24	322.7							17	41 PP
MESSINA	99.25	308.3	13	34	2	25	3	12	17	36 PP
COLLMBERG	99.46	321.7	13	33	0				16	56
TRIESTE	99.77	315.9	13	25	-9				17	29 PP
HALLE	100.07	322.0	13	35	-1				17	31 PP
PLAUEN	100.12	320.9	13	34	-2					
JENA	100.40	321.4	13	36	-1				17	54 PP
HAMBURG	100.86	324.3	13	3	-36				16	45 PP
ROME	101.18	312.3	13	40	-1				17	46 PP
BERGEN	101.62	331.7							27	6 PS
FLORENCE X.	101.81	314.3	13	43	0	24	22	2	17	44 PP
STUTTGART	102.32	319.6	17	4	198	28	40	203	23	31 PPP
EBINGEN	102.59	319.0	17	4	197					
STRASBOURG	103.29	319.6	13	50	0	24	38	-47	18	0 PP
BASLE	103.64	318.6							17	59
DE BILT	104.04	323.5	13	52	-1				18	14 PP
NEUCHATEL	104.17	318.1							18	0 PP
THULE	105.40	1.0	18	7	777					
ABERDEEN	106.36	329.9							27	41 PS
PARIS	106.61	320.7	14	8	777	25	57	-3	18	35 PP
GARCHY	106.67	319.1	14	8	777				18	34 PP
DURHAM	107.01	327.5	14	7K	777				24	4
CLERMONT-FD.	107.05	317.6							18	24 PP
KEW	107.49	324.0							18	39 PP
ALGIERS UNI.	109.29	308.4	18	16	777	24	54	1	18	51 PP
TAMANRASSET	109.48	293.4	14	25	777	25	4	10	18	46 PP
RATHFARNHAM	110.14	327.3							19	26 PP
ALMERIA	113.55	309.7	18	22	-5				19	24 PP
TOLEDO	113.82	313.2	18	17	-10				19	24 PP
GRANADA	114.32	310.3	18	32A	4	29	19	253	21	25 PPP
SHASTA	114.78	45.4	18	31	2					
MINERAL	115.47	45.6	18	33	3					
LICK	116.48	48.7	18	48	16				19	40 PP
HUNGRY HORSE	116.87	34.9	18	35	2				15	17 P
RENO	117.05	45.9	18	36	3					
EUREKA	119.80	44.6	18	40	1				20	0 PP
BOZEMAN	120.01	36.3	18	42	3					
PASADENA	120.22	51.0	18	42	2				20	19
SALT LAKE C.	122.02	41.6	18	44	1					
BOULDER CITY	122.07	47.8	18	46	3					
RAPID CITY	125.47	33.9	18	51	1				20	38 PP
TUCSON	126.63	50.3	18	55	3				20	50 PP

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MBOUR	131.82	287.7	19	5	3	25	53	-7		21	26 PP
LUBBOCK	132.57	44.0	19	7	4					22	32 PKP
SEVEN FALLS	134.46	6.5	19	10	3						
SHAWINIGAN	134.76	8.4	19	10	3						
OTTAWA	135.36	11.7	19	11	3						
BREBEUF	135.66	9.6	19	4	-5					21	45 PP
FAYETTEVILLE	135.92	35.7	19	10A	0					22	44
WESTON	139.06	8.2	19	16A	1						
MORGANTOWN	139.65	19.0	19	19	3						
PALISADES	139.95	11.6	19	12	-5	26	25	10		22	3 PP
BERMUDA	149.55	1.0	19	35	2	26	33	4		22	58 PKS
LA PAZ	161.40	167.7	19	54	5					45	16 SS
HUANCAYO	162.29	141.1	19	55	5					20	44 PKP2
SAN JUAN	163.38	6.8	19	53	2					24	30
CHINCHINA	168.05	74.3	19	56	2	31	40	294		24	54 PP
BOGOTA	169.63	74.0	19	56	1					25	2 PP

NOVEMBER 26 5.H 10.M 9.S EPICENTRE -1.89 115.87 DEPTH= 44.KM
DEPTH OF FOCUS= 0.002R

A=-0.43617 B= 0.89927 C=-0.03284 D= 0.8998 E= 0.4364
G= 0.0143 H=-0.0295 K=-0.9995 HT= 7.2

SE= 2.60

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
DJAKARTA	9.97	244.5	2	21	-3	4	27	12				
MAMBAJAO	14.71	41.0	3	5	-22							
MANILA	17.13	17.0	3	59	1	7	5	0				
BAGUIO CITY	18.78	14.2	4	16	-2	7	55	13				
KOROR	20.70	63.5	4	38	-1	8	29	6			5	19
HONG KONG	24.10	356.1	5	11A	-1	9	35	11				
CANTON	24.95	354.3	5	20A	-1	9	36	-3				
KUNMING	29.68	335.3	6	5A	1	11	1	6			7	6 PP
PERTH	29.89	180.1	6	5	-1	11	0	2				
GUAM	32.45	61.1	6	26	-2							
ZO-SE	33.20	8.3	6	34A	-1	11	53	3				
CHITTAGONG	33.65	317.1	6	38A	-1	11	55	-2			7	54 PP
NANKING	33.87	4.5	6	41A	0	12	3	2				
CHARTERS TS.	34.72	123.4	6	48A	0	12	18	4				
SHILLONG	35.85	321.1	6	56A	-1	12	33	2	7	16	8	23 PP
CALCUTTA	36.20	313.6	7	1	1	12	44	7			12	20
RABAUL	36.31	94.5	7	1	0						8	33
TOMIE	36.43	18.5	6	53	-9							
SIAN	36.54	350.3	7	3	0	12	45	3				
COLOMBO	36.98	284.0	7	6	-1	12	53	4			8	36 PP
TRUK	37.08	75.1	7	8	0							
KUMAMOTO	37.26	20.8	7	8	-1							
TIENSHUI	37.51	346.2	7	12	1							
SAGA	37.51	20.0	7	13	2							
HUKUOKA	37.86	20.0	7	19A	5	12	43	-19				
LINFEN	38.02	354.3	7	23	7							
MADRAS	38.39	293.7	7	19A	0	13	17	7			8	53 PP
BOKARO	38.84	313.0	7	24	2	13	24	7			8	2
LHASA	39.33	324.8	7	28A	1	13	30	6			9	5 PP
LANCHOW	39.42	344.5	7	27A	0							
TAIYUAN	39.60	355.9	7	30	1							
CHATRA	39.77	317.9	7	31	1	13	40	9				
TOKUSIMA	39.87	24.5	7	35	4							
KOBE	40.64	24.7									13	50
KYOTO	41.17	25.1	7	38	-4	13	53	1				
WUWEI	41.47	344.1	7	46	2							
HYDERABAD	41.59	299.1	7	45A	0	14	0	2			9	33 PCP
HIKONE	41.60	25.4	7	47	2							
PEKING	41.72	0.3	7	47A	1	14	4	4				
IBUKISAN	41.75	25.5	7	49	2							
NAGOYA	41.83	26.2	8	4	17							
TATUNG	41.86	357.0	7	51	4							
GIHU	41.94	25.8	7	53	5							
MISIMA	42.70	28.3	7	54	0							
KOHU	42.94	27.5	7	59	3							
MATUMOTO	43.18	26.4	7	53	-5							
TOYAMA	43.22	25.3	8	0	1							
OIWAKE	43.50	26.9	8	2	1							

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TOKYO C.M.O.	43.53	28.6	8	15	14	14	55	29		12	0
MATUSIRO	43.54	26.4	7	59A	-2	14	25	-2		9	36 PP
NAGANO	43.63	26.3	8	9	7	14	44	16			
WAZIMA	43.67	24.4	8	4	2						
BRISBANE	43.72	129.1	8	3A	0	14	32	3			
KUMAGAYA	43.74	27.8	8	1	-2						
TUKUBASAN	44.13	28.5	8	3	-3				8 17	9	50 PP
KAKIOKA	44.18	28.5	8	3	-3						
UTUNOMIYA	44.29	28.0	8	5	-2						
MELBOURNE	44.64	146.8	8	12A	2	14	56	14	8 34	10	2 PP
SHIRAKAWA	44.92	27.8	8	9	-3						
NIIGATA	45.04	26.1	8	19	6						
HUKUSIMA	45.54	27.5	8	15	-2						
RIVERVIEW	45.78	137.9	8	21A	2	15	8	9		10	11 PP
POONA	46.05	298.1	8	21	0	15	5	2		10	13 PP
SENDAI	46.16	27.5	8	21	-1	15	5	1			
SAKATA	46.20	26.0	8	14	-8						
CHANGCHUN	46.30	9.4	8	21A	-2						
MIZUSAWA	46.97	27.0	8	26	-2	15	0	-16			
AKITA	46.99	25.6	8	28	-1	15	19	3			
BOMBAY	47.09	298.1	8	31	2	15	21	4		10	23 PP
MORIOKA	47.45	26.6	8	29	-3						
MIYAKO	47.77	27.3	8	24	-11	15	28	1			
AOMORI	48.19	25.4	8	38	0						
DEHRA DUN	48.23	314.7	8	46	8	15	34	0		10	32 PP
HATINOHE	48.28	26.2	8	37	-2	15	39	5			
MORI	49.17	24.3	8	50	4	15	49	2			
MURORAN	49.52	24.4	8	52	4						
URAKAWA	50.15	26.0	8	58	5					10	56
ULAN-BATOR	50.23	352.2	8	52	-2	16	5	4			
SAPPORO	50.29	24.2	8	36	-18	16	2	0		16	47
OBIHIRO	50.95	25.7	8	59	0						
LAHORE	51.57	313.7	9	2A	-2	16	26	6		10	13 PCP
NOUMEA	53.12	116.6	9	15A	0					10	25 PCP
KARACHI	54.64	303.7	9	25A	-2	17	14	12		11	39 PP
IRKUTSK	54.84	351.3	9	27	-1	17	10	6			
WARSAK DAM	54.85	314.8	9	30	2						
QUETTA	56.48	308.5	9	38A	-2	17	29	3		11	46 PP
FRUNSE	58.01	325.1	9	49	-2	17	51	5			
NAMANGAN	58.60	321.8	9	54	-1	17	59	5			
SEMIPALATNSK	60.35	334.6	10	5	-2	18	9	-8			
COBB RIVER	64.24	135.3	10	32	-1						
WILKES	64.30	182.4	10	31A	-2	19	11	5		23	17 SS
OASIS-BUNG.	65.04	186.7	10	37	-1	19	22	7			
GEBBIES PASS	65.18	138.0	10	38	-1						
KARAPIRO	65.20	131.2	10	40	1					11	22
PETROPAVLOVK	65.43	26.7	10	39	-1	19	24	4			
TONGARIRO	65.61	132.6	10	41	-1						
MIRNY	66.51	189.8	10	47	0	19	39	6			
TUAI	66.68	131.7	10	50	2						
MAGADAN	67.10	18.5	10	55	4						
TANANARIVE	68.90	250.6	11	9K	7					18	24
SVERDLOVSK	73.39	331.9	11	29	0	20	55	1			
TIKSI	73.88	4.3	11	29	-3	20	57	-2			
GORIS	75.55	311.5	11	41	-1						
MAKHACH-KALA	75.64	315.2	11	42	0	21	21	2			
TIFLIS	77.24	313.4	11	51	0	22	41	65			
CAPE HALLETT	77.93	165.3	11	56	1	21	54	10		14	49 PP
SCOTT BASE	80.46	170.4	12	9A	0						
SOTCHI	81.30	314.5	12	12	-1	22	23	4			
KSARA	82.74	304.3	12	23A	2	22	47	13		15	35 PP
JERUSALEM	83.05	302.2	12	13K	-9					23	43
PIETERMZBURG	85.13	240.6	12	35	2						
SIMFEROPOL	85.49	315.2	12	35	1	23	10	9			
HELWAN	86.20	299.9	12	38A	0	23	9	1			
LWIRO	87.00	267.9	12	43	1					13	49 PP
SOUTH POLE	88.12	180.0	12	45	-2					16	13 PP
GRAHAMSTOWN	88.39	236.9	12	51A	3						
ISTANBUL KA.	88.82	311.0	12	49	-2	23	42	9			
PULKOVO	89.38	329.7	13	19	26						
KIMBERLEY	90.06	241.4	12	57K	1						
IASI	90.22	317.0	13	4	7						
BUCHAREST	91.15	314.2	13	1	0	23	43	-11		16	14
SODANKYLA	91.44	337.2	13	4	1						
HELSINKI	92.08	330.0	13	5	-1						
LWOW	92.63	319.5	13	9	0	24	8	1			
ATHENS	92.86	307.7	13	7	-2					16	52 PP
KIRUNA	93.81	337.7	13	11	-3	23	35	-42		17	4 PP

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BYRD STATION	93.82	171.7	13	14	0	24	26	9	16 56 PP
COLLEGE	94.39	25.2	13	14	-2				17 0 PP
HERMANUS	94.42	235.4	13	49	33	24	41	19	17 18 PP
WARSAW	94.47	322.1	13	17	0				25 51 PS
KRAKOW	95.27	319.9	13	18	-2				26 22 PS
UPPSALA	95.78	329.9	13	21	-2				17 35 PP
RACIBORZ	96.38	320.0							17 13
BRATISLAVA	97.26	318.2	13	29	0				17 29 PP
NORD	97.58	353.7	13	29	-2				
PRUHONICE	98.73	320.2	13	34	-2				17 37 PP
PRAGUE	98.80	320.3	13	40	4	24	20	-39	17 48 PP
COPENHAGEN	99.12	326.1	13	42	4	24	23	-39	26 27 PS
MESSINA	99.29	308.2				24	17	-46	17 45 PP
POTSDAM	99.31	322.7							17 51 PP
COLLMBERG	99.52	321.6	13	38	-2				17 53
TRIESTE	99.83	315.9	13	45	4	24	26	-42	17 39 PP
HALLE	100.14	322.0	13	40	-2				17 16
PLAUEN	100.18	320.9	13	38	-5				
JENA	100.46	321.4	13	41	-3				17 56 PP
SONNEBERG	100.80	320.9							18 1 PP
HAMBURG	100.93	324.3	13	10	-36				16 58 PP
ROME	101.23	312.2	13	45	-2	24	27	-52	17 53 PP
FLORENCE X.	101.85	314.3	13	52	2	24	30	-55	17 54 PP
STUTTGART	102.38	319.5				28	0	151	18 8 PP
EBINGEN	102.64	319.0							18 3 PP
STRASBOURG	103.34	319.6							18 14 PP
BASLE	103.70	318.5							18 17 PP
DE BILT	104.11	323.5							18 23 PP
NEUCHATEL	104.23	318.1							18 9 PP
RESOLUTE	105.07	8.1	14	4	777				18 17 PP
THULE	105.51	1.0	14	9	777				18 12 PKP
PARIS	106.67	320.7	14	12	777	25	0	-46	18 39 PP
GARCHY	106.73	319.1							18 41 PP
DURHAM	107.08	327.5	14	30K	777				
CLERMONT-FD.	107.10	317.5							18 54 PP
KEW	107.55	323.9							18 45 PP
ALGIERS UNI.	109.32	308.3	18	17	777	24	59	1	18 58 PP
TAMANRASSET	109.48	293.4	14	35K	777	26	11	72	18 53 PP
RATHFARNHAM	110.21	327.2							18 51 PP
GRANADA	114.36	310.2							19 33 PP
SHASTA	114.90	45.5	18	35	-1				
MINERAL	115.59	45.6	18	38K	1				19 24 PP
BERKELEY	115.95	48.4	18	44	6				
LICK	116.59	48.8	18	42K	3				19 42 PP
HUNGRY HORSE	116.99	34.9	18	42	2				19 48 PP
RENO	117.16	45.9	18	42	2				
FRESNO	118.17	48.8	18	44	2				
BUTTE	119.05	36.6	18	51	7				
EUREKA	119.91	44.6	18	47	1				20 7 PP
BOZEMAN	120.14	36.3	18	48	2				20 11
PASADENA	120.33	51.1	18	48	1				20 9
SALT LAKE C.	122.14	41.6	18	51	1				
BOULDER CITY	122.18	47.9	18	53	3				
RAPID CITY	125.59	34.0	18	57	0				20 46 PP
TUCSON	126.74	50.3	19	1	2				20 57 PP
BOULDER	126.78	39.1	19	0	1				
MBOUR	131.81	287.6	19	11	2				21 32 PP
LUBBOCK	132.69	44.0	19	12	2				22 41 PKS
SEVEN FALLS	134.58	6.4	19	16	2				21 49 PP
SHAWINIGAN	134.89	8.4	19	17	3				
OTTAWA	135.49	11.7	19	16	1				
BREBEUF	135.78	9.6	19	15	-1				21 57 PP
FAYETTEVILLE	136.05	35.8	19	17A	1				21 56
PALISADES	140.07	11.6	19	27	3				22 14 PP
COLUMBIA	144.36	24.5	19	30	-1				
BERMUDA	149.67	0.9	19	46	6	26	41	-1	23 11 PKS
LA PAZ	161.30	167.9	20	0A	5				24 23 PP
HUANCAYO	162.23	141.5	20	0	4				20 50 PKP2
SAN JUAN	163.50	6.7	19	59	1				24 37 PP
FORT FRANCE	166.91	347.2	19	44	-17				24 51 PP
CHINCHINA	168.13	74.8	20	2	1				25 1 PP
BOGOTA	169.71	74.5	20	4	2				25 8 PP

NOVEMBER 26 8.H 15.M 24.S EPICENTRE 39.31 22.74 DEPTH= 0.KM

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G= 0.5818 H= 0.2439 K=-0.7759 HT= -1.4

SE= 2.76

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ATHENS	1.54	149.9									0	31	PG
SKOPJE	2.86	339.5	0	47K	-1						0	55	PG
SOFIA	3.42	7.3	0	59	3	1	52	14			1	7	
TARANTO	4.38	287.1	1	9	-1	1	57	-6			2	9	
ISTANBUL KA.	5.16	68.0	1	22	1	2	48	26					
REGGIO CALA.	5.68	260.0	1	29	1	2	26	-9					
BUCHAREST	5.69	25.0	1	29	1	2	53	18			2	0	PG
MESSINA	5.73	261.1	1	30A	1	2	31	-5			1	53	PG
BELGRADE	5.77	343.5	1	30A	1	2	43	6			1	51	PG
CAMPULUNG	6.20	15.1	2	5	30								
TIMISOARA	6.54	350.6				2	1	-55			3	46	
FOCSANI	7.19	25.8	2	10	21						2	47	
SZEGED	7.20	345.4	2	3	14	3	29	16			3	59	SG
BACAU	7.87	21.4	2	2	3	2	54	-36			2	26	
ZAGREB	8.20	324.7	2	6	3						4	31	
ROME	8.23	291.6	2	5	1	3	36	-3			4	10	S*
BUDAPEST	8.60	343.1	2	11	2	3	29	-19					
IASI	8.64	22.5	2	9	0	3	39	-10			2	57	
KISHINEV	8.90	28.0	2	13	0	4	2	7					
HURBANOVO	9.17	340.5									3	31	
TRIESTE	9.18	316.6				3	53	-9			2	52	PGPG
FLORENCE X.	9.70	301.1	3	16	52						5	16	
BRATISLAVA	9.75	337.1	2	25	0	4	16	0			3	52	
PRATO	9.84	301.4	2	39	13	4	56	37					
BOLOGNA	9.96	305.1				4	11	-10			6	16	
SKALNATE PL.	10.03	350.6									4	58	
SIMFEROPOL	10.16	52.6	2	31	1								
LWOW	10.58	4.5	2	41	5								
KRAKOW	10.93	350.4	2	41	0						2	51	PP
RACIBORZ	11.24	344.8	2	46	1						5	52	
PAVIA	11.64	304.7									4	52	
HELWAN	11.77	140.5	2	51	-1	5	0	-6					
KSARA	11.89	113.3	3	2	8	5	24	15			5	42	SS
PRUHONICE	12.15	334.1	2	54	-4								
CHUR	12.24	312.3	2	59	0						4	58	
PRAGUE	12.27	334.0	2	57	-2	5	30	12			3	28	
OROPA	12.59	304.8									5	11	
JERUSALEM	12.63	122.7	2	41	-23	5	4	-23					
RAVENSBURG	12.73	316.0									6	12	
CHEB	13.04	329.1	3	56	47						5	4	
EBINGEN	13.32	316.2	3	12	-1	5	58	15			3	49	
PLAUEN	13.46	329.7	3	12	-3						3	20	PP
STUTTGART	13.56	318.6	3	16	0	6	6	17			3	28	PP
BASLE	13.73	311.7	3	18	-1						7	11	
SONNEBERG	13.75	327.4									3	28	PP
COLLMBERG	13.80	333.5	3	20	0	7	30	95					
NEUCHATEL	13.84	308.9	3	17	-3						7	16	
JENA	14.02	329.6	3	22	0	6	14	14			3	32	PP
STRASBOURG	14.20	315.6	3	26	1						3	35	PP
POTSDAM	14.69	336.0	3	41	10								
ALGIERS UNI.	15.72	266.9				6	43	3					
CLERMONT-FD.	15.82	300.4	3	37	-9								
BENSBERG	15.98	321.9	3	54	6						4	5	
GARCHY	16.36	305.5	3	54A	1	6	45	-10			3	59	PP
HAMBURG	16.72	332.7	3	59	2								
TIFLIS	16.94	74.8	4	5	5								
PARIS	17.34	309.8	4	6A	1						4	22	PP
RELIZANE	17.95	265.6	4	15	2								
KEW	20.16	314.7	4	39	0	8	27	6					
GRANADA	20.78	272.5	5	18A	33								
UPPSALA	20.82	352.7	4	42K	-4	8	32	-2			5	45	
HELSINKI	20.93	3.1	4	44	-3								
PULKOVO	21.04	10.7	4	46	-2								
TAMANRASSET	22.05	226.7	4	58	0	9	5	8			5	20	PP
DURHAM	22.50	321.4	5	0	-3								
RATHFARNHAM	24.24	314.8	5	27K	7						6	13	
SKALSTUGAN	25.10	349.0	5	25	-3						5	40	
SODANKYLA	28.20	3.2	5	54	-3								
KIRUNA	28.61	358.2	5	57	-3								
NAMANGAN	37.05	71.3	7	18	4								
QUETTA	37.14	90.3	7	15	1								
SCORESBY SD.	38.78	337.8	5	27	-121								
LWIRO	41.73	170.9	7	53	0								

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NORD	44.59	352.4	8	13	-3							
THULE	52.43	342.7	9	13	-4							
SHILLONG	58.63	81.2	9	59	-3							
RESOLUTE	59.17	344.1	10	1	-4							
KIMBERLEY	67.73	178.1	11	1	-1							
HUNGRY HORSE	84.67	332.7	12	35	-2							
FAYETTEVILLE	85.10	313.6	12	36	-3							

NOVEMBER 26 11.H 35.M 44.S EPICENTRE 51.18-176.38 DEPTH= 0.KM

A=-0.62814 B=-0.03979 C= 0.77708 D=-0.0632 E= 0.9980
G=-0.7755 H=-0.0491 K=-0.6294 HT= -5.8

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	
PETROPAVLOVK	15.43	287.0	3	43	2								
COLLEGE	20.16	36.3	4	45	6	8	28	7					
MAGADAN	20.26	307.1	4	51	11								
TIKSI	31.55	330.3	6	23	-3								
SENDAI	32.52	263.5	6	36	1								
TUKUBASAN	34.29	261.3	6	49	-1						9	25	PCP
SEATTLE	34.69	74.1	6	43	-11								
MATUSIRO	35.25	263.4	6	58A	0	12	32	0			8	5	PP
KYOTO	37.79	263.6	7	20	0	13	13	2					
SHASTA	38.17	84.3	7	24	1								
UKIAH	38.56	87.0	7	39	13								
MINERAL	38.87	84.2	7	30	1								
CHANGCHUN	39.15	282.7	7	30A	-1								
RESOLUTE	39.29	24.5	7	30K	-2	13	28	-6			9	39	PPP
HUNGRY HORSE	39.30	68.9	7	33	0	13	28	-6			9	51	PCP
BERKELEY	39.92	87.8	7	38	0	13	45	2					
RENO	40.46	84.0	7	45	3								
LICK	40.63	88.0	7	44	1						8	2	
BUTTE	41.33	71.2	7	50	1								
FRESNO	42.14	87.3	7	57	1								
BOZEMAN	42.42	70.8	8	1	3						8	26	
EUREKA	42.89	81.4	8	3	1								
NAGASAKI	42.96	265.9	8	4	1	14	28	0					
SALT LAKE C.	44.68	77.2	8	18	2						8	46	
PASADENA	44.83	89.0	8	18	0	14	55	-1			10	15	
THULE	44.85	18.6	8	16	-2						9	58	PP
BOULDER CITY	45.75	84.6	8	26	1								
IRKUTSK	46.78	304.0	8	31	-2								
PEKING	46.91	283.8	8	33A	-1	15	27	2					
NORD	47.01	4.0	8	33	-2								
ULAN-BATOR	47.76	297.8	8	41	0								
RAPID CITY	47.93	68.3	8	41	-1	15	43	3					
TATUNG	48.63	285.7	8	51	3								
GUAM	48.96	234.0	8	47	-3								
BOULDER	49.11	73.9	8	51	0								
ZO-SE	49.52	271.1	8	53A	-2	16	1	-1					
PAOTOW	50.29	288.2	9	0	0								
NANKING	50.38	273.8	8	59A	-2								
TUCSON	50.70	85.4	9	3	0								
YINCHUAN	53.87	288.5	9	29	2								
SIAN	55.05	282.9	9	42	6								
LUBBOCK	55.39	77.8	9	42	4								
WUWEI	56.38	290.3	9	45	-1								
LANCHOW	56.92	287.9	9	48A	-1	17	42	0					
FAYETTEVILLE	58.33	70.5	9	56A	-3								
APATITY	59.49	347.2	10	5	-2	18	36	20					
KOROR	59.54	240.5	10	6	-2								
SEMIPALATNSK	59.74	313.9	10	7	-2								
CANTON	60.14	270.3	10	11	-1								
HONG KONG	60.15	269.0	10	12K	0	18	16	-9					
SODANKYLA	60.51	350.0	10	12	-2						10	54	PCP
BAGUIO CITY	60.52	259.3	10	18	4								
CHENGTU	60.52	283.2	10	13A	-1	18	30	0					
KIRUNA	60.64	352.8	10	13	-2	18	47	16			10	57	PCP
RABAUL	61.38	216.4	10	19	-1								
MANILA	61.68	257.6	10	19	-3								
OTTAWA	62.00	51.6	10	22	-3								
SVERDLOVSK	62.57	328.7	10	26	-2								
SHAWINIGAN	62.60	49.1	10	28	0								

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BREBEUF	62.96	50.4	10	29K	-2					
SEVEN FALLS	63.10	47.5	10	32	0					
KUNMING	65.35	279.8	10	44A	-2	19	26	-4		
SKALSTUGAN	65.38	355.8	10	50	3					
PHU-LIEN	65.99	273.7	10	47	-4	19	37	-1		
PALISADES	66.10	53.9	10	50	-1	19	35	-4	12	17 PP
HARVARD	66.16	51.4	10	50	-2					
PHILADELPHIA	66.24	55.5				19	40	-1		
PULKOVO	67.31	345.7	10	29	-30					
COLUMBIA	67.43	63.6	10	59	-1					
HELSINKI	67.67	348.7	11	2	1				11	26 PCP
FRUNSE	67.92	311.4	11	2	-1					
UPPSALA	68.74	352.5	11	5	-3					
LHASA	69.04	291.4	11	11A	1	20	17	2		
SUVA	69.18	185.3				20	36	20		
NAMANGAN	70.76	311.9	11	20	0					
SHILLONG	71.57	287.9	11	21A	-4	20	42	-2		
CHATRA	73.40	292.1	11	36	0					
CHITTAGONG	74.00	285.7	11	38A	-1	21	12	0	14	26 PP
DURHAM	74.33	3.1	11	24	-17	20	48	-27		
HAMBURG	75.48	356.1	11	48	0				23	28
DEHRA DUN	75.87	300.8	11	52	2	21	50	18		
CALCUTTA	75.97	288.4	11	59	8	21	59	26		
WARSAK DAM	76.35	307.6	11	52	-1					
BOKARO	76.48	291.1	11	55	1					
POTSDAM	76.50	354.1	11	54	0					
LAHORE	76.88	304.2	11	55	-1	21	45	2	12	4 PCP
BERMUDA	77.45	53.7				22	10	20	25	29 SS
COLLMBERG	77.58	354.0	11	59	-1					
LWOW	77.87	346.7							16	58
JENA	78.04	354.9	12	0	-2				15	21 PP
CHARTERS TS.	78.11	215.7	12	1A	-2				12	13
BENSBERG	78.19	357.7	12	3	0				12	41
KRAKOW	78.19	349.3	12	5	2				12	37
SONNEBERG	78.61	355.1	12	8	3				12	51
PRAGUE	78.71	352.9	12	5	-1				12	23
PRUHONICE	78.79	352.8	12	3	-3					
KISHINEV	79.80	342.8	12	10	-2					
IASI	79.85	343.7	12	14	2				12	54
STUTTGART	80.31	356.3	12	16	1				12	26 PCP
BRATISLAVA	80.35	350.9	12	16	1				13	5
PARIS	80.38	0.8	12	16	1	22	25	4	15	30 PP
SOTCHI	80.55	334.3	12	17	1					
STRASBOURG	80.55	357.2	12	17K	1					
SIMFEROPOL	80.68	338.6	12	16	0					
TIFLIS	80.76	330.0	12	17	0					
EBINGEN	80.91	356.4	12	15	-3				13	56
QUETTA	81.72	308.6	12	21A	-1	22	31	-4	15	26 PP
CAMPULUNG	82.16	344.9	12	27	3				13	16
BUCHAREST	82.80	344.0	12	29K	1				12	41
BELGRADE	83.27	348.0	12	31A	1				13	27
CLERMONT-FD.	83.43	0 4	12	32	1	23	17	25	25	47 PS
FLORENCE X.	85.19	354.5	12	40	0				24	31 PS
KARACHI	85.25	306.0	12	45A	5					
MONACO	85.41	357.2	12	42	1					
ISTANBUL KA.	85.48	341.0	12	41	0					
ROME	86.98	353.4	12	47	-1					
POONA	87.51	296.7	12	51	0	23	30	-2	16	17 PP
BOMBAY	87.79	297.7	12	54	2				23	31 SKKS
KSARA	90.72	333.6	13	6	0					
GRANADA	91.78	5.8	13	14K	3					
CHINCHINA	92.87	78.5	13	18	2	24	24	4		
HELWAN	95.68	336.1	13	28	-1					
MBOUR	112.28	21.6							19	25 PP
CAPE HALLETT	123.54	184.9	19	1K	1					
SOUTH POLE	140.99	180.0	19	23	-9				23	5
PRETORIA	148.43	314.3	19	3	-42					
PIETERMZBURG	150.62	306.9	19	54	5					
KIMBERLEY	152.53	316.6	19	43	-8					
GRAHAMSTOWN	155.53	308.0	20	22	27					

NOVEMBER 26 11.H 50.M 3.S EPICENTRE 39.27 22.72 DEPTH= 0.KM

A= 0.71608 B= 0.29976 C= 0.63037 D= 0.3861 E=-0.9224
G= 0.5815 H= 0.2434 K=-0.7763 HT= -1.4

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SE= 2.71

	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	
ATHENS	1.52	148.4									0	32	PG
SKOPJE	2.89	340.2	0	49K	1	1	31	7			0	59	PG
SOFIA	3.46	7.5	1	0	4						1	53	SG
ISTANBUL KA.	5.19	67.7	1	19	-2	2	37	15					
REGGIO CALA.	5.65	260.3	1	28	1	2	28	-6					
MESSINA	5.70	261.5	1	28	0	2	29	-6			1	48	PG
BUCHAREST	5.74	25.0	1	31	2	2	55	19			2	3	PG
BELGRADE	5.80	343.8	1	30K	1						2	38	PGSG
CAMPULUNG	6.24	15.2	1	50	14						2	22	
TIMISOARA	6.57	350.8				1	53	-64					
FOCSANI	7.23	25.8	2	44	54								
BACAU	7.92	21.4	2	3	4						2	31	
ZAGREB	8.22	325.0	2	6	3						4	29	
ROME	8.22	291.9				3	31	-7			4	7	S*
BUDAPEST	8.63	343.3	2	4	-5	3	45	-3			4	1	S*
IASI	8.68	22.5	2	11	1						2	31	PG
TRIESTE	9.19	316.8	2	14	-3	3	54	-8			2	53	PGPG
FLORENCE X.	9.71	301.4									3	28	
BRATISLAVA	9.78	337.3	2	25	0						3	7	
PRATO	9.85	301.6	3	29	63	5	28	70					
BOLOGNA	9.97	305.3									4	25	
KRAKOW	10.96	350.5	?	44	3						2	49	PP
RACIBORZ	11.28	345.0									2	52	PP
PAVIA	11.65	304.9									5	10	
HELWAN	11.75	140.3	2	53	1	4	59	-6					
KSARA	11.90	113.1	2	57	3	5	17	8					
PRUHONICE	12.18	334.2	2	53	-5	5	9	-6					
CHUR	12.25	312.5	2	58	-1	5	11	-6			3	7	
PRAGUE	12.30	334.1	2	51	-8						5	41	
OROPA	12.60	305.0									5	13	
JERUSALEM	12.62	122.5	2	41	-23	5	3	-23					
RAVENSBURG	12.74	316.1									6	15	
WARSAW	13.02	355.4									3	8	PP
EBINGEN	13.33	316.4	3	10	-3	5	39	-4			4	3	
PLAUEN	13.48	329.9	3	13	-2						7	13	
STUTTGART	13.58	318.8	3	13	-3	6	21	32			3	29	PP
BASLE	13.74	311.8	3	17K	-2						7	13	
SONNEBERG	13.77	327.5	3	25	6						5	37	
COLLMBERG	13.82	333.7	3	21	1	7	46	111			7	35	
NEUCHATEL	13.85	309.0	3	20	0						7	15	
JENA	14.04	329.8	3	25	2	6	13	13					
STRASBOURG	14.21	315.8	3	25	0						3	35	PP
HALLE	14.36	331.9									7	14	
ALGIERS UNI.	15.70	267.0				6	44	5			7	28	
BENSBERG	15.99	322.0	3	49	1						3	59	
PARIS	17.35	310.0	4	7	2	7	27	10			4	25	PP
COPENHAGEN	17.79	340.7	4	16	5	7	39	11					
RELIZANE	17.93	265.7	4	14	2								
KEW	20.17	314.8	4	41	2	8	23	2			8	30	
GRANADA	20.76	272.6	4	45K	0	9	15	42					
UPPSALA	20.85	352.8	4	43	-3	8	37	2					
HELSINKI	20.97	3.2	4	46	-1								
TAMANRASSET	22.01	226.7	4	59	1	9	6	10					
DURHAM	22.52	321.5	5	2	-1								
RATHFARNHAM	24.25	314.9	5	24	4								
SKALSTUGAN	25.13	349.0	5	29	1								
SODANKYLA	28.24	3.2	5	59	2								
KIRUNA	28.64	358.2	5	58	-2								
APATITY	28.96	8.5	6	2	-1								
NORD	44.62	352.4	8	14	-2								
THULE	52.46	342.7	9	14	-3								
SHILLONG	58.66	81.2	9	58	-4								
RESOLUTE	59.20	344.1	10	3	-2								
RAPID CITY	83.75	324.0	12	31	-1								
HUNGRY HORSE	84.69	332.7	12	36	-1								
WILKES	124.34	150.6									24	33	SS
SOUTH POLE	129.08	180.0	19	12	2								

NOVEMBER 27 3 H 8.M 4.S EPICENTRE 39.23 22.61 DEPTH= 0.KM

A= 0.71695 B= 0.29864 C= 0.62992 D= 0.3845 E=-0.9231

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G= 0.5815 H= 0.2422 K=-0.7767 HT= -1.4
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	
ATHENS	1.53	145.2	0	33A	4	0	53	3			0	59	SGSG
SKOPJE	2.90	341.8	0	54K	5	1	18	-7			1	2	PG
SOFIA	3.51	8.7	0	59	2						1	53	SG
TARANTO	4.31	288.4	1	15	6	2	9	8					
ISTANBUL KA.	5.28	67.6	1	19	-3	2	43	18					
REGGIO CALA.	5.57	260.5	1	25	-1	2	32	0					
MESSINA	5.62	261.6	1	28A	1	2	34	1			1	41	P*
BUCHAREST	5.80	25.5	1	29A	-1	2	54	16					
CAMPULUNG	6.29	15.8	1	38	1						2	20	
TIMISOARA	6.59	351.5	1	56	15	2	56	-2			2	8	PG
FOCSANI	7.30	26.2	1	56	5						2	10	PG
KALOCSA	7.76	341.1	1	56	-1	3	24	-3			2	34	PG
BACAU	7.98	21.8	2	1	1						2	26	PG
ROME	8.16	292.3	2	5A	2	3	37	0			2	29	P*
ZAGREB	8.20	325.5	2	8	5	3	53	15					
BUDAPEST	8.64	343.8	2	10	1	3	28	-21			4	30	SG
IASI	8.74	22.8	2	11	0	4	1	10			2	31	PG
KISHINEV	9.01	28.2	2	14	-1								
TRIESTE	9.16	317.3	2	15	-2	3	54	-8			2	53	PGPG
HURBANOVO	9.21	341.1	2	21	4	4	2	-1					
FLORENCE X.	9.66	301.7	2	23A	-1	4	25	11					
BRATISLAVA	9.78	337.8	2	25	0	4	21	4					
PRATO	9.80	302.0	2	32	7	4	22	5					
BOLOGNA	9.92	305.7	2	37	10	4	28	7					
VIENNA-H.	10.08	335.5	2	30A	1						3	22	PGPG
SKALNATE PL.	10.09	351.1	2	32	3						5	11	
SIMFEROPOL	10.28	52.5	2	31	-1								
LWOW	10.64	4.9	2	40	3	4	47	9					
CUGLIERI	10.86	279.4	3	17	37	4	36	-8			5	16	S*
KRAKOW	10.98	350.9	2	43	1	4	51	4			2	57	PP
RACIBORZ	11.29	345.3	2	46	0	4	57	3					
PAVIA	11.60	305.1	2	48	-2						6	28	
HELWAN	11.78	139.8	2	51	-2	5	0	-6					
KSARA	11.96	112.8	3	0	5	5	20	10			5	34	SS
PRUHONICE	12.18	334.6	2	54	-4	5	19	3					
CHUR	12.22	312.8	2	58	-1	5	10	-7					
MONACO	12.24	296.4	2	58	-1						3	7	PP
PRAGUE	12.29	334.5	2	58	-2	5	32	14					
OROPA	12.55	305.3	2	54	-9						7	45	
JERUSALEM	12.67	122.1	2	40	-25	5	2	-26					
RAVENSBURG	12.71	316.4				5	56	27			5	8	
WARSAW	13.05	355.7	3	14	4						5	46	SS
CHEB	13.05	329.5	3	9	-1	5	39	2					
EBINGEN	13.30	316.7	3	10	-3	5	50	7					
TUBINGEN	13.46	318.0	3	13	-2	6	14	27			5	13	
PLAUEN	13.47	330.1	3	13	-2						3	22	PP
STUTTGART	13.55	319.1	3	16	0	6	28	39			3	34	PP
SOTCHI	13.55	65.8	3	15	-1								
BASLE	13.71	312.1	3	17	-1						7	13	
SONNEBERG	13.76	327.8	3	24	5	6	8	14			3	37	PP
NEUCHATEL	13.81	309.3	3	20	0						7	4	
COLLMBERG	13.82	334.0	3	18	-2	7	23	88			3	45	PP
JENA	14.03	330.0	3	23	0	6	12	12			3	33	PP
KARLSRUHE	14.11	318.5	3	30A	6	6	7	5					
STRASBOURG	14.18	316.0	3	24	-1	6	10	6			3	32	PP
BESANCON	14.51	308.9	3	28A	-1						3	44	PPP
POTSDAM	14.72	336.4	3	39	7						6	56	
ALGIERS UNI.	15.62	267.1	3	41	-2	6	33	-5			3	53	PP
CLERMONT-FD.	15.77	300.8	3	49	4								
BENSBERG	15.97	322.3	3	47	-1	6	36	-10					
GARCHY	16.32	305.9	3	52	0	7	0	6					
HAMBURG	16.74	333.1	3	56	-2								
TIFLIS	17.06	74.5	4	2	0								
PARIS	17.31	310.1	4	4	-1	7	18	1			4	22	PP
COPENHAGEN	17.80	340.9	4	12	1	7	38	10					
RELIZANE	17.84	265.7	4	14	2	7	14	-15			4	27	PP
ALICANTE	18.02	274.5	4	15	1	7	34	1			4	30	PP
GORIS	18.33	81.6	4	17	-1								
MAKHACH-KALA	19.10	70.7	4	35	8								
ALMERIA	19.88	271.0	4	35	-1	8	24	9					
KEW	20.14	314.9	4	39	0	8	23	3					
TOLEDO	20.55	280.3	4	42	-1	8	32	3			5	7	PP
GRANADA	20.68	272.6	4	44A	0	8	39	8			5	34	PP

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UPPSALA	20.88	352.9	4	43K	-3	8	35	0	10	37	
HELSINKI	21.01	3.3	4	45	-3	8	36	-2			
PULKOVO	21.13	10.8	4	46	-3	8	39	-1			
TAMANRASSET	21.93	226.6	5	0	3	9	6	11	5	35	PP
DURHAM	22.50	321.6	5	1	-2	9	7	1			
ABERDEEN	24.14	326.2				9	36	1			
RATHFARNHAM	24.22	315.0	5	23K	3	9	55	19			
LISBON	24.64	279.0	5	24A	0						
SKALSTUGAN	25.15	349.1	5	25	-4						
SODANKYLA	28.28	3.3	5	54	-3				6	55	PPP
KIRUNA	28.68	358.3	5	58	-3	10	52	3	9	9	PCP
APATITY	29.00	8.5	6	0	-4	10	49	-6	12	14	SS
SVERDLOVSK	30.39	42.0	6	14	-2						
NAMANGAN	37.17	71.2	7	15	0						
QUETTA	37.24	90.2	7	15	0	13	5	2	8	51	PP
LWIRO	41.67	170.7	8	54	62				9	42	PP
MBOUR	42.65	245.7	8	15	15				17	31	SS
NORD	44.65	352.4	8	14K	-2						
THULE	52.47	342.7	9	15	-2				11	23	PP
CHATRA	54.48	82.5	9	31	-1						
LHASA	56.04	77.4	9	43	0	17	31	0			
SHILLONG	58.75	81.1	10	0K	-2						
ULAN-BATOR	58.79	51.5	10	13	10						
RESOLUTE	59.21	344.1	10	3K	-3						
CHITTAGONG	60.43	84.3	10	14	0						
LANCHOW	62.26	64.8	10	25K	-1						
TANANARIVE	62.38	153.2	10	28	1				10	54	PCP
SEVEN FALLS	64.64	311.0	10	40	-2						
CHENGTU	65.18	69.8	10	44K	-1	19	25	-3			
SHAWINIGAN	66.07	311.3	10	56	5						
KUNMING	67.25	75.7	10	58	-1						
KIMBERLEY	67.66	177.9	11	1	0						
OTTAWA	68.43	311.4	11	6	0						
CHANGCHUN	71.87	48.0	11	25K	-2						
MORGANTOWN	74.35	308.5	11	41	-1						
COLLEGE	75.96	355.8	11	49	-2						
COLUMBIA	78.56	304.5	12	5	0						
RAPID CITY	83.73	324.0	12	32	0						
MATUSIRO	84.08	46.9	12	32K	-2						
HUNGRY HORSE	84.69	332.6	12	36	-1						
BOZEMAN	85.81	329.4	12	42	-1						
BUTTE	86.11	330.5	12	43	-1						
EUREKA	92.97	329.2	13	16	-1						

NOVEMBER 28 20.H 50.M 11.S EPICENTRE -14.87 167.94 DEPTH= 0.KM

A=-0.94560 B= 0.20208 C=-0.25496 D= 0.2090 E= 0.9779
G= 0.2493 H=-0.0533 K=-0.9670 HT= 5.8

SE= 2.33

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
NOUMEA	7.53	190.6	1	52	-1	3	15	-5					
BRISBANE	18.70	225.5	4	24	3	8	0	12					
RABAUL	18.80	302.8	4	22	-1						4	37	PP
CHARTERS TS.	21.30	253.0	4	52K	2	8	52	9					
ONERAHI	21.60	165.7	4	57	4	9	4	16					
KARAPIRO	23.93	165.1	5	18	2								
RIVERVIEW	24.23	215.9	5	21A	2						6	2	PP
TONGARIRO	25.14	166.0	5	28	0								
TUAI	25.19	162.9	5	29	1								
WELLINGTON	26.98	168.6	5	41	-4	10	13	-8					
TRUK	27.33	323.2	5	47	-1								
MELBOURNE	30.61	217.4	6	18	1	11	36	17					
FORT NELSON	33.08	208.2	6	9A	-30						6	53	*SP
KOROR	39.83	301.4	7	38	2	13	43	1					
HONOLULU	49.02	43.6	8	52	2	15	57	2					
HAWAII V.OB.	49.72	47.8	8	55	0	16	2	-2					
PERTH	50.27	240.7	9	0	0								
MANILA	54.88	300.1	9	37	3								
BAGUIO CITY	56.15	301.8	9	39	-4	17	34	2					
TUKUBASAN	57.22	333.3	9	54	3								
CAPE HALLETT	57.43	179.1	9	50A	-2	17	50	1			24	40	SSS
KYOTO	58.27	329.0	9	57	-1	18	59	59					
MATUSIRO	58.33	332.0	9	58	-1	18	6	6					

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SCOTT BASE	63.00	180.3	10	29	-2	19	6	6		
WILKES	63.62	202.4	10	33A	-2	19	6	-2	12	53 PP
ZO-SE	64.07	316.0	10	33	-5	19	8	-6		
HONG KONG	64.33	304.0	10	39	0					
CANTON	65.43	304.3	10	48	2	19	34	4		
NANKING	66.26	315.4	10	51	-1	19	43	2		
OASIS-BUNG.	67.35	203.9	10	55	-4	19	53	-1		
PETROPAVLOVK	68.19	354.0	11	0	-4	20	7	3		
PHU-LIEN	69.86	299.1	11	10	-4				11	31 PCP
CHANGCHUN	70.19	328.6	11	17	1					
MIRNY	70.47	204.2	11	17	-1	20	31	0		
BYRD STATION	72.44	169.9	11	27	-3					
SIAN	74.37	312.5	11	45	4					
KUNMING	74.95	301.5	11	45A	1	21	28	6		
SOUTH POLE	75.23	180.0	11	43	-3					
CHENGTU	76.30	307.2	11	52K	0	21	37	1		
LANCHOW	78.90	312.0	12	5	-1	22	10	5		
ULAN-BATOR	82.74	323.6	12	27	0	22	47	3		
CHITTAGONG	83.20	295.2	12	38	9	23	12	23		
UKIAH	83.62	46.9	12	32	1					
BERKELEY	83.78	48.3	12	33K	1	22	40	-15		
LICK	84.02	49.0	12	35K	2					
SHILLONG	84.21	298.2	12	34A	0	22	58	-1		
SHASTA	84.85	45.7	12	37K	0					
FRESNO	85.15	50.1	12	40	1					
MINERAL	85.26	46.3	12	40	1					
PASADENA	85.41	53.1	12	39A	-1	23	6	-5	24	1 PS
RENO	86.20	47.6	12	46	2					
LHASA	86.25	301.8	12	46A	2	23	28	9	23	12 SKS
COLLEGE	86.26	17.4	12	42	-2					
IRKUTSK	86.39	326.5	12	43	-2	23	8	-12		
BOULDER CITY	88.61	52.3	12	56	0					
CHATRA	88.61	298.1	12	55	-1	23	42	1		
EUREKA	88.94	48.7	12	59	2					
COLOMBO	89.89	277.1	13	8	6				23	35
TIKSI	90.22	348.5	13	0	-3	23	58	2		
TUCSON	90.60	56.9	13	7	2	23	29	-30	17	22 PP
MADRAS	91.15	283.1	13	9	1	23	41	-23	18	59
HUNGRY HORSE	93.22	40.8	13	18	1				16	57 PP
BOMBAY	99.42	287.1				25	6	-9		
NAMANGAN	104.27	309.1							18	25 PP
QUETTA	106.68	297.5	17	50	777	25	3	5	18	51 PP
CHINCHINA	116.80	91.9							20	1 PP
PALISADES	120.79	51.0	20	40	106	27	18	86	29	46 SKKS
MAKHACH-KALA	122.19	311.6							20	31 PP
KIRUNA	123.05	345.9	18	57	-1				30	37 PS
KIMBERLEY	123.88	219.4	19	3	3					
TIFLIS	124.38	310.6	19	3	2					
PULKOVO	125.54	335.2							20	53 PP
SKALSTUGAN	128.47	346.4	19	9	0					
BERMUDA	129.24	60.2	19	11	1	27	9	51	21	24 PP
SIMFEROPOL	130.91	317.3							21	33 PP
KSARA	132.88	302.5	19	16	-1				21	48 PP
JERUSALEM	133.81	299.9	19	35	16				22	8
COPENHAGEN	135.11	340.6	19	23	2				22	5 PP
LWIRO	136.12	250.6	19	24	1				22	5 PP
HELWAN	137.45	298.1	19	28	3				23	1 PKS
PRUHONICE	138.84	333.9	19	26	-2					
DE BILT	140.38	343.3	19	29	-2				22	27 PP
STUTTGART	141.94	337.1	19	31	-3					
KEW	142.29	348.0	19	32	-2					
TRIESTE	142.40	330.0	19	30	-4				23	21
STRASBOURG	142.62	338.2	19	33	-2				22	44 PP
BASLE	143.57	337.4	19	24	-12				23	24
TARANTO	143.91	320.7	19	29	-8					
PARIS	144.10	343.5	19	37K	0	26	49	4	22	43 PP
NEUCHATEL	144.25	337.6	19	38	1					
BESANCON	144.39	338.8	19	38	0					
BOLOGNA	144.41	330.8	19	45	7				24	8
PAVIA	144.86	333.6	19	39	0				24	12
PRATO	144.98	330.3	19	41	2					
FLORENCE X.	144.98	330.0	19	38A	-1				23	16 PP
OROPA	145.00	335.2	19	37	-2				24	13
GARCHY	145.31	341.8	19	39	0				23	0 PP
ROME	145.72	326.6	19	41A	1				23	8 PP
REGGIO CALA.	146.31	318.6	19	45	4					
MESSINA	146.31	318.8	19	42A	1	19	50		23	6 PP
CLERMONT-FD.	146.65	340.5	19	45K	3				23	13 PP

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ALGIERS UNI.	154.36	331.1	19	55	2					23	51	PP
RELIZANE	156.33	333.7	19	56	0					20	24	PKP2
GRANADA	156.54	342.8	19	52	-4					24	13	PP
TAMANRASSET	161.60	298.0	20	5	3					24	34	PP
MBOUR	175.23	95.2	20	13K	2					25	40	PP

NOVEMBER 29 22.H 19.M 41.S EPICENTRE -20.97 -67.02 DEPTH= 162.KM

DEPTH OF FOCUS= 0.020R

A= 0.36480 B=-0.86041 C=-0.35585 D=-0.9207 E=-0.3903
G=-0.1389 H= 0.3276 K=-0.9345 HT= 4.4

SE= 3.80

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ANTOFAGASTA	4.12	229.1	1	7	4								
LA PAZ	4.57	346.6	1	16A	7	2	17	15					
TALA POZO	7.27	160.2	1	47A	3	3	5	-1					
HUANCAYO	11.92	316.8	2	49	4								
SANTA LUCIA	12.82	193.9	3	2	5	5	17	0					
LA PLATA	16.02	151.9	3	35	-2	6	26	-4					
BOGOTA	26.36	344.0	5	19A	-4	9	42	0	5	51	10	31	*SS
CHINCHINA	27.13	340.9	5	26	-4	9	50	-4			6	27	PP
TRINIDAD	31.91	10.3	6	10	-2	11	25	15			8	8	
GALERAZAMBA	32.58	344.8	6	33	15	11	11	-9					
ST. VINCENT	34.40	10.0	6	29	-4	11	43	-5			9	9	
BARBADOS	34.66	12.8	6	39	3	11	53	1					
ST. LUCIA	35.28	10.2	6	37	-4	11	57	-5			9	16	
FORT FRANCE	35.95	9.7	6	51	5	12	11	-1			8	21	PP
ST. CLAUDE	37.14	8.5	6	57	0	12	19	-11	7	51	8	33	PP
SAN JUAN	39.12	1.4	7	7K	-6	12	49	-11	8	11	8	35	*SP
SANTIAGO MA.	40.21	326.6	7	28	6	13	16	0					
SAN SALVADOR	40.81	325.8	7	31	4						15	0	SS
COMITAN	44.45	324.4	7	59	3	14	23	5					
MERIDA	47.16	330.7	8	19K	1	14	47	-10			10	19	PP
VERA CRUZ	49.05	322.5	8	47K	15	15	39	16			17	16	*SS
PUEBLA	50.13	320.3	8	43	3	17	15	97			9	47	PCP
TACUBAYA	51.01	319.7	8	50K	3	16	0	10			9	46	PCP
BERMUDA	53.10	2.5	9	0K	-3	16	16	-3			9	58	PCP
GUADALAJARA	54.53	317.1	9	16K	3	16	40	2			10	16	PCP
COLUMBIA	56.27	346.0	9	21K	-5	16	51	-10			39	24	PKPPKP
CHAPEL HILL	57.72	348.5	8	30	-66						17	12	
MAZATLAN	58.30	316.7	9	32	-8	17	17	-10			18	57	SCS
HALLEY BAY	58.44	169.0	9	37	-4	17	31	2					
GEORGETOWN	60.30	351.0	9	54	0	17	48	-5					
WASHINGTON	60.30	351.0	9	55	1	17	55	2	10	37	11	55	PP
MBOUR	60.42	58.7	9	48K	-6	17	48	-7	10	49	11	58	PP
PHILADELPHIA	61.08	352.9	10	1	2	17	52	-11	10	52	13	55	PPP
FORDHAM	61.83	354.1	9	58	-6	18	5	-8					
PALISADES	62.00	354.1	9	59K	-6	18	6	-9	10	4	10	52	PCP
CHIHUAHUA	62.07	321.2	10	3K	-3	18	11	-5	10	58	19	12	SCS
PENNSYLVANIA	62.28	350.7	10	13	6	18	19	1			11	21	
FAYETTEVILLE	62.30	335.3	10	3K	-4	18	18	0					
WESTON	63.16	356.4	10	8K	-5	18	14	-15					
ST. LOUIS I	63.17	339.8	10	6K	-7	18	19	-10					
BYRD STATION	63.28	188.9	10	10	-4	18	30	-1	10	59	10	44	PCP
CLEVELAND	63.57	347.9	10	21	6								
LUBBOCK	63.61	327.8	10	11	-5	18	29	-6					
CHICAGO CGS.	65.28	343.2	10	25K	-1	17	41	-74	11	21	20	41	*SS
HALIFAX	65.35	2.7	10	27K	0	18	49	-7					
BREBEUF	66.42	354.9	10	29K	-5	19	5	-4					
OTTAWA	66.53	353.3	10	29K	-5	19	8	-2			11	1	PCP
SHAWINIGAN	67.40	355.7	10	35K	-5	19	17	-4			11	2	PCP
TUCSON	67.51	320.6	10	38K	-3	19	21	-1	11	17	13	22	PP
SEVEN FALLS	67.86	357.2	10	38K	-5	19	22	-4			11	17	PCP
SOUTH POLE	69.15	180.0	10	50	-1				11	32			
BOULDER CITY	72.48	320.9	11	7K	-4	20	21	1					
RAPID CITY	72.72	333.5	11	8	-4	20	22	-1	12	18	38	34	PKPPKP
PASADENA	73.30	317.6	11	18K	3	20	30	1	12	16	14	17	PP
SALT LAKE C.	74.22	326.2	11	18K	-3	20	42	3					
HERMANUS	75.48	121.6	11	26	-2	20	47	-6	12	24			
EUREKA	75.54	322.9	11	25K	-3								
FRESNO	76.00	318.8	11	27K	-4	20	58	-1			38	49	PKPPKP
SCOTT BASE	76.66	190.1	11	32K	-2	21	4	-2			14	21	PP
BOZEMAN	77.44	330.0	11	36K	-3	21	10	-4	12	38	38	30	PKPPKP

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LICK	77.50	318.3	11	37K	-2				12	46				
SANTA CLARA	77.70	318.1	11	54K	14	21	19	2						
RENO	77.79	320.9	11	39K	-2						15	8		
BERKELEY	78.22	318.4	11	41K	-2	21	24	1	12	47	23	6	*SS	
BUTTE	78.41	329.5	11	41K	-3	21	21	-4	12	33	14	42	PP	
MINERAL	79.37	320.7	11	45K	-4									
CAPE HALLETT	79.37	195.2	11	41K	-8	21	38	3			26	5	SS	
UKIAH	79.59	318.9	11	47K	-3	21	39	2			38	45	PKPPKP	
SHASTA	80.06	320.6	11	49K	-4	21	39	-3			38	37	PKPPKP	
LISBON	80.38	42.2	11	52A	-3	21	31	-14	12	54	26	51	SS	
SASKATOON	80.58	336.5	11	58	2	21	44	-3						
HUNGRY HORSE	80.79	330.4	11	53A	-4	21	43	-7	12	56	15	11	PP	
ARCATA	81.18	319.9	11	55	-4	21	54	0						
GRAHAMSTOWN	81.63	122.4	11	55	-6									
KIMBERLEY	81.70	117.5	11	56	-6									
COIMBRA	81.71	41.3	12	2	0	21	54	-5	12	59	17	4	PPP	
CORVALLIS	83.00	323.2	12	6K	-2	22	12	0						
TAMANRASSET	83.01	62.5	12	4	-4	22	9	-3	13	6	15	37	PP	
GRANADA	83.12	46.0	12	12A	3	22	6	-7	13	12	15	45	PP	
ALMERIA	83.71	46.8	12	8	-4	22	12	-7	13	9	15	30	PP	
TOLEDO	84.29	43.5	12	11K	-4	22	17	-8	13	12	15	46	PP	
SEATTLE	84.39	326.1	12	13K	-2	22	27	1						
RELIZANE	85.24	49.0	12	14	-5	22	32	-2	13	12	22	17	SKS	
VICTORIA	85.52	326.3	12	17K	-4	22	26	-11						
ALICANTE	85.84	46.3	12	23	1	22	19	-21			15	18	PP	
HORSESHOE B.	85.99	327.0	12	19K	-4	22	38	-3						
PIETERMZBURG	86.00	120.1	11	19	-64									
ALBERNI	86.71	326.3	12	24	-3									
ALGIERS UNI.	87.50	49.1	12	26	-4	22	54	-2	13	29	15	57	PP	
BARCELONA	89.11	44.7	12	43	5	22	45	-25			16	57	PP	
RATHFARNHAM	90.60	31.6	12	44K	-1	24	34	70	13	42	17	14	PP	
MIRNY	91.46	172.1	12	47	-2	23	21	-10			23	4	SKKS	
REYKJAVIK	91.75	18.1	12	52	2				13	53	23	6	SKS	
CLERMONT-FD.	91.83	41.2	12	51K	0	23	5	-30	13	51	17	23	*PPP	
VIK	92.09	19.5				23	5	-32						
GARCHY	92.52	39.9	12	49A	-5	23	5	-36			16	36	PP	
OASIS-BUNG.	92.63	175.1	12	50	-4									
KEW	92.66	35.1	12	54K	0	23	14	-28	13	50	24	45	*SS	
CUGLIERI	92.90	48.0	14	26	90	25	39	115						
PARIS	92.91	38.3	12	57	1	23	39	-5	13	51	16	42	PP	
WILKES	93.07	179.0	12	55K	-1	23	29	-17			16	44	PP	
MONACO	93.64	44.4	12	59	0				13	56	16	43	PP	
DURHAM	93.72	31.9	13	2	3	23	39	-12	13	55	25	14	*SS	
AKUREYRI	93.98	18.2				23	19	-34						
BESANCON	94.27	40.8	12	58K	-4	22	59	-57	13	50				
LWIRO	94.64	94.2	13	0	-3	23	20	-39						
ABERDEEN	94.74	29.7	13	14K	10	23	57	-3			16	14	PP	
NEUCHATEL	94.75	41.3	13	4	0	23	18	-42			17	48		
OROPA	94.80	42.9	13	8	4	23	23	-37			17	47		
MACQUARIE I.	95.15	204.9	13	9	3									
HAWAII V.OB.	95.20	288.7	13	9	3	23	21	-43						
BASLE	95.37	41.0	13	9	2	23	23	-42						
PAVIA	95.38	43.6	13	12K	5						16	55	PP	
WELLINGTON	95.68	221.9	13	11K	3	24	10	2	14	11	23	30	SKS	
ZURICH	95.92	41.4	13	10	1	23	22	-48			17	57		
STRASBOURG	95.93	40.1	13	8A	-1	24	5	-5	14	8	17	1	PP	
DE BILT	95.96	36.2	13	13A	4	23	25	-45	14	9	17	56	*PPP	
PRATO	96.13	45.4	13	11	1	23	26	-46						
FLORENCE X.	96.19	45.5	13	7A	-3	23	32	-40	14	14	17	2	PP	
SITKA	96.27	329.3	13	9A	-2	24	3	-10			17	7	PP	
CHUR	96.29	42.2	13	12K	1	23	24	-49			17	59		
ROME	96.30	47.6	13	12A	1	23	28	-45	14	12	17	2		
TONGARIRO	96.36	223.9	13	15	4	23	34	-40						
EBINGEN	96.49	40.8	13	4K	-8				14	11	17	59		
KARLSRUHE	96.49	39.9	13	14A	2	23	16	-59	14	12	17	4	PP	
SCORESBY SD.	96.51	13.9	13	12	0	24	8	-7	14	11	23	18	SKS	
BOLOGNA	96.52	44.9	13	15	3	23	36	-39			17	46		
TUBINGEN	96.69	40.5	13	12K	-1				14	11	18	1		
RAVENSBURG	96.73	41.4	13	18	5									
STUTTGART	96.87	40.3	13	8	-6	24	19	1	14	11	23	27	SKS	
KAIMATA	97.01	219.4	13	24	10	23	26	-53						
KARAPIRO	97.06	225.0	13	17	3	24	19	-1			14	27	*SP	
COBB RIVER	97.06	221.2	13	16	2						17	14		
WITTEVEEN	97.10	35.9	13	14	-1				14	12				
MESSINA	97.12	51.9	13	19A	4	24	5	-15	14	17	17	9	PP	
REGGIO CALA.	97.16	52.1	13	18	3	23	26	-54	14	13	18	13		
THULE	97.18	359.7	13	10K	-5	24	14	-7	14	2	17	18	PP	
AUCKLAND	98.12	225.6				24	44	16			17	19		

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HONOLULU	98.33	289.6	13	24K	4	24	49	19			23	46 SKS
TRIESTE	98.54	44.4	13	25	4	24	29	-3	14	20	17	19 PP
SONNEBERG	98.70	39.4	13	22	0	23	37	-56	14	16	18	19 *PPP
ONERAHI	99.02	226.3	13	31	8	23	38	-58	14	10		
JENA	99.13	38.9	13	23	-1	24	12	-25	14	22	16	52 PP
HAMBURG	99.22	36.1	13	25	1	25	0	22	14	21	17	26 PP
CHEB	99.29	39.9	13	29	4	24	35	-3	14	25	23	39 SKS
PLAUEN	99.31	39.5	13	26	1	24	13	-25	14	24	23	44 SKS
HALLE	99.56	38.5	13	30	4	23	45	-55			18	19
BERGEN	99.67	28.7	13	29	3	24	36	-5	14	24	23	41 SKS
ZAGREB	100.06	44.8	13	33	5	23	46	-59			18	36
COLLMBERG	100.10	38.9	13	28	0	23	31	-74	14	27	16	24 PP
POTSDAM	100.52	37.9	13	31	1	23	48	-61	14	29		
PRAGUE	100.52	40.4	13	30	0	24	47	-2	14	26	17	36 PP
PRUHONICE	100.56	40.5	13	29	-1	24	49	0	14	29	23	52 SKS
VIENNA-H.	101.12	42.6	13	35	2	24	50	-4	14	35	17	45 PP
COPENHAGEN	101.34	34.6	13	38K	4	24	47	-8	14	33	17	54 PP
BRATISLAVA	101.55	42.8	13	38	3	24	54	-3	14	32	17	44 PP
HURBANOVO	102.16	43.3	14	39	62	23	51	-71			18	5 PP
KALOCSA	102.27	44.8	13	50	12	25	19	16			17	48 PP
SKOPJE	102.59	49.8	14	15K	36	23	57	-69			17	40 PP
BUDAPEST	102.61	43.9	13	48	9	25	29	23			17	59 PP
BELGRADE	102.75	46.8	13	46K	6						17	59 PP
RACIBORZ	102.83	41.2	13	37	-3	25	13	5			17	55 PP
KECSKEMET	102.85	44.6	17	51	251	25	45	37			23	59 SKS
SZEGED	102.95	45.3	13	50	9	23	59	-70	14	53	18	0 PKP
ATHENS	103.16	54.3	13	47A	5	23	59	-72			17	48 PKP
DABROWA	103.53	41.1	13	52	9							
TIMISOARA	103.53	46.0	13	51	8	24	3	-71			14	47 *SP
SKALNATE PL.	103.85	42.5	13	52	7	25	22	6	14	53	24	2 SKS
KRAKOW	103.89	41.5	13	48	3	25	22	5	14	46	18	11 PP
SKALSTUGAN	103.93	26.9	13	46	1				14	44	18	3 PP
SOFIA	104.16	49.5	13	45	-1	24	3	-76			20	13
TANANARIVE	104.67	117.1	13	53A	5	25	33	10	14	50	18	51 *PPP
COLLEGE	104.95	334.1	13	45A	-5				14	32	17	51 PKP
WARSAW	105.13	39.6	13	55K	777	24	9	-55	14	48	17	44 PP
UPPSALA	105.26	31.4	13	55K	777	25	20	14	14	49	18	10 PP
NORD	105.33	6.7	13	51	777				14	51	18	6 PP
CAMPULUNG	106.00	47.2									19	22 *PPP
LWOW	106.39	42.4	14	2	777	24	14	-6	14	56	18	6 PKP
BUCHAREST	106.54	48.3	14	3A	777	24	16	-3	14	48	17	55 PP
HELWAN	107.11	64.1	13	59	777						24	16 SKS
BACAU	107.56	46.2									19	30
FOCSANI	107.58	47.2									20	7
ISTANBUL KA.	107.93	52.2	14	6	777						26	21
IASI	108.14	45.7				24	21	-6			19	35 *PPP
KIRUNA	108.27	23.5	14	5	777	25	48	80	15	4	18	20 PP
HELSINKI	108.93	31.9	14	13	777	25	49	80			18	10 PKP
FORT NELSON	108.97	206.0	19	1A	777							
SODANKYLA	110.56	24.4	14	27	-226	24	31	-6			18	19 PP
JERUSALEM	110.81	62.9	14	19	-234				15	19		
PULKOVO	111.55	32.7	14	25	-230	24	31	-10	15	18	21	45 PKS
KSARA	111.77	60.9	14	20	-235	24	46	4	15	19	19	2 PP
SIMFEROPOL	112.26	48.8	14	24	-232	24	35	-9			19	3 PP
NOUMEA	112.39	233.6									19	8 PP
APATITY	113.18	24.3	15	4	-194						20	5
MELBOURNE	114.22	207.4	14	38	-222						18	27
RIVERVIEW	114.48	214.4	14	34K	-226	24	50	-2			19	22 PP
BRISBANE	118.18	220.4	14	51	-217						19	43
TIFLIS	119.74	53.2	18	32	1	25	8	-3			19	58 PP
GORIS	120.80	55.8	18	35	2							
PERTH	127.31	183.1	15	34	-191						20	48 PP
SVERDLOVSK	127.67	33.4	18	52	6				19	47	30	38
CHARTERS TS.	127.85	220.8	15	32	-194						20	52 PP
ASHKABAD	130.21	57.6	18	52	1				19	55	23	19
PETROPAVLOVK	132.65	324.1	19	2	6				20	2	22	29 PKS
MAGADAN	133.02	334.7	18	55	-1						22	28 PKS
RABAUL	134.14	241.4	18	42	-16						21	41 PP
QUETTA	137.72	67.9	18	57	-8						21	53 PP
KARACHI	137.73	74.3	19	2	-3						20	9 *SPKP
TASHKENT	137.99	51.0	19	7	2						28	27 SKKS
STALINABAD	138.26	55.2	19	2	-4						20	16
TRUK	140.12	256.1	19	5	-4						22	18 PP
SEMIPALATNSK	140.95	33.3	19	6	-5						20	19
FRUNSE	141.23	46.8	19	4	-7						25	9 PPP
WARSAK DAM	141.28	61.5	19	2	-10						20	16 *SPKP
BOMBAY	142.26	85.9	19	15	2						22	56
POONA	143.16	86.8	19	12	-3							

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LAHORE	143.94	64.9	19 10	-6			20 16	*SPKP
KODAIKANAL	144.25	101.9	19 20	3			24 5	
MADANG	144.52	248.5	19 1	-16			22 3	
Y.-SAKHLINSK	144.60	324.1	19 22	5			22 47	PP
NEMURO	144.86	316.9	19 19	1				
COLOMBO	145.06	108.8	19 22	4			29 4	
ABASHIRI	145.33	318.8	19 24	5			31 7	SKSP
KUSIRO	145.79	317.1	19 23	4			21 23	
WAKKANAI	146.09	322.7	19 27	7			25 35	
OBIHIRO	146.58	317.8	19 24	3				
ASAHIGAWA	146.63	319.7	19 20	-1			19 41	
URAKAWA	147.24	316.9	19 19	-3			31 5	
DEHRA DUN	147.28	66.3	19 26	4			22 30	
SAPPORO	147.64	319.4	19 25	3			23 27	PP
MADRAS	147.70	98.9	19 27	5			22 17	
TOMAKOMAI	147.80	318.4	19 32	9				
IRKUTSK	148.05	10.1	19 20	-3			29 28	SKKS
MURORAN	148.28	318.5	19 29	6				
SUTTSU	148.47	319.9	19 27	3			21 17	
MORI	148.66	318.5	19 27A	3			21 49	
HAKODATE	148.74	317.9	19 26	2			23 8	
GUAM	148.79	261.3	19 26K	2	25 38 -36		24 2	*PPP
HATINOHE	148.87	315.2	19 25	1			31 22	
MIYAKO	149.01	313.4	19 27K	2			23 1	
AOMORI	149.21	316.2	19 28	3				
MORIOKA	149.53	314.0	19 27K	2			23 9	
MIZUSAWA	149.83	313.1	19 30	4	24 30-105			
ISINOMAKI	150.03	311.7	19 28	2				
AKITA	150.23	314.9	19 35	9				
SENDAI	150.39	311.7	19 27	1			20 39	
YAMAGATA	150.79	312.1	19 36	9				
SAKATA	150.83	313.7	19 34	7				
HUKUSIMA	150.93	311.1	19 35	8			34 4	
ONAHAMA	150.98	309.3	19 29	2			23 20	PP
SHIRAKAWA	151.40	310.2	19 31	3			25 0	
MITO	151.54	308.6	19 38	10			24 15	PP
KAKIOKA	151.82	308.5	19 37	8				
NIIGATA	151.84	312.6	19 48	19			22 0	
TUKUBASAN	151.88	308.5	19 30	1		20 40	23 24	PP
UTUNOMIYA	151.90	309.3	19 36	7			23 20	PP
VIZIANAGRAM	152.05	90.7	19 35	6				
HONGO	152.34	307.8	19 43	14		20 36	21 3	*SPKP
AIKAWA	152.34	313.4	19 44	15				
TOKYO C.M.O.	152.36	307.8	19 32	3			23 25	PP
KUMAGAYA	152.43	308.9	19 31	2			23 35	PP
YOKOHAMA	152.54	307.3	19 43	13			29 45	
MAEBASI	152.55	309.7	19 38	8			23 26	
MERA	152.61	306.2	19 37	7				
ULAN-BATOR	152.67	8.9	19 27	-3				
TITIBU	152.73	308.8	19 33	3				
TAKADA	152.80	311.7	19 40	10				
VLADIVOSTOK	152.83	328.7	19 32	2		20 35	23 24	
OIWAKE	152.95	310.0	19 40	10			23 34	
OSIMA	153.01	306.2	19 43	13			24 55	
NAGANO	153.04	310.9	19 39	9			23 48	PP
MATUSIRO	153.08	310.7	19 32K	2			23 26	PP
AJIRO	153.11	307.0	19 36	6				
HUNATU	153.16	308.1	19 37	7				
MISIMA	153.19	307.2	19 32	2			23 28	PP
KOHU	153.25	308.6	19 39	8			23 34	
WAZIMA	153.59	313.4	19 34	3			19 58	
SHIZUOKA	153.66	307.4	19 33	2			23 30	PP
TORISIMA	153.68	296.6	19 34	3				
TOYAMA	153.73	311.8	19 27	-4			28 48	
IIDA	153.84	308.9	19 38	7			23 35	
OMAESAKI	153.95	306.8	19 37	5			24 16	
NAGOYA	154.63	309.0	19 35	3				
GIHU	154.66	309.6	19 36	4			23 30	PP
HUKUI	154.70	311.4	19 46	14				
BOKARO	154.73	78.4	19 38	5			23 8	
IBUKISAN	154.95	309.9	19 39	6				
CHANGCHUN	155.00	338.5					23 39	PP
HIKONE	155.10	309.8	19 41	8			26 32	
KAMEYAMA	155.14	308.8	19 43	10			24 13	PP
TU	155.16	308.5	19 46	13				
KOROR	155.17	240.0	19 32A	-1	26 1 -21	21 11	23 45	PP
KYOTO	155.59	309.8	19 35	1				
OWASE	155.69	307.3	19 41	7			23 43	PP
CHATRA	155.72	71.1	19 36	2			30 5	

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OSAKA	155.91	309.2	19	48	14					24	18 PP
TOYOOKA	155.98	311.8	19	36	2					23	44 PP
KOBE	156.15	309.6	19	37	3					26	19
SIOMISAKI	156.28	306.4	19	41	6					23	42 PP
SUMOTO	156.53	309.2	19	37	2					23	51 PP
SAIGO	156.63	314.8	19	48	13						
TOKUSIMA	156.88	308.9	19	39	4					23	47 PP
CALCUTTA	157.07	81.6	19	46	10						
TAKAMATU	157.14	310.0	19	43	7					23	55 PP
MATSUE	157.23	313.6	19	42	6						
KOTI	157.90	308.8	19	40	3	27	9	44		23	54 PP
HAMADA	158.21	313.6								21	39
HIROSIMA	158.26	311.9	19	39	2					23	56 PP
MATUYAMA	158.32	310.3								20	20
LHASA	158.40	62.1	19	42K	5				20 45	24	1 PP
SIMIDU	158.68	307.6	19	46	8					33	13
UWAZIMA	158.77	309.2	19	45	7						
OOITA	159.44	310.3	19	38	-1					24	3 PP
SIMONOSEKI	159.53	312.9								20	29
ASOSAN	160.00	310.2	19	46	7						
SHILLONG	160.08	72.7	19	36K	-3					23	54 PP
HUKUOKA	160.09	312.7	19	42	3					24	4 PP
MIYAZAKI	160.24	307.3	19	43	4					24	12 PP
CHITTAGONG	160.29	82.1	19	38	-1				20 25	20	50 *SPKP
KUMAMOTO	160.31	310.5								20	28
SAGA	160.35	312.1	19	45K	5					20	28
PEKING	160.81	352.5	19	42K	2				20 45	24	8 PP
TATUNG	160.93	359.3	19	45	5						
NAGASAKI	160.94	311.4	19	48	8						
KAGOSIMA	161.06	307.4	19	43	3					24	11 PP
YAKUSIMA	161.63	304.4	19	44	3					24	11 PP
TOMIE	161.77	312.8	19	44	3					24	15 PP
TOCKLAI	162.39	67.4	19	48	6						
LANCHOW	162.95	26.1	19	45	3				20 47	24	23 PP
CHENGTU	167.43	38.1	19	44	-2	25	52	-96	20 51		
ZO-SE	167.51	325.5	19	44	-2					24	43 PP
NANKING	167.80	335.9	20	52	66					24	44 PP
KUNMING	169.69	64.9	19	45	-2				20 53	25	0 PP
MANILA	170.07	231.5	19	47	-1					24	29
ILAN	171.07	296.7	19	52	4						
TAIPEI	171.16	298.8	20	0	12	29	36	182			
HWALIEN	171.47	292.1	19	33	-15						
BAGUIO CITY	171.49	239.1	19	45	-3	25	5	-89			
HSINKONG	171.93	286.7	19	55	6						
TAITUNG	172.21	284.6	19	52	3						
ALISHAN	172.32	290.7	19	56	7						
TAWU	172.50	282.0	20	12	23						
HENGCHUN	172.69	279.4	19	54	5						
TAINAN	172.98	288.0	20	5	16						
PHU-LIEN	174.06	90.5	19	52	2					27	44
CANTON	177.89	352.4	21	41	111					25	33 PP

NOVEMBER 30 17.H 41.M 16.S EPICENTRE 84.02 112.77 DEPTH= 0.KM

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G=-0.3849 H= 0.9170 K=-0.1050 HT=-14.1

SE= 3.71

	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
TIKSI	12.80	156.6	3	0	-6	5	41	10				
THULE	19.69	0.7	4	33	-1							
RESOLUTE	20.94	20.2	4	47K	0	8	50	14				
APATITY	22.23	274.0									8	32 PCP
SODANKYLA	23.11	280.4	5	12	3							
KIRUNA	23.30	286.5	5	11	1						5	18
COLLEGE	26.88	68.7	5	44	0							
KLYUCHI	30.12	124.4	8	18	124							
HELSINKI	30.31	278.2	6	17	2							
PETROPAVLOVK	33.11	127.6									10	2 PCP
KYAKHTA	33.84	187.3	6	50	4							
HALLE	40.19	287.9	7	30	-10						7	47
COLLMBERG	40.28	286.9	7	40	-1							
JENA	40.79	288.1	7	48	3							
PLAUEN	41.16	287.5	7	54	6						8	12

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PRAGUE	41.35	285.2	7	50	1			8	34
PRUHONICE	41.43	285.1	7	54	4			9	36 PP
UZHGOROD	41.97	277.2	7	54	0			9	47
FRUNSE	42.70	222.1	8	26	26			10	38
RYBACHE	43.03	220.4	8	5	2			9	52 PP
STUTTGART	43.16	289.9	8	2	-2				
STRASBOURG	43.49	291.2	8	15	8				
TCHIMKENT	43.65	227.3	8	14	6			9	47 PCP
EBINGEN	43.77	290.0	8	5	-4			8	18
NAMANGAN	44.80	224.9	8	32	15				
ANDIJAN	44.98	224.2	8	16	-3			24	55
GARCHY	45.23	295.5	8	25	4				
HUNGRY HORSE	46.14	42.4	8	26	-2			10	39
KULYAB	48.01	226.5	8	48	5				
KHOROG	48.29	224.6	8	55	10				
BUTTE	48.56	41.4	8	45	-2				
ASHKABAD	48.91	238.6	9	10	20				
BOZEMAN	49.01	40.0	8	53	2				
RAPID CITY	51.08	33.0	9	5	-1				
WARSAK DAM	51.75	224.2	9	6	-5				
SHASTA	53.10	51.3	9	18	-4				
MINERAL	53.51	50.6	9	26	1				
LARAMIE	53.70	35.4	9	24	-2				
RENO	54.46	49.0	9	31	-1				
EUREKA	54.82	45.4	9	33	-1				
QUETTA	55.89	228.6	9	39	-3	17	19 -10		
LICK	56.50	51.0	9	44	-2				
FRESNO	57.21	49.3	9	50	-1				
SHILLONG	58.97	202.1	9	59	-5				
PASADENA	59.94	48.1	10	8	-2			10	27
CHITTAGONG	62.17	202.0	10	5	-21	18	14 -36		
TAMANRASSET	69.26	289.5	11	10	-1				

NOVEMBER 30 21.H 54.M 10.S EPICENTRE 47.16 154.15 DEPTH= 0.KM

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G=-0.6578 H= 0.3187 K=-0.6824 HT= -4.4

SE= 2.60

	DELTA	AZ.	P	O-C	S	O-C	*PP	SUPP.
	DEG.	DEG.	M	S	S	M	S S	M S M S
KURILSK	4.77	248.4	1	16A	1	2	14 2	
PETROPAVLOVK	6.64	24.1						3 14
NEMURO	7.16	240.8	1	52	3	3	7 -5	
Y.-SAKHLINSK	7.81	272.7	2	3A	5	3	41 13	
KUSIRO	8.06	242.3	1	54	-7	3	30 -4	
UGLEGORSK	8.31	287.8	2	11A	6			
WAKKANAI	8.81	263.2	2	29	17			5 17
OBIHIRO	8.83	245.3	2	22	10	4	19 25	
ASAHIGAWA	8.94	252.1	2	20	6			
URAKAWA	9.52	242.4	2	21	-1	4	7 -4	6 20
SAPPORO	9.93	250.3	2	32	5	4	20 -1	
KLYUCHI	10.05	21.6	2	29	0	4	29 5	
TOMAKOMAI	10.06	247.1	2	48	19			
MURORAN	10.54	247.5				4	29 -7	5 11
MORI	10.91	247.3	2	42	1	4	59 14	
AOMORI	11.52	241.5	2	53	4			
MIYAKO	11.60	234.1	3	20	30			
MORIOKA	12.01	236.3	3	0	4	5	1 -11	
MIZUSAWA	12.43	234.5	3	1	0	5	4 -18	
MAGADAN	12.57	352.1	3	6	3			
AKITA	12.62	239.0	4	24	80			6 10
SENDAI	13.17	232.4	3	2	-9			5 30
SAKATA	13.32	236.9						5 48
HUKUSIMA	13.78	231.9						5 22
ONAHAMA	14.15	228.7						5 32
SHIRAKAWA	14.38	230.8						5 32
MITO	14.81	228.3	3	30	-3			6 33
UTUNOMIYA	14.99	230.1	3	34	-1			7 45
KAKIOKA	15.08	228.6	3	35	-1	6	18 -7	
TUKUBASAN	15.12	228.8	3	33	-4	6	14 -12	3 44 PP
MAEBASI	15.53	231.6	3	44	2	6	36 0	4 42
KUMAGAYA	15.55	230.3	3	38	-4			
HONGO	15.69	228.4	3	42	-2			7 12 SSS
TOKYO C.M.O.	15.72	228.3	3	42	-3	6	42 2	7 50

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NAGANO	15.80	234.2	3	48	2	6	38	-4			
OIWAKE	15.86	232.6	3	54	8						
MATUSIRO	15.88	233.9	3	45	-2	6	48	4			
YOKOHAMA	15.97	228.0	3	48	0				7	0	
VLADIVOSTOK	16.19	263.7	3	49	-2				7	15	
MATUMOTO	16.24	233.7	3	52	1						
MERA	16.28	226.5	3	42	-10						
HUNATU	16.37	230.2	3	24	-29				7	4	
KOHU	16.37	230.9	3	50	-3				7	9	
MISIMA	16.57	228.9	4	0	5						
SHIZUOKA	16.97	229.8	4	2	1				7	35	
OMAESAKI	17.35	229.4	4	9	4						
GIHU	17.52	234.1	4	8	1	7	30	8			
NAGOYA	17.58	233.2	4	7	-1						
HIKONE	17.90	234.9	4	5	-7						
KAMEYAMA	18.09	233.5	4	15	0						
KYOTO	18.38	235.3	4	19	1	7	26	-15			
SUMOTO	19.34	235.5	4	29	-1	8	11	8			
CHANGCHUN	20.44	271.2	4	44	2						
HAMADA	20.59	241.5	4	45	2	8	33	4			
KOTI	20.69	236.3	4	44	0	8	40	9			
HIROSIMA	20.74	239.8	4	45	0	8	35	3	8	50	
ODITA	22.02	238.9	4	58	0				10	31	
HUKUOKA	22.49	241.4	5	5	2	9	13	8			
SAGA	22.79	241.0	4	34	-32						
NAGASAKI	23.41	240.7	5	10	-2	9	32	10			
KAGOSIMA	23.85	237.7	5	20	4	9	32	2			
TIKSI	27.27	342.8	5	46	-2						
PEKING	28.20	269.4	5	55A	-2						
ZO-SE	29.91	249.4	6	12A	0						
ULAN-BATOR	31.52	289.1	6	28	2						
COLLEGE	35.39	38.7	7	0	0				8	38	
SIAN	36.14	265.7	7	11	5						
LANCHOW	38.60	272.0	7	28	1						
CHENGTU	41.60	265.0	7	52A	1						
KOROR	43.11	209.2	8	3	-1						
KUNMING	46.10	260.0	8	28A	0	14	49	-25			
PHU-LIEN	46.43	252.2				15	17	-1			
SEMIPALATNSK	46.94	302.7	8	32	-2						
RESOLUTE	50.23	18.8	9	0A	0	16	11	-1	18	50	SCS
RABAUL	51.17	182.5	9	6	-1						
NORD	51.40	358.3	9	7	-2						
SHILLONG	53.10	269.0	9	21A	-1				17	11	
SVERDLOVSK	54.01	317.3	9	26	-2						
FRUNSE	54.10	296.8	9	27A	-2				16	37	
CHITTAGONG	55.26	266.1	9	37A	-1	17	21	0	11	34	PP
CHATRA	55.48	273.5	9	40	1						
APATITY	57.25	336.9	9	50	-2						
CALCUTTA	57.52	268.8	9	56	2	17	49	-1			
SHASTA	57.73	63.3	9	57	2						
HUNGRY HORSE	57.99	51.8	9	58	1						
TASHKENT	58.21	298.0	9	56	-3				22	8	SS
MINERAL	58.42	63.2	10	4	4						
SODANKYLA	59.13	339.0	10	3	-2						
DEHRA DUN	59.41	282.8	10	10	3	18	8	-7			
BERKELEY	59.53	65.9	10	8	0	18	20	3			
RENO	60.01	63.0	10	13	2						
KIRUNA	60.18	341.6	10	10	-2	18	27	2			
BUTTE	60.20	53.3	10	14	2				10	58	PCP
STALINABAD	60.21	295.8	10	10	-2				18	53	PS
LICK	60.24	66.0	10	14	1						
LAHORE	61.08	286.3	10	18A	0						
BOZEMAN	61.24	52.8	10	21	2				11	5	PCP
WARSAK DAM	61.32	290.1	10	18	-2						
FRESNO	61.75	65.4	10	23	0						
EUREKA	62.36	60.9	10	26	-1				11	20	PCP
SCORESBY SD.	62.64	358.5	10	27	-2	19	0	4			
PULKOVO	64.01	332.1	10	36	-2						
PASADENA	64.45	66.7	10	41	0				11	12	
BOULDER CITY	65.31	63.2	10	47	1						
HELSINKI	65.32	334.8	10	45	-1				11	14	PCP
SKALSTUGAN	65.57	342.3	10	47	-1						
RAPID CITY	66.49	50.1	10	53	-1						
QUETTA	66.77	289.7	10	55A	-1	19	43	-4	20	50	SCS
ASHKABAD	66.85	301.2	10	54	-2						
LARAMIE	67.11	53.6	11	2	4						
CHARTERS TS.	67.23	188.0	10	54	-4						
UPPSALA	67.60	337.9	10	59A	-2						

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KARACHI	69.65	286.3	11	18A	4						
POONA	70.12	276.0	11	15	-1	20	34	7	14	1	PP
TUCSON	70.27	63.7	11	19	2						
BOMBAY	70.56	277.0	11	21	2	20	4	-28			
TIFLIS	71.62	311.9	11	26	1	20	46	1	15	44	PPP
GORIS	72.45	309.4	11	31	1	20	54	0			
COPENHAGEN	72.60	338.4	11	31	0	21	2	6			
WARSAW	73.18	332.0	11	35	0						
SIMFEROPOL	74.21	320.3	11	39	-2				16	9	PPP
LWOW	74.21	329.0	11	41	0				21	54	PS
COLOMBO	74.29	263.1	12	58	77	21	12	-3			
BRISBANE	74.29	181.0				21	16	1			
LUBBOCK	74.66	57.1	11	46	3						
HAMBURG	75.13	338.8	11	46	0						
POTSDAM	75.40	336.5	11	50	2						
KRAKOW	75.41	331.5	11	45	-3						
RACIBORZ	75.93	332.5	11	44	-7						
COLLMBERG	76.39	336.1	11	53	0						
DURHAM	76.39	345.8	11	53	0				14	36	
HALLE	76.50	336.8	11	53	-1				13	10	
WITTEVEEN	76.60	340.4	11	56	2						
PRAGUE	77.09	334.7	11	55	-2				14	18	
JENA	77.11	336.8	11	56	-1						
PRUHONICE	77.13	334.6	11	56	-1						
PLAUEN	77.35	336.2	11	57	-1				14	17	
DE BILT	77.61	341.0	11	58	-2	21	56	5			
BRATISLAVA	77.96	332.2	12	3	1						
SHAWINIGAN	78.04	31.0	12	16	14						
SEVEN FALLS	78.21	29.5	12	2	-1	21	58	0			
RATHFARNHAM	78.54	348.2							15	23	
BREBEUF	78.64	32.1	12	10	4						
KARLSRUHE	79.70	337.9	12	12A	1				12	37	
STUTTGART	79.72	337.3	12	11	0						
BELGRADE	79.75	328.5	12	12A	0	22	24	10			
TUBINGEN	79.97	337.3	12	13	0						
STRASBOURG	80.26	338.1	12	16	2	22	29	10	30	20	PKKP
EBINGEN	80.32	337.2	12	14	-1				12	36	
RIVERVIEW	80.66	182.5				22	26	2			
BASLE	81.28	337.8	12	18	-2						
PARIS	81.29	341.5	12	19	-1	22	36	6	15	24	PP
NEUCHATEL	81.94	338.0	12	23	0						
BESANCON	81.95	338.7	12	24	1				13	7	
KSARA	82.19	312.3	12	24	0	22	32	-7	15	35	PP
PALISADES	82.38	34.6	12	21	-4	22	33	-8	27	27	SS
GARCHY	82.61	340.6	12	28A	1						
PAVIA	83.02	335.9	12	36	7	23	26	38	32	44	SSS
FLORENCE X.	83.70	333.9	12	31	-1	23	0	5	16	10	PP
CLERMONT-FD.	84.02	340.1	12	31	-3				13	38	
JERUSALEM	84.15	311.5	12	35	1						
HELWAN	87.65	313.1	12	50	-2				23	32	
TOLEDO	91.19	343.4	13	6	-2	23	51	-14			
ALICANTE	91.90	340.3	13	12	0	23	44	-28			
ALGIERS UNI.	92.53	337.1				23	50	-27			
BERMUDA	93.46	32.1				24	27	2	30	54	SS
GRANADA	93.71	342.4							18	9	PP
TAMANRASSET	104.85	330.2	14	22	12				18	49	PP
LWIRO	115.03	295.9	19	46	63				29	30	SP
HUANCAYO	125.83	66.5	19	7	3						
LA PAZ	133.69	63.2	19	22	3				22	16	PP

DECEMBER 1 1.H 0.M 29.S EPICENTRE 47.72 153.18 DEPTH= 0.KM
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G=-0.6582 H= 0.3328 K=-0.6753 HT= -4.6

SE= 3.40

	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
PETROPAVLOVK	6.45	30.8	1	47	8							
NEMURO	6.91	233.3	1	42	-3	3	0	-5				
KUSIRO	7.79	235.7	1	56	-1	3	24	-3				
WAKKANAI	8.25	258.1	4	6	122						4	27
OBIHIRO	8.51	239.3	2	7	0	3	57	12				
ASAHIGAWA	8.52	246.4	2	12	4	4	6	20				
URAKAWA	9.24	236.7	2	15	-3	4	0	-3				

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SAPPORO	9.53	245.1	2 30 8	4 24 13		
TOMAKOMAI	9.70	241.9	2 46 22			
MURORAN	10.18	242.5		4 28 1		4 52
MORI	10.56	242.5	2 38 2	4 47 11		
HAKODATE	10.66	240.7	4 11 94			5 19
HATINOHE	11.02	233.6	4 33 111			
AOMORI	11.24	236.7	3 56 71			
MORIOKA	11.81	231.7	4 50 117			
MAGADAN	11.94	354.1	3 0 5			
MIZUSAWA	12.25	229.9	3 14 15	5 6 -11		
AKITA	12.37	234.5				5 30
SENDAI	13.02	228.0				5 20
SAKATA	13.10	232.6				5 28
HUKUSIMA	13.64	227.7				5 12
SHIRAKAWA	14.25	226.7				5 48
MITO	14.72	224.3				6 21
UTUNOMIYA	14.87	226.2	3 59 26			6 14
KAKIOKA	14.98	224.7	3 43 8			
TUKUBASAN	15.03	224.9	3 30 -5	6 8 -16		6 32 SS
MAEBASI	15.39	227.8	3 49 9			
KUMAGAYA	15.43	226.5	3 57 16			
TOKYO C.M.O.	15.63	224.6	3 37 -6			8 48
OIWAKE	15.71	228.9	3 58 14			
MATUSIRO	15.71	230.2	3 40A -4		6 48 8	
MATUMOTO	16.06	230.0	3 54 5			
KOHU	16.24	227.3	3 53 2		7 4 12	
HUNATU	16.25	226.5	3 43 -8			
GIHU	17.34	230.7	4 3 -2		7 21 4	
KYOTO	18.18	232.1	4 15A 0			
HIROSIMA	20.48	236.9	4 39 -3		8 27 0	
HUKUOKA	22.20	238.7	4 56 -4		9 8 8	
KAGOSIMA	23.61	235.1	5 9 -4			
COLLEGE	35.37	39.2	6 55 -4			
SEMIPALATNSK	46.08	301.9	8 24 -4			
RESOLUTE	49.91	18.8	8 56A -1		16 13 6	
RABAUL	51.71	181.3	9 1 -10			
NAMANGAN	56.13	295.6	9 44 0			
APATITY	56.47	336.4	9 40 -6			
SHASTA	58.07	63.1	9 53 -4			
HUNGRY HORSE	58.16	51.7	9 57 -1			
SODANKYLA	58.37	338.6	9 59 0			
MINERAL	58.76	63.0	10 6 4			
KIRUNA	59.44	341.1	10 6 -1			
LAHORE	60.29	285.3	10 13A 0			
RENO	60.34	62.7	10 13 0			
BUTTE	60.39	53.1	10 16 3			
WARSAK DAM	60.51	289.2	9 0 -74			
LICK	60.62	65.7	10 20 5			
SCORESBY SD	62.06	358.1	10 24 -1			
EUREKA	62.66	60.6	10 25 -4			
HELSINKI	64.53	334.2	10 41 0			
PASADENA	64.83	66.4	10 48 5			
SKALSTUGAN	64.83	341.8	10 42K -1			
BOULDER CITY	65.65	62.8	10 45 -3			
QUETTA	65.96	288.9	10 50A 0			13 14 PP
RAPID CITY	66.63	49.7	10 55 0			
UPPSALA	66.84	337.4	10 55A -1			
POONA	69.41	275.1	11 11 -1	19 47 -32		14 11
TUCSON	70.61	63.3	11 19 0			
TIFLIS	70.75	311.2	11 20 0			21 27
COPENHAGEN	71.83	337.8	11 27 0			
SIMFEROPOL	73.36	319.6	11 36 0			
LWOW	73.39	328.4	11 26 -10			
HAMBURG	74.36	338.2	11 43A 2			
KRAKOW	74.60	330.9	11 42 -1			11 56 PCP
RACIBORZ	75.13	331.9	11 47 1			
DURHAM	75.69	345.2	11 46 -3			
HALLE	75.72	336.2	11 48 -1			12 20
WITTEVEEN	75.85	339.8	11 51 1			
PRAGUE	76.30	334.1	11 58 6			12 59
JENA	76.34	336.1	11 52 -1			
PRUHONICE	76.34	334.0	11 53 0			13 51
PLAUEN	76.57	335.6	11 54 0			
DE BILT	76.86	340.4	11 55 -1			
FAYETTEVILLE	77.17	50.1	11 59 2			
RATHFARNHAM	77.85	347.6	11 56 -5			
KEW	78.61	343.5	12 5 0			
STUTTGART	78.94	336.6	12 7 0			

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STRASBOURG	79.50	337.5	12	13	3							
EBINGEN	79.55	336.5	12	11	1							
BASLE	80.51	337.2	11	58	-18							
PARIS	80.55	340.8	12	16	0							
NEUCHATEL	81.17	337.4	12	19	0							
RIVERVIEW	81.20	181.7	12	15	-4	22	22	-7				
KSARA	81.33	311.6	12	22	2							
GARCHY	81.86	340.0	12	24K	1							
FLORENCE X.	82.91	333.2	12	9	-19	22	19	-28				
TAHITI	82.97	125.9	14	28	120						18	28 PP
JERUSALEM	83.28	310.8				20	50	-120			14	43
HELWAN	86.79	312.4	12	49	2							
TOLEDO	90.46	342.7	13	3	-2							
GRANADA	92.97	341.6									24	32 PS
BERMUDA	93.33	31.3				24	31	7				

DECEMBER 1 1.H 9.M 1.S EPICENTRE 47.27 153.89 DEPTH= 0.KM

A=-0.61149 B= 0.29974 C= 0.73228 D= 0.4401 E= 0.8979
G=-0.6575 H= 0.3223 K=-0.6810 HT= -4.4

SE= 3.15

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
KURILSK	4.65	246.1	1	13	0	2	12	4			1	21	*SP
PETROPAVLOVK	6.61	25.8	1	44	4						3	17	
NEMURO	7.06	239.1	1	46	-1	3	1	-8					
Y.-SAKHLINSK	7.63	271.7	1	59	4	3	35	12			2	8	*SP
KUSIRO	7.96	240.8	1	57	-2	3	26	-5					
UGLEGORSK	8.11	287.2	2	7	6	3	49	14			2	15	*SP
OBIHIRO	8.72	244.0	2	14	4	4	12	22					
ASAHIGAWA	8.81	250.9	2	19	8	4	9	17					
URAKAWA	9.42	241.1	2	16	-4	4	3	-4					
SAPPORO	9.80	249.2	2	26	1	4	24	7					
TOMAKOMAI	9.94	245.9	2	48	21								
KLYUCHI	10.01	22.6	2	28	0								
MURORAN	10.42	246.4				4	30	-1					
MORI	10.80	246.2	2	45	6	4	59	18					
HAKODATE	10.88	244.5				4	34	-9					
HATINOHE	11.17	237.4				4	28	-22					
AOMORI	11.42	240.4									5	52	
MORIOKA	11.93	235.2	2	51	-3	4	52	-17					
MIZUSAWA	12.35	233.4	3	28	28	5	5	-14					
MAGADAN	12.44	352.7	3	3	2								
AKITA	12.52	237.9									5	20	
SENDAI	13.10	231.3									5	22	
HUKUSIMA	13.71	230.9	3	21	3								
SHIRAKAWA	14.31	229.8									5	42	
MITO	14.76	227.3	3	24	-7								
UTUNOMIYA	14.93	229.2	3	32	-2	6	15	-6					
TUKUBASAN	15.07	227.8	3	31	-4	6	7	-17			3	40	
KUMAGAYA	15.49	229.4	3	51	10								
TOKYO C.M.O.	15.67	227.4	3	41	-2	6	31	-7			7	0	
NAGANO	15.73	233.3	3	49	5								
MATUSIRO	15.80	233.0	3	43A	-2	6	48	7			7	10	
YOKOHAMA	15.91	227.1									6	24	
VLADIVOSTOK	16.03	263.1	3	48	0								
MATUMOTO	16.16	232.8	3	55	5								
HUNATU	16.31	229.3	3	50	-2	6	44	-9					
KOHU	16.31	230.0	3	52	0	7	6	13					
GIHU	17.44	233.3	4	3	-3	7	18	-1					
IBUKISAN	17.67	234.1	4	12	3								
HIKONE	17.83	234.1	4	12	1								
KYOTO	18.30	234.6	4	19K	3	7	54	15					
HIROSIMA	20.65	239.1	4	36	-7	8	29	-1					
HUKUOKA	22.39	240.8	5	3	2	9	10	7					
KAGOSIMA	23.76	237.1	5	9	-5						5	57	
TIKSI	27.11	342.9	5	44	-2						6	37	PP
COLLEGE	35.41	38.8	6	57	-2								
MANILA	42.55	231.1	7	55	-4								
RESOLUTE	50.18	18.8	8	58	-1	16	14	3			11	3	PP
RABAUL	51.27	182.2	9	4	-3								
NORD	51.28	358.2	9	6	-1								
SHILLONG	52.92	268.7	9	19	-1								
FRUNSE	53.89	196.6	9	25A	-2						13	14	

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CHITTAGONG	55.09	265.8	9 29	-7			
CHATRA	55.30	273.3	9 36	-1			
APATITY	57.08	336.8	9 47	-3			
SHASTA	57.84	63.2	9 55	0			
TASHKENT	58.00	297.8	9 53	-3			
HUNGRY HORSE	58.06	51.8	10 3	6			
MINERAL	58.53	63.1	10 3	3			
SODANKYLA	58.96	338.9	10 1	-2			11 31
BERKELEY	59.65	65.8	10 17	9			
KIRUNA	60.02	341.5	10 8	-2			11 39
RENO	60.11	62.9	10 15	4			
BUTTE	60.27	53.2	10 22	10			
LICK	60.36	65.9	10 32	19			
LAHORE	60.88	286.0	10 14	-2			
WARSAK DAM	61.12	289.9	10 15	-3			
BOZEMAN	61.32	52.8	10 22	3			10 42
EUREKA	62.46	60.8	10 25	-2			
SCORESBY SD.	62.52	358.4	10 26	-1			
PASADENA	64.57	66.6	10 38	-3			10 49
HELSINKI	65.15	334.6	10 43	-2			
SKALSTUGAN	65.41	342.2	10 44	-2			12 13
BOULDER CITY	65.42	63.1	10 46	0			
RAPID CITY	66.55	50.0	10 52	-2			
QUETTA	66.56	289.5	10 52A	-2	19 44	0	13 21 PP
ASHKABAD	66.64	301.0	10 53	-1			
CHARTERS TS.	67.32	187.8	10 56	-2			
UPPSALA	67.43	337.8	10 56A	-3			12 27
KARACHI	69.45	286.0	11 12	0			
BOMBAY	70.37	276.8	11 18	1			
TUCSON	70.38	63.6	11 16	-1			
COPENHAGEN	72.43	338.3	11 29	-1			
WARSAW	73.00	331.9	11 39	6			21 39
SIMFEROPOL	74.01	320.1	11 39	0			
LWOW	74.02	328.9	11 39	0			
HAMBURG	74.96	338.7	11 44A	0			
KRAKOW	75.22	331.3	11 44	-2			11 56 PCP
POTSDAM	75.23	336.4	11 45	-1			
RACIBORZ	75.75	332.3	11 49	0			
DURHAM	76.24	345.7	11 34	-18			
HALLE	76.32	336.6	11 51	-1			12 30
WITTEVEEN	76.44	340.2	11 24	-29			
PRAGUE	76.91	334.5	11 55	0			15 11
JENA	76.94	336.6	11 55	-1			
PRUHONICE	76.95	334.4	11 55	-1			14 37
PLAUEN	77.17	336.1	11 55	-2			12 24
DE BILT	77.44	340.8	11 59	1	22 29	40	
BRATISLAVA	77.77	332.0	12 0	0			12 8
RATHFARNHAM	78.39	348.0	12 9	5			
KEW	79.17	343.9	12 7	-1			
STUTTGART	79.54	337.1	12 9	-1			
STRASBOURG	80.09	337.9	12 13	0			
EBINGEN	80.15	337.0	12 12	-1			
BASLE	81.11	337.6	12 19K	1			15 34
PARIS	81.13	341.3	12 21	3			
NEUCHATEL	81.76	337.8	12 21	-1			
KSARA	81.98	312.1	13 22	59			
PALISADES	82.39	34.4	12 22	-3			22 32
GARCHY	82.44	340.4	12 25K	0			
ROME	84.84	332.1	12 38K	1	22 43	-22	21 13
HELWAN	87.45	312.9	12 51	1			
ALGIERS UNI.	92.35	336.9			24 18	3	16 58 PP
TAMANRASSET	104.67	330.0	14 7	-2			18 21 PP
LWIRO	114.82	295.7					19 43 PP

DECEMBER 2 23.H 58.M 53.S EPICENTRE 82.85 -26.50 DEPTH= 0.KM

A= 0.11214 B=-0.05592 C= 0.99212 D=-0.4462 E=-0.8949
G= 0.8879 H=-0.4427 K=-0.1253 HT=-14.0

SE= 2.74

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
NORD	1.83	128.3	0	36	4	1	3	8				
THULE	9.57	251.4	2	15	-5	3	51	-18			8	10 SCP
SCORESBY SD.	12.48	172.9	3	0	0	5	14	-6				
RESOLUTE	14.38	275.5	3	19A	-6	5	54	-12				

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KIRUNA	18.13	117.0	4 14	1		
SODANKYLA	19.28	110.3	4 27	0		
APATITY	19.93	102.8	4 33	-1		
SKALSTUGAN	21.41	129.9	4 50	0		
UPPSALA	25.60	125.6	5 31A	1		
HELSINKI	26.07	117.1	5 36	1		
COPENHAGEN	29.21	133.1	6 4	1		
COLLEGE	29.62	312.4	6 6	-1	6 24	
HALLE	33.31	134.9	6 42	3		7 24
JENA	33.84	135.5	6 44	0		
PRUHONICE	35.05	132.4	6 55	1		
PARIS	35.23	146.3	6 57	1		
STUTTGART	35.78	138.7	7 2	1		
STRASBOURG	35.85	140.3	7 3	2		7 37
EBINGEN	36.35	139.1	7 7	2		
GARCHY	36.79	145.9	7 10	1		
BREBEUF	40.07	233.2	7 37A	0		
HUNGRY HORSE	42.04	275.6	7 51	-2	8 7	
RAPID CITY	44.88	263.7	8 15	-1		
GRANADA	46.43	154.6	8 31	3		
BOULDER	49.13	264.9	8 49	0		
MINERAL	50.85	281.0	9 2	0		
EUREKA	51.01	275.3	9 2	-2		
COLUMBIA	52.22	238.9	9 12	-1		
BOULDER CITY	54.32	273.5	9 27	-1		
TUCSON	57.50	268.9	9 50	-1		
QUETTA	60.68	82.5	10 26	13		
TAMANRASSET	61.31	146.1	10 19	2		
SHILLONG	68.16	58.9	10 58	-4		

DECEMBER 3 21.H 46.M 18.S EPICENTRE 52.64-169.80 DEPTH= 0.KM

A=-0.59974 B=-0.10789 C= 0.79289 D=-0.1770 E= 0.9842
G=-0.7804 H=-0.1404 K=-0.6094 HT= -6.4

SE= 3.24

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
COLLEGE	16.61	34.0	3 57	2			4 14	
SHASTA	34.05	91.2	6 51	4				
HUNGRY HORSE	34.98	74.2	6 53	-2				9 29 PCP
RESOLUTE	36.24	25.7	7 6K	0				9 30 PCP
RENO	36.32	90.8	7 9	2				
FRESNO	38.09	94.3	7 26	4				
BOZEMAN	38.10	76.3	7 26	4				
EUREKA	38.70	87.8	7 22	-5				
MATUSIRO	39.43	267.1	7 32K	-1	13 41	6		
BOULDER CITY	41.63	91.1	7 50	-1				
KYOTO	41.96	267.4	7 56K	2				
RAPID CITY	43.61	73.5	8 4	-3				9 56 PCP
BOULDER	44.82	79.5	8 28	11				
NORD	45.22	5.4	8 22K	2				
TUCSON	46.59	91.8	8 32	1				
FAYETTEVILLE	54.01	75.9	9 53A	25				10 49
SCORESBY SD.	55.02	12.6	9 35	0				
OTTAWA	57.85	56.1	10 5A	10				
SHAWINIGAN	58.51	53.4	10 9	9				
BREBEUF	58.84	54.8	9 59	-3				
KIRUNA	59.61	355.5	10 7K	-1				
SODANKYLA	59.67	352.7	10 6	-2				
MORGANTOWN	59.67	63.5	10 5	-3				
PALISADES	61.90	58.6	10 20	-3				23 35
WESTON	62.23	55.9	10 21	-4				
COLUMBIA	63.12	68.6	10 41	10				
SKALSTUGAN	64.11	359.0	10 38	0				
HELSINKI	66.92	352.0	10 55	-1				
UPPSALA	67.70	356.0	11 0K	-1				
DURHAM	72.51	7.1	11 23	-7				
SHILLONG	74.89	292.2	11 42	-2				
HALLE	76.22	358.9	11 53	2				
JENA	76.80	359.1	11 55	0				
PLAUEN	77.22	358.7	11 56	-1				12 20
CHITTAGONG	77.43	290.2	11 59A	1				
PRAGUE	77.60	357.2	11 58	-1				12 48
PRUHONICE	77.69	357.1	12 0	0				12 11 PCP

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WARSAK DAM	78.54	311.9	12 3	-1						
PARIS	78.71	5.2	12 5	0					13 2	
STUTTGART	78.96	0.7	12 6	-1						
STRASBOURG	79.13	1.6	12 9K	1						
LAHORE	79.29	308.6	12 10	2					12 21	PCP
BASLE	80.18	1.8	12 14	1						
GARCHY	80.27	4.9	12 14	0						
CLERMONT-FD.	81.78	5.0	12 22	0						
CHARTERS TS.	81.78	221.2	12 17K	-5						
QUETTA	83.84	313.2	12 32A	0	22 57	2			12 39	PCP
FLORENCE X.	83.95	359.2	12 30K	-3	23 28	32			15 58	PP
POONA	90.35	301.8	13 6	2						
SOUTH POLE	142.46	180.0	19 43	9						

DECEMBER 4 0.H 27.M 0.S EPICENTRE -0.14 124.87 DEPTH= 0.KM

A=-0.57170 B= 0.82046 C=-0.00236 D= 0.8205 E= 0.5717
G= 0.0013 H=-0.0019 K=-1.0000 HT= 7.2
SE= 1.65

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
MAMBAJAO	9.35	4.4	3 0	41				
KOROR	12.12	52.1	2 57	0	5 0	-14		
MANILA	15.12	345.4	3 42	5	6 35	9		
BAGUIO CITY	16.99	345.8	4 5	4	7 15	6		
MADANG	21.57	75.4	4 54	1				
GUAM	23.89	54.8	5 16	0	9 18	-12		5 46 PP
RABAUL	27.57	98.8	5 50	-1				7 22
TRUK	27.95	73.7	5 54	0				6 43 PP
CHARTERS TS.	28.79	134.6	6 2	0				10 55
BRISBANE	38.34	137.5	7 45	21				
MATUSIRO	38.55	17.4	7 26A	0	13 13	-10		9 40 PCP
TUKUBASAN	38.84	19.8	7 28	-1	13 14	-13		9 41 PCP
CHITTAGONG	39.19	307.0	7 34A	2	13 27	-5		
SHILLONG	40.85	311.2	7 46	1				
RIVERVIEW	41.61	146.3	7 54K	3				
MELBOURNE	41.84	155.9	7 55A	2				
VLADIVOSTOK	43.52	7.5	8 8	1	14 30	-7		
POONA	53.41	293.3	9 25	1				9 55
LAHORE	57.22	308.4	9 51A	-1	17 39	-8		10 47 PCP
WARSAK DAM	60.33	309.9	10 13A	0				
QUETTA	62.69	304.3	10 27A	-2	18 44	-13		12 37 PP
MAGADAN	62.87	14.5	10 31	1				
STALINABAD	64.16	313.7	10 35	-4				
OASIS-BUNG.	68.10	190.3	11 4	0	19 55	-8		
MIRNY	70.00	193.0	11 17	1	20 22	-4		
TIKSI	71.70	1.3	11 24	-2	20 34	-11		
CAPE HALLETT	77.47	167.1	11 59A	0				
SCOTT BASE	80.79	171.8	12 18K	1				
TIFLIS	82.67	312.0	12 28	1				
COLLEGE	88.97	25.3	12 56	-2				13 24
SOUTH POLE	89.87	180.0	13 3	1	23 21	-32		13 30
APATITY	90.68	337.4	13 5	-1				
PULKOVO	92.42	329.7			24 7	-9		
HELWAN	93.14	299.7	13 18	1				
SODANKYLA	93.30	337.4	13 16	-2				16 56 PP
HELSINKI	95.05	330.4	13 25	-1				
KIRUNA	95.56	338.3	13 27K	-1				
NORD	96.75	354.7	13 33A	-1				
LWOW	97.10	320.1	13 36	1				
UPPSALA	98.72	330.8	13 40	-3				
KRAKOW	99.67	320.8	13 46	-1				
RESOLUTE	101.92	10.0	13 58A	1				18 11 PP
PRUHONICE	103.06	321.6	14 2	0				18 21 PP
THULE	103.44	3.2	14 3	-1				18 19 PP
HALLE	104.20	323.6	14 7	0				
PLAUEN	104.39	322.5	14 6	-2				
JENA	104.60	323.1	14 9	0				
STUTTGART	106.76	321.5	14 19	777				18 15 PP
BASLE	108.21	320.7	12 55	777				23 41
HUNGRY HORSE	110.26	37.5	18 33	-1				14 36 P
GARCHY	111.13	321.7						19 9 PP
PASADENA	112.17	53.0	18 39	1				
EUREKA	112.25	46.9	18 40	2				19 22 PP

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BOZEMAN	113.24	39.2	18	41	1					
BOULDER CITY	114.24	50.2	18	45	3					
TAMANRASSET	116.95	295.5	18	50	3					
TUCSON	118.60	52.9	18	53	3				20 8	PP
RAPID CITY	118.90	37.8	18	52	1				20 7	PP
BOULDER	119.56	42.7	18	55	3					
SEVEN FALLS	131.24	14.2	19	15K	0					
SHAWINIGAN	131.26	16.2	19	15K	0					
OTTAWA	131.39	19.3	19	16K	1					
BREBEUF	131.97	17.5	19	17	1					
COLUMBIA	138.47	33.2	19	30	2				22 16	PP
HUANCAYO	156.58	121.8	20	2	5				20 31	PKP2
SAN JUAN	158.90	30.2	20	37	37					
CHINCHINA	158.98	76.5	20	2	2				20 40	PKP2

DECEMBER 4 3.H 37.M 48.S EPICENTRE 45.21 99.24 DEPTH= 0.KM

A=-0.11350 B= 0.69775 C= 0.70730 D= 0.9870 E= 0.1606
G=-0.1136 H= 0.6981 K=-0.7069 HT= -3.6

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
YUMEN	5.17	199.2	1	16	-3							
ULAN-BATOR	5.94	60.1	1	25	-5							
KYAKHTA	7.09	40.7	1	40	-7							
WUWEI	7.71	159.5	1	55	1							
IRKUTSK	7.82	23.6	1	55	-2	3	45	20				
KABANSK	8.42	33.0	2	1	-4							
YINCHUAN	8.53	139.6	2	4	-2							
SINING	8.79	166.5	2	9	-1							
BAYANDAI	8.88	25.3	2	16	3							
LANCHOW	9.76	157.6	2	19A	-4							
TAIYUAN	12.44	121.9	2	54	-5							
LINFEN	13.01	130.1	3	6	-1							
SIAN	13.23	142.5	3	1	-9							
PEKING	13.49	106.6	3	7K	-6							
SEMIPALATNSK	13.77	298.9	3	16	-1							
CHILIK	14.97	271.1	3	35	2						7	1
CHENGTU	15.00	163.9	3	31K	-2							
KURMENTY	15.20	269.3	3	36	0							
PRZHEVALSK	15.28	267.1	3	36	-1							
ALMATA-2	15.79	270.7	3	42	-1						4	17
ILI	15.84	273.3	3	44	0							
ALMATA	16.09	271.0	3	47	0						7	11
LHASA	16.83	205.4	3	55K	-2							
NARYN	17.31	265.6	4	3	0							
DAIREN	17.76	102.9	4	2	-6							
FRUNSE	17.86	271.3	4	10A	0							
CHANGCHUN	18.62	85.0	4	11	-8							
TOCKLAI	18.77	192.5	4	24	3							
FUTZELING	19.24	130.4	4	20	-6							
SUIHWA	19.33	75.9	4	24	-3							
ANDIJAN	20.12	266.7	4	36A	0	8	29	14				
KUNMING	20.30	171.0	4	30	-8							
SHILLONG	20.48	199.3	4	35K	-5	8	30	7			5	4 PP
NAMANGAN	20.53	267.9	4	40	0							
FERGANA	20.67	266.2	4	41	-1							
CHATRA	20.73	211.9	4	40	-2						8	58
DZHERGETAL	21.54	263.8	4	50	-1							
TCHIMKENT	21.55	272.8	4	52	1							
KHOROG	22.07	259.2	4	57	1							
TASHKENT	22.10	270.5	4	55	-1						10	0 SSS
GARM	22.28	264.1	4	58	0							
DEHRA DUN	22.30	235.5	4	59	1						9	14
KULYAB	23.13	262.0	5	7	1							
VLADIVOSTOK	23.44	83.4	5	4K	-5							
STALINABAD	23.55	264.4	5	12	1						16	12 SCS
CHITTAGONG	23.59	197.4	5	11A	0							
LAHORE	23.70	243.5	5	13A	1							
BOKARO	23.97	211.6	5	15K	0							
WARSAK DAM	23.98	251.8	5	15	0							
CALCUTTA	24.32	205.1	5	18K	0	9	33	-1				
SAMARKAND	24.34	268.3	5	19	1							
PHU-LIEN	25.10	163.5	5	25	0	9	42	-5				

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ITUHARA	25.45	105.1	5	26	-3	9	57	4	7	38	
TOMIE	26.03	108.6	5	33A	-1	10	7	5	8	9	
SVERDLOVSK	26.56	309.9	5	41	2	10	16	5	11	36	SS
HUKUOKA	26.58	105.0	5	38K	-1	10	15	4	6	24	
SAGA	26.69	105.8	5	42	2				6	8	
NAGASAKI	26.72	107.1	6	2A	21	12	6	112	10	29	
SIMONOSEKI	26.72	103.8	5	40K	-1	10	32	18	6	24	
HSINCHU	26.89	131.9	6	6	24	10	57	40			
UNZENDAKE	26.97	106.7	5	47K	4	10	20	2			
HAMADA	26.99	100.9	5	40K	-3	10	18	0	7	8	PPP
TAIPEI	27.00	130.7	5	44K	1	10	34	16			
SAIGO	27.20	97.3	5	48	3	10	42	21	7	40	
KUMAMOTO	27.22	106.1	5	48A	3	10	43	21	12	17	
PENGHU	27.22	135.9	5	42	-3	10	42	20			
TAICHUNG	27.27	133.2	5	48A	2	10	50	27			
ILAN	27.33	130.7	5	50A	4	10	54	30			
MATSUE	27.40	98.9	6	5	18	10	38	13			
ASOSAN	27.42	105.5	5	50	3	10	30	5	11	42	
HIROSIMA	27.53	101.5	5	45	-3	10	24	-3	6	19	
YONAGO	27.60	98.7	5	47	-2	10	36	8			
OOITA	27.61	104.4	5	48K	-1	10	38	10	10	12	
KAGOSIMA	27.87	108.4	5	53	2	10	57	25	13	45	
HWALIEN	27.91	131.9	5	53K	2	11	2	29			
TAINAN	28.00	135.3	5	56	4	9	50	-44			
MATUYAMA	28.04	102.2	5	50	-3	10	50	15	7	10	
TOTTORI	28.18	97.8	5	50	-4				11	8	
MIYAZAKI	28.24	106.8	5	43K	-11	10	54	16	12	58	
UWAZIMA	28.24	103.4	5	56	2	10	59	21	6	14	
KAOHSIUNG	28.34	135.7	6	6	11	9	48	-52			
OKAYAMA	28.39	99.6	6	3	7	10	59	18			
HSINKONG	28.49	133.4	5	58	1	10	52	10			
YAKUSIMA	28.54	110.3	5	56K	-1	11	15	32			
TOYOOKA	28.58	97.2	5	57A	0	11	12	28	6	28	
TAITUNG	28.67	134.1	5	59K	1	11	25	40			
TAKAMATU	28.68	100.1	5	57	-1	10	43	-2	6	53	PP
KOTI	28.74	101.9	5	58	-1	10	48	2	8	7	
SIMIDU	28.79	103.8	5	57	-2	10	56	9	6	59	PP
HIMEJI	28.82	99.4	6	0	0	11	5	17			
TAWU	28.88	135.0	6	4A	4	11	5	16			
MAIZURU	29.07	96.8	6	28	26	11	2	10	7	4	
HENGCHUN	29.10	135.6	6	6	4	11	41	49			
WAZIMA	29.15	92.2	5	58	-5	10	48	-5	7	0	PP
TOKUSIMA	29.18	100.0	6	2	-1	11	1	8	8	45	
SUMOTO	29.24	99.3	6	2	-1	11	9	15	6	54	PP
KOBE	29.27	98.4	6	3	-1	10	56	1	7	16	
HUKUI	29.34	95.1	6	6	2	10	57	1	6	21	
MUROTO	29.36	101.8	6	4	0	11	15	19	7	1	PP
SUTTSU	29.36	79.9	6	3	-1	10	59	3	7	16	PP
KANAZAWA	29.37	93.9	6	7	2	12	8	72			
QUETTA	29.40	250.5	6	3A	-2				6	54	
TSURUGA	29.40	96.0	6	3	-2	11	15	18	6	24	
KYOTO	29.48	97.3	6	1	-5	11	13	15			
WAKAYAMA	29.51	99.2	6	8	2	11	16	17	7	28	PP
OSAKA	29.53	98.2	6	6	0	11	27	28	6	41	
WAKKANAI	29.60	74.2	6	12	5	10	51	-9	7	50	PPP
TOYAMA	29.68	93.2	6	6	-1	11	5	4	7	10	PP
HIKONE	29.72	96.5	6	6	-2	11	31	29	7	17	PP
NARA	29.73	97.8	6	11	3	11	34	32			
IBUKISAN	29.75	96.2	6	22	14	11	23	21			
MORI	29.83	81.1	6	10	1	11	13	9	7	10	PP
Y.-SAKHLINSK	29.93	70.9	6	9K	-1				7	55	
RUMOE	29.96	77.1	6	7	-3						
TAKAYAMA	29.98	94.1	6	10	0				12	56	
GIHU	30.02	95.8	6	6	-4	11	20	13	7	13	PP
MURORAN	30.03	80.5	6	10	0						
TIKSI	30.04	18.2	6	14	3						
HAKODATE	30.05	81.6	6	11	0	11	13	6	7	18	PP
SAPPORO	30.05	78.9	6	8K	-3	11	3	-4	6 28	7	6 PP
VIZIANAGRAM	30.05	211.1	6	13	2	11	23	16			
KAMEYAMA	30.09	97.0	6	10	-1	11	21	13	7	10	PP
TAKADA	30.23	91.7	6	23	11	11	57	47			
NAGOYA	30.27	96.0	6	14	1	11	21	10			
OWASE	30.31	98.5	6	11	-2	11	14	3	7	5	PP
SIOMISAKI	30.35	100.0	6	12	-1	11	17	5			
TOMAKOMAI	30.39	79.8	6	17	3	11	19	6			
AKITA	30.40	85.8	6	11K	-3	11	24	11	7	40	PPP
NAGANO	30.40	92.5	6	10	-4	11	4	-9	7	11	PP
NIIGATA	30.42	89.7	6	23	9	11	56	43			

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MATUMOTO	30.44	93.4	6	20	6	11	26	13	7 29 PP
AOMORI	30.44	83.4	6	16	2	11	34	21	
MATUSIRO	30.47	92.7	6	5K	-9	11	1	-13	7 27 PPP
ASAHIGAWA	30.53	77.1	6	18	3				
SAKATA	30.55	87.4	6	13	-2	11	56	41	6 31
IIDA	30.70	94.7	6	15	-1	11	38	21	
OIWAKE	30.81	92.8	6	24	7				7 12
HAMAMATU	31.03	96.2	6	22	3				7 22 PP
HATINOHE	31.08	83.5	6	17	-3	11	47	24	7 22 PP
MAEBASI	31.14	92.3	6	22K	2	11	10	-14	7 26 PP
MORIOKA	31.16	85.1	6	19A	-1	11	21	-4	7 28 PP
KOHU	31.17	94.0	6	22	1	11	55	30	7 41 PP
ASHKABAD	31.17	271.1	6	19	-2				
YAMAGATA	31.19	88.2	6	17	-4	11	45	20	
TITIBU	31.35	93.0	6	35	13	12	10	42	
URAKAWA	31.36	79.9	6	23	1	11	30	2	
MIZUSAWA	31.37	86.2	6	21	-1	11	27	-1	
HUNATU	31.37	94.0	6	31	9	11	37	9	6 49
SHIZUOKA	31.38	95.2	6	20K	-2	11	30	2	7 45 PPP
OBIHIRO	31.38	78.3	6	33	11				12 56
OMAESAKI	31.45	95.9	6	25K	2	11	52	23	6 55
KUMAGAYA	31.48	92.5	6	26	3				14 5
HUKUSIMA	31.50	89.0	6	23	0	11	41	11	7 24 PP
SENDAI	31.57	87.8	6	16	-8	11	32	1	7 25 PP
SHIRAKAWA	31.61	90.2	6	32	8	11	40	8	7 13
UTUNOMIYA	31.64	91.4	6	25	0	11	42	10	7 32 PP
MISIMA	31.69	94.5	6	25A	0	11	31	-2	7 45 PP
MIYAKO	31.74	84.7	6	22	-4	11	34	0	7 33 PP
ABASHIRI	31.77	75.8	6	27	1	11	41	7	14 0
ISINOMAKI	31.80	87.3	6	23	-3	11	46	11	7 48 PP
AJIRO	31.83	94.5	6	24	-2	11	55	20	7 52 PP
NAGATURO	31.89	95.4	6	19	-8				
TUKUBASAN	31.96	91.8	6	22	-5	11	32	-5	6 37 7 21 PP
HONGO	31.98	92.9	6	29	1	11	56	19	7 33 PP
TOKYO C.M.O.	31.98	93.0	6	18	-10	11	52	15	7 44 PP
KAKIOKA	32.01	91.7	6	27	-1	11	38	0	7 46 PP
YOKOHAMA	32.03	93.4	6	35	7				7 41 PP
MITO	32.14	91.3	6	28	-1	12	0	20	7 52 PP
ONAHAMA	32.17	90.0	6	32	3	11	37	-3	7 49 PP
OSIMA	32.18	94.7	6	22	-7	11	31	-9	7 48 PPP
KUSIRO	32.19	77.6	6	33	3	11	43	2	6 52
MERA	32.42	94.1	6	36	5	11	57	13	7 57 PP
HYDERABAD	32.70	218.8	6	31K	-3	11	58	9	13 14 PS
TYOSI	32.73	92.1	6	47	13				
NEMURO	32.89	76.5	6	34	-2	11	54	2	14 3
HATIDYOZIMA	33.38	97.0	6	59	19	12	8	9	
MAGADAN	33.64	46.1	6	44	2	12	9	6	7 4
BAGUIO CITY	33.84	141.2	6	42	-2				
PORT BLAIR	33.88	191.5	6	49	5				12 42 PS
POONA	33.97	226.7	6	45	0	12	12	4	7 51 PP
BOMBAY	34.20	228.5	6	49	2	12	33	21	8 10 PP
TORISIMA	35.20	100.4	7	0	5				13 29
MANILA	35.64	142.0	7	2	3	12	27	-7	
MADRAS	35.97	212.8	7	6K	4	13	8	29	8 12 PP
PETROPAVLOVK	38.63	56.2	7	24	0	13	16	-4	9 2
GORIS	38.93	280.8	7	28	1				13 41
TIFLIS	39.04	284.8	7	27	-1				13 43
KODAIKANAL	39.56	215.0	7	38	6	13	42	8	9 9 PP
APATITY	40.15	327.1	7	34A	-3	13	41	-2	9 29 PCP
COLOMBO	41.71	209.7	7	50	0				
PULKOVO	42.38	315.5	7	55	0	14	16	0	9 39 PP
MAMBAJAO	42.42	139.5	7	12	-44				
SODANKYLA	42.78	327.1	7	57	-2				
SIMFEROPOL	44.83	294.0	8	14	-1				10 3 PP
HELSINKI	44.90	317.0	8	15	-1	14	55	3	18 3 SS
KIRUNA	45.05	328.3	8	17	0	14	56	1	10 12 PP
IASI	48.01	299.4	8	40	0	15	51	14	10 5 PCP
UPPSALA	48.50	318.2	8	42A	-2	15	51	7	10 37 PP
KOROR	48.52	130.2	8	43K	-1	15	50	6	10 47 PP
FOCSANI	48.91	297.8	8	52	5	16	8	19	18 52 SCS
LWOW	49.02	304.0	8	48	0				
KSARA	49.03	279.7	8	48	0	16	4	13	10 46 PP
NORD	49.14	349.9	8	46	-3	16	8	15	20 8 SS
SKALSTUGAN	49.51	324.0	8	49	-3				
WARSAW	49.73	307.9	8	52A	-2	16	12	11	10 51 PP
GUAM	49.79	114.7	8	51K	-3				
ISTANBUL KA.	49.89	291.6	8	54	-1	16	17	14	
ISTANBUL UN.	49.96	291.6	8	53	-2	16	17	13	
BUCHAREST	50.19	296.8	8	57A	0	16	22	15	10 15 PCP

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CAMPULUNG	50.46	298.2	9	2	3	16	24	13	10	43	PP
JERUSALEM	50.62	277.9	9	13	13	16	38	25			
KRAKOW	51.30	305.7	9	3	-3						
SKALNATE PL.	51.52	304.6	9	7	0	16	37	11	11	30	PP
DJAKARTA	51.60	170.4	9	11	3	16	38	10			
RACIBORZ	52.27	306.4	9	12	-1				12	4	PPP
TIMISOARA	52.58	300.4	9	20	5	16	45	5	11	19	PP
COPENHAGEN	52.75	314.7	9	12	-4	16	57	15	11	12	PP
SOFIA	52.79	296.1	9	18	1	16	55	12	20	32	SS
KECSKEMET	52.92	302.3	9	20	2	16	58	13	10	40	PCP
SZEGED	52.99	301.4	9	19	1				11	3	PP
BUDAPEST	53.02	303.2	9	19	1	18	53	127	10	24	PP
HURBANOVO	53.34	304.0	9	30	9	17	7	17	20	57	SS
BELGRADE	53.51	299.7	9	22A	0	17	2	9	12	3	PP
KALOCSA	53.54	302.2	9	24	2	16	41	-12	10	34	PCP
BRATISLAVA	53.83	304.8	9	23	-1	17	12	15	11	33	PP
BERGEN	53.85	322.2	9	23	-2	17	6	9	11	22	PP
POTSDAM	54.00	310.9	9	27	1	17	14	15	21	36	SS
VIENNA-H.	54.21	305.2	9	28	1	17	21	19	11	40	PP
PRUHONICE	54.38	307.7	9	26	-2	17	26	21	12	53	PPP
SKOPJE	54.38	296.3	9	33K	5	17	23	18	13	6	PPP
PRAGUE	54.40	307.9	9	26	-3	17	12	7	11	56	PP
HELWAN	54.45	278.4	9	27	-2	17	0	-5			
COLLMBERG	54.57	309.8	9	34	4	17	32	25	11	55	PP
HAMBURG	55.03	313.3	9	32A	-1	17	32	19			
ATHENS	55.04	291.0	9	33K	0				17	30	PS
HALLE	55.04	310.4	9	31	-2	17	36	23	11	37	PP
PLAUEN	55.44	309.2	9	33	-3						
JENA	55.53	309.9	9	35	-2	17	38	18	11	36	PP
CHEB	55.54	308.7	9	40	3	17	35	15	13	6	PPP
ZAGREB	55.69	302.8	9	36	-2	17	43	21			
MADANG	56.76	120.2	10	18	32				10	45	PCP
SCORESBY SD.	57.11	340.0	9	50	2				39	41	PKPPKP
WITTEVEEN	57.12	313.8	9	47	-1						
BENSBERG	57.88	311.7	9	52A	-2	17	59	8			
STUTTGART	57.99	308.7	9	53A	-1	18	17	25	12	26	PP
TUBINGEN	58.20	308.5	9	55A	-1	18	18	23			
DE BILT	58.28	313.7	9	55A	-1	18	12	16	12	12	PP
KARLSRUHE	58.29	309.3	9	55K	-1	18	13	17	12	10	PP
RAVENSBURG	58.31	307.6	9	54	-3	18	12	15			
THULE	58.39	356.6	9	52A	-5	18	2	4	39	22	PKPPKP
EBINGEN	58.45	308.2	9	56A	-2	18	18	20			
COLLEGE	58.54	27.5	9	55A	-3						
ABERDEEN	58.84	321.4	10	4	4	18	14	10	13	29	PPP
TRUK	58.87	113.0	9	54	-6	17	59	-5	10	48	PCP
CHUR	58.88	306.7	9	58	-3	18	22	18			
STRASBOURG	58.88	309.2	9	59A	-2	18	5	1	12	9	PP
ZURICH	59.12	307.6	10	0	-2						
BOLOGNA	59.17	303.6	10	6	3	18	33	25	22	43	SS
AKUREYRI	59.39	334.7	10	12	8	18	37	26	14	2	
BASLE	59.59	308.2	10	4A	-1				15	58	
FLORENCE X.	59.63	303.0	10	3A	-3	18	24	10	10	15	*PP
PRATO	59.66	303.1	10	4	-2	18	23	9			
ROME	59.97	300.6	10	7	-1	18	37	19	12	23	PP
RESOLUTE	60.03	4.3	10	4A	-4						
DURHAM	60.03	318.9	10	10	2	18	28	9	12	28	PP
PAVIA	60.04	305.3	10	6A	-3	18	40	21	12	38	PP
EDINBURGH	60.07	320.6	10	10	1	18	34	15	12	22	PP
REGGIO CALA.	60.21	295.4	10	8	-2	18	24	3			
MESSINA	60.21	295.5	10	9	-1	18	32	11	12	37	PP
NEUCHATEL	60.24	308.0	10	7	-3	18	46	24			
BESANCON	60.63	308.7	10	13	0						
VIK	61.24	333.1	10	35	18	19	7	33	13	7	PP
KEW	61.42	315.4	10	16A	-2	18	51	14	12	48	PP
PARIS	61.59	311.7	10	17	-2				12	36	PP
REYKJAVIK	61.63	334.7	10	24K	5						
MONACO	61.90	304.8	10	19A	-2				10	52	PCP
GARCHY	62.21	310.1	10	20A	-3						
CLERMONT-FD.	63.10	308.7	10	28A	-1	19	12	14	23	27	SS
RATHFARNHAM	63.12	319.6	10	26	-3	19	14	16	13	3	PP
BARCELONA	66.40	305.5	10	54	-4	19	56	17			
RABAUL	68.07	120.9	10	56	-5				20	15	PS
SITKA	68.39	128.6	11	4A	-1	20	12	10	13	33	PP
ALGIERS UNI.	68.89	301.2	11	8A	-3	20	15	+9	13	35	PP
ALICANTE	69.93	304.4	11	13	1	20	39	18	14	1	PP
TOLEDO	70.93	307.6	11	18A	-1	20	47	15	14	1	PP
RELIZANE	71.06	301.8	11	16A	-3	20	40	6	16	33	PPP
ALMERIA	72.11	304.4	11	21	-5	20	42	-4	14	10	PP

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GRANADA	72.53	305.3	11	21A	-7	21	11	20	14	29 PP
COIMBRA	73.12	310.3	11	35	3	21	1	4	14	19 PP
LISBON	74.56	309.6	11	36K	-4	20	54	-20	16	12 PPP
TAMANRASSET	76.70	288.9	11	52A	0	21	36	-1	21	50 SCS
CHARTERS TS.	77.72	135.2	11	52A	-6	21	44	-4		
LWIRO	77.94	254.3	11	58	-1	21	59	8		
PERTH	78.26	165.6	12	7	6	22	2	8	15	15 PP
TANANARIVE	79.23	229.1	12	9	3	22	15	11	15	12 PP
VICTORIA	79.47	27.3	12	9A	2	22	21	14		
SASKATOON	80.51	15.8	12	12	-1	22	12	-6	27	35 SS
SEATTLE	80.60	27.0	12	8	-5	22	38	19		
HUNGRY HORSE	82.38	21.7	12	20A	-3	22	47	10	15	51 PP
CORVALLIS	82.96	29.1	12	27K	1	23	6	23		
HONOLULU	83.63	66.3	12	39A	10	22	48	-1	28	37 SS
BUTTE	84.91	21.6	12	37K	1	23	15	13		
BOZEMAN	85.63	20.8	12	37A	-2	23	16	7		
ARCATA	85.92	31.4	12	48	7				23	21 SKS
SHASTA	86.69	30.4	12	42	-2				38	21 PKPPKP
HAWAII V.OB.	86.81	65.6	12	48	3	23	12	-9		
MINERAL	87.28	30.0	12	44A	-3				38	24 PKPPKP
BRISBANE	87.34	134.1	12	50	3	23	24	-2		
SEVEN FALLS	87.64	353.2	12	47K	-2	23	30	2	18	23 PPP
UKIAH	87.77	31.7	12	51K	1	23	30	0	16	29 PP
SHAWINIGAN	88.36	354.5	12	55A	3	23	53	18	16	24 PP
RENO	88.63	29.2	12	51A	-3	23	51	13		
RAPID CITY	88.89	16.0	12	52	-3	23	42	2	38	36 PKPPKP
BERKELEY	89.24	31.6	13	0A	3	23	54	11	16	34 PP
HALIFAX	89.27	347.8	13	1A	4				23	13 SKS
BREBEUF	89.46	355.0	13	1A	3	24	21	36		
BRANNER	89.66	31.8	13	0K	1					
OTTAWA	89.67	356.5	12	58K	-1	23	40	-7	16	32 PP
LICK	89.93	31.4	13	9	9					
EUREKA	89.95	26.5	12	57A	-3					
SALT LAKE C.	89.98	23.1	12	59K	-1	23	59	9	29	47 SS
NOUMEA	90.76	121.4	13		3	23	52	-5	16	52 PP
FRESNO	91.11	30.4	13	10A	5					
LOME	91.33	280.0	13	12	6	24	10	8	16	52 PP
RIVERVIEW	91.66	139.0	13	10A	2				13	21 *PP
MELBOURNE	92.36	145.4	13	11	0	23	52	-19	13	22 *PP
WESTON	92.39	353.0	13	15	4				17	0 PP
LINCOLN	93.17	12.0	13	27	12	23	55	-23	16	55 PP
CHICAGO CGS.	93.18	5.1	13	21	6	24	13	-5	30	37 SS
BOULDER CITY	93.51	27.1	13	16A	0	24	41	20		
CLEVELAND	93.69	0.6	13	20	3				17	7 PP
PALISADES	93.95	354.8	13	15	-3	24	5	-20	17	13 PP
PASADENA	94.04	30.3	13	16	-3	24	34	8	17	7 PP
FORDHAM	94.10	354.8	13	22	3				23	54 SKS
PENNSYLVANIA	94.34	357.8	13	21	1	24	20	-8	16	52 PP
PITTSBURGH	94.73	359.4	13	22	0				23	57
PHILADELPHIA	95.08	355.7	13	16	-7	24	42	7	23	45 SKS
MORGANTOWN	95.54	359.4	13	29A	3	24	24	-15		
FLORISSANT	95.93	7.5	13	32	5	24	36	-6	17	15 PP
ST. LOUIS 1	96.10	7.4	13	32A	4	24	33	-10		
GEORGETOWN	96.21	357.1	13	32	3	24	50	6	17	23 PP
PIETERMZBURG	97.22	234.9	13	33	0					
MBOUR	97.35	298.8	13	38	4	24	54	0	17	37 PP
FORT NELSON	97.66	146.5	13	27	-8	24	11	-45		
FAYETTEVILLE	98.17	11.0	13	40A	2				17	21 PP
TUCSON	98.21	25.4	13	43	5	24	32	-29	17	44 PP
APIA	98.94	100.5	14	17	36	24	28	-39	18	0 PPP
CHAPEL HILL	99.23	358.6	13	45	3					
LUBBOCK	99.28	17.7	13	44	1					
LITTLE ROCK	99.70	9.7	13	48	4	24	59	-15		
KIMBERLEY	99.91	239.2	13	49	4					
COLUMBIA	101.16	0.2	13	53A	2	25	34	8	24	33 SKS
BERMUDA	101.41	346.2	13	51	-1	23	57	-91	17	44 PP
GRAHAMSTOWN	102.14	234.8	14	6	11					
CHIHUAHUA	102.98	22.7	13	55	-4	25	43	2	18	3 PP
ONERAHI	105.31	125.4	19	16	777				28	55
AUCKLAND	106.33	126.0	17	44	777				33	54
HERMANUS	107.25	238.5	14	36	777				18	57 PP
KARAPIRO	107.48	126.3	18	1	777				28	23
COBB RIVER	108.13	130.3	19	0	777					
WELLINGTON	109.37	129.3	14	44	777	25	18	0	19	3 PP
ROXBURGH	109.52	135.5	14	12	777				24	56 SKS
OASIS-BUNG.	111.05	179.4	14	44	-229				26	20 SKKS
GUADALAJARA	111.28	22.7							19	32 PP
WILKES	111.42	175.1	14	51A	-222	25	26	12	19	30 PP

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MACQUARIE I.	111.50	147.2								19	31 PP
MIRNY	111.53	182.7	14	48A	-226					27	8
MANZANILLO	112.55	24.2				26	50	92		21	40 PPP
TACUBAYA	113.55	19.0	18	44	6	25	26	4		19	26 PP
MERIDA	113.67	9.0								19	36 PP
VERA CRUZ	114.39	16.0				25	24	-1		19	52 PP
SAN JUAN	115.33	344.6	18	49A	8	25	44	15		19	38 PP
ST. CLAUDE	116.64	339.4								19	41 PP
FORT FRANCE	117.75	338.5	18	56	10					29	4 PS
COMITAN	117.97	12.4	18	24	-22					20	8 PP
ST. VINCENT	119.27	338.1	18	56	7						
SAN SALVADOR	120.84	9.6	20	22	90					32	2
SANTIAGO MA.	121.16	8.8	20	42	110						
TRINIDAD	121.73	337.6	18	58	5						
GALERAZAMBA	124.05	353.5								20	48 PP
CAPE HALLETT	127.10	158.7	20	7A	63						
SCOTT BASE	129.34	165.3	19	11K	3					21	44 PP
CHINCHINA	129.84	353.3	19	12	3					21	40 PP
BOGOTA	130.04	351.3	16	16	-173					21	32 PP
SOUTH POLE	135.02	180.0	16	22K	-177					21	55 PP
BYRD STATION	142.43	169.7	19	29	-3					22	44 PP
HUANCAYO	146.63	350.3	19	40	1					34	40 SCSPKP
LA PAZ	149.47	335.6	19	44A	0					23	36 PP
ANTOFAGASTA	156.90	335.2	18	57	-57						
TALA POZO	158.23	317.3	19	52	-4					24	37 PP
LA PLATA	159.78	292.7	20	12	14					24	48 PP

DECEMBER 4 13.H 20.M 8.S EPICENTRE 45.04 101.37 DEPTH= 0.KM

A=-0.13979 B= 0.69504 C= 0.70525 D= 0.9804 E= 0.1972
G=-0.1391 H= 0.6914 K=-0.7090 HT= -3.6

SE= 1.84

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ULAN-BATOR	4.78	51.0									1	23	PG
KYAKHTA	6.33	30.9	1	39	2						3	19	
IRKUTSK	7.49	14.0	1	55	2						3	48	
KABANSK	7.84	24.6									2	9	
BAYANDAI	8.48	17.2									4	29	
CHENGTU	14.51	170.9	3	30	1	6	21	10					
SEMIPALATNSK	15.17	298.2	3	38	1								
CHILIK	16.49	273.0	3	56	2								
PRZHEVALSK	16.78	269.3	3	58	0								
CHANGCHUN	17.13	85.6	4	3	1								
ALMATA-2	17.30	272.6	4	1	-4								
ILI	17.35	275.0	4	5	0								
LHASA	17.41	211.5	4	6A	0	7	26	7					
ALMATA	17.60	272.9	4	6	-2								
FABRICHNAYA	18.01	272.9	4	14	1								
RYBACHE	18.44	270.9	4	20	1						4	24	PP
TOCKLAI	19.01	198.4	4	28K	2								
FRUNSE	19.38	273.1	4	31	1						9	21	
KUNMING	19.98	176.5	4	33	-4								
ZO-SE	20.83	125.2	4	44	-2	8	42	8					
SHILLONG	20.89	204.7	4	43A	-3	8	36	1			5	7	PP
CHATRA	21.45	216.8	4	51	-1	8	59	13					
VLADIVOSTOK	21.96	84.2	4	57	0						9	2	PCP
NAMANGAN	22.03	269.9	4	59	1								
FERGANA	22.17	268.3	4	59	0	9	3	4					
TCHIMKENT	23.07	274.5	5	9	1								
DEHRA DUN	23.48	239.2	5	16	4	9	33	10			11	5	SSS
KHOROG	23.53	261.7	5	14	1								
TASHKENT	23.61	272.3	5	13	0						9	31	
CHITTAGONG	23.94	202.2	5	17	0	9	39	8					
CANTON	23.97	152.1	5	19K	2	9	40	9					
PHU-LIEN	24.57	168.1	5	24	1	9	45	3					
KULYAB	24.61	264.3	5	24	1								
BOKARO	24.67	216.1	5	34A	10	9	55	12					
CALCUTTA	24.87	209.7	5	28K	2	9	57	10			11	18	SS
LAHORE	25.00	246.7	5	27	0	9	54	5					
STALINABAD	25.04	266.5	5	25	-2						10	0	
WARSAK DAM	25.37	254.6	5	29	-1								
SAMARKAND	25.85	270.2	5	34	-1								
SVERDLOVSK	27.82	309.8	5	54	1	10	36	1					

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Y.-SAKHLINSK	28.55	71.2	5	59	-1					
MATUSIRO	28.95	94.0	6	0	-3	11	11	17		
TIKSI	29.74	17.2	6	11	1	11	4	-2		
QUETTA	30.78	253.1	6	18	-1	11	17	-6		
MAGADAN	32.67	45.8	6	37	1					
ASHKABAD	32.69	272.8	6	39	3					
HYDERABAD	33.56	222.3	6	41K	-3	12	17	11	8	5 PP
KARACHI	33.57	246.8	6	47	3					
POONA	34.98	229.9	6	56	0	12	35	7	14	51 SS
BOMBAY	35.25	231.6	7	0	2	12	32	0	8	25 PP
MADRAS	36.69	216.1	7	12K	2	13	6	12	8	42 PP
PETROPAVLOVK	37.46	56.5	7	17	0					
GORIS	40.44	282.1	7	44	2				16	58 SS
TIFLIS	40.54	286.0	7	44	1				9	18 PP
APATITY	41.11	327.2	7	47K	0					
PULKOVO	43.55	316.0	8	9	2					
SODANKYLA	43.74	327.3	8	8	-1				9	54 PP
KIRUNA	45.99	328.6	8	26	-1				18	47 SS
HELSINKI	46.04	317.5	8	27	0				10	13 PP
SIMFEROPOL	46.27	295.0	8	28A	-1	15	15	-1	18	40 SS
KOROR	47.28	132.5	8	34	-3					
GUAM	48.35	116.6	8	46	1				10	39 PP
NORD	49.57	350.2	8	53	-2					
UPPSALA	49.62	318.8	8	54	-1				19	51 SS
LWOW	50.36	304.9	9	2	1				20	4 SS
SKALSTUGAN	50.52	324.6	9	0	-2					
KSARA	50.54	281.1	9	4	2	16	18	2	10	54 PP
WARSAW	51.01	308.7	8	13	-53				19	13 SS
KRAKOW	52.62	306.7	9	16	-2	16	46	1	10	31 PCP
RACIBORZ	53.58	307.3	9	34	9					
COPENHAGEN	53.93	315.5	9	28	0					
BRATISLAVA	55.16	305.8	9	36	-1				18	16
POTSDAM	55.24	311.8	9	37	0					
PRUHONICE	55.67	308.7	9	40	0				12	56
PRAGUE	55.69	308.8	9	40	0	17	30	4		
COLLMBERG	55.83	310.7	9	40	-1					
HELWAN	55.97	279.9	9	41	-1				17	31
HAMBURG	56.23	314.2	9	47K	3					
HALLE	56.29	311.3	9	44	-1				11	2
ATHENS	56.50	292.2	9	46	0					
PLAUEN	56.71	310.2	9	46	-2				10	48
JENA	56.79	310.9	9	47	-1				12	45 PPP
CHEB	56.81	309.7							19	40
TRUK	57.42	114.8	9	51	-2				12	4 PP
COLLEGE	57.98	28.1	9	56	-1					
WITTEVEEN	58.32	314.7	10	0	1					
THULE	58.64	357.2	9	56	-5					
BENSBERG	59.11	312.7	10	4	-1					
STUTTGART	59.27	309.7	10	4A	-2				12	15 PP
TUBINGEN	59.47	309.5	10	6	-1					
EBINGEN	59.73	309.3	10	8	-1					
RESOLUTE	60.07	4.9	10	10A	-1	18	30	6		
STRASBOURG	60.15	310.2	10	12	0				10	55 PCP
ZURICH	60.41	308.7	10	14	0					
BASLE	60.87	309.3	10	17	0				14	34
FLORENCE X.	60.98	304.1	10	18K	1				11	19
DURHAM	61.14	319.8	10	21	3	18	10	-27		
NEUCHATEL	61.53	309.1	10	19	-2					
KEW	62.59	316.4	10	27	-1					
PARIS	62.82	312.8	10	29	-1				12	48 PP
MONACO	63.23	305.9	10	31	-1					
GARCHY	63.46	311.1	10	33	-1					
RATHFARNHAM	64.21	320.6	10	48	9					
CLERMONT-FD.	64.38	309.8	10	40	0					
RABAUL	66.70	122.7	10	54	-1					
ALGIERS UNI.	70.25	302.4	11	15	-2	20	28	-1	15	32 PPP
ALICANTE	71.26	305.7	11	23	0	20	40	0		
TOLEDO	72.22	308.8	11	29	0					
RELIZANE	72.43	303.1	11	29	-1				12	44
GRANADA	73.85	306.6	11	41A	3	21	20	10	16	11 PPP
LISBON	75.82	310.9	11	50K	0					
CHARTERS TS.	76.56	137.0	11	52	-2				12	22
TAMANRASSET	78.18	290.3	12	3	0	22	1	4	15	3 PP
LWIRO	79.36	255.9	12	10	1					
HUNGRY HORSE	81.96	23.0	12	23	0					
BUTTE	84.49	23.0	12	37	1				12	57
BOZEMAN	85.23	22.2	12	40	0					
SHASTA	86.05	31.8	12	43	-1					
BRISBANE	86.16	135.7	12	43	-1					

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MINERAL	86.65	31.5	12 47A	0	15 51
RENO	88.02	30.6	12 54	1	
BERKELEY	88.57	33.1	12 57K	1	
RAPID CITY	88.61	17.4	12 56	0	
EUREKA	89.41	28.0	13 0	0	
SALT LAKE C.	89.52	24.6	13 2	2	
FRESNO	90.47	31.9	13 7	2	
BOULDER	91.98	20.2	13 14	2	
BOULDER CITY	92.95	28.7	13 18	2	
PASADENA	93.40	31.9	13 18	0	
FAYETTEVILLE	98.02	12.7	13 38	-1	
MBOUR	98.75	300.4	13 45	2	
CAPE HALLETT	126.40	159.2	19 4A	-1	
SCOTT BASE	128.81	165.7	19 9	-1	
SOUTH POLE	134.85	180.0	19 13	-8	22 56
HUANCAYO	147.00	354.1	19 42	-1	20 2 PKPPKP
LA PAZ	150.20	339.4	19 52	4	

DECEMBER 6 3.H 49.M 36.S EPICENTRE 45.14 150.27 DEPTH= 65.KM

DEPTH OF FOCUS= 0.005R

A=-0.61462 B= 0.35099 C= 0.70643 D= 0.4959 E= 0.8684
G=-0.6135 H= 0.3503 K=-0.7078 HT= -3.6

SE= 2.73

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP M	SUPP S
NEMURO	3.83	243.4	0	57	-1	1	40	-3			1	16
ABASHIRI	4.42	257.5	1	2	-5	1	51	-6			2	19
KUSIRO	4.75	245.0	1	9	-2	2	3	-3				
OBIHIRO	5.56	249.0	1	24	2	2	29	3				
Y.-SAKHLINSK	5.56	291.7	1	25	3						2	23
ASAHIGAWA	5.82	259.3	1	28	2							
URAKAWA	6.20	243.8	1	30	-1	2	41	-1				
SAPPORO	6.75	255.3	1	39A	0	2	59	4				
TOMAKOMAI	6.81	250.4				3	4	7				
MORIOKA	8.64	234.3	2	2	-3	3	32	-11				
MORI	7.67	250.1	1	48	-4	3	32	14				
HAKODATE	7.72	247.6	1	50	-2	3	16	-3			3	45
AOMORI	8.19	241.5				3	26	-5				
MIZUSAWA	9.06	231.7	2	23	12	3	43	-9				
PETROPAVLOVK	9.70	31.4	2	23	4						4	8
SENDAI	9.80	228.8				4	2	-8				
YAMAGATA	10.11	230.6				4	7	-11				
HUKUSIMA	10.42	228.3	2	32	3	4	19	-6				
SHIRAKAWA	11.02	226.9				5	32	52				
UTUNOMIYA	11.64	226.1				4	38	-17				
KAKIOKA	11.73	224.2	2	47	0						4	50
MATUSIRO	12.51	230.9	2	53	-4	5	37	21			3	34
MAGADAN	14.44	1.1	3	24	1						7	57
CHANGCHUN	17.84	274.7	4	7A	1							
PEKING	25.50	270.6	5	24A	0							
ZO-SE	26.67	248.3	5	34	-1							
LANCHOW	35.98	272.0	7	17A	20							
HONG KONG	37.24	244.4	7	21	14							
CANTON	37.25	246.3	7	9	2							
COLLEGE	38.64	37.1	7	17	-2							
CHENGTU	38.73	264.3	7	21A	1	13	17	5				
KUNMING	43.08	258.7	7	56A	1							
LHASA	48.49	272.6	8	41	3							
RABAUL	49.15	177.5	8	44	1							
SHILLONG	50.34	267.7	8	54A	1							
CHATRA	52.90	272.3	9	13	1							
RESOLUTE	52.99	17.6	9	10A	-3							
NORD	53.32	357.6	9	13A	-2							
THULE	56.24	10.2	9	32	-4							
APATITY	58.03	336.2	9	47	-2							
LAHORE	59.03	285.0	9	55A	-1							
WARSAK DAM	59.46	288.9	9	59	0							
SODANKYLA	60.02	338.2	10	0	-3							
SHASTA	61.06	60.2	10	7	-3							
KIRUNA	61.22	340.6	10	9	-2							
HUNGRY HORSE	61.35	49.1	10	10	-2						10	23
MINERAL	61.75	60.1	10	13	-1							

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RENO	63.34	59.9	10 34	9				
BUTTE	63.56	50.5	10 38	12				
SCORESBY SD.	64.56	357.1	10 32	-1				
BOZEMAN	64.61	50.1	10 43	10				
QUETTA	64.87	288.2	10 35A	0	18 59	-10	10 55	
EUREKA	65.71	57.9	10 38	-2			10 52	
HELSINKI	65.96	333.5	10 40	-2				
SKALSTUGAN	66.64	341.0	10 46	0				
SALT LAKE C.	67.30	54.6	10 47	-3			11 2	
POONA	67.62	274.1	10 53	1				
UPPSALA	68.42	336.5	10 55	-2				
BOULDER CITY	68.64	60.2	10 56	-3				
RAPID CITY	69.84	47.4	11 4	-2			11 17	
COPENHAGEN	73.43	336.6	11 28	1				
TUCSON	73.60	60.8	11 31	3			11 41	
HAMBURG	75.98	336.9	11 44A	2				
RACIBORZ	76.42	330.5	11 46	1				
COLLMBERG	77.09	334.1	11 48	0				
HALLE	77.23	334.8	11 45	-4				
WITTEVEEN	77.54	338.4	11 52K	1				
PRAGUE	77.70	332.6	11 52	0				13 0
PRUHONICE	77.74	332.5	11 52	0				13 45
JENA	77.85	334.7	11 52	0				
PLAUEN	78.05	334.2	11 52	-2				
BENSBERG	79.09	337.3	12 0	1				
RATHFARNHAM	79.90	346.0	12 4A	0				
KEW	80.47	341.9	12 7	0				
STUTTGART	80.48	335.1	12 7	0				
STRASBOURG	81.07	335.8	12 11K	1			12 40	12 50 *SP
BREBEUF	81.75	29.5	12 10K	-3				
BASLE	82.07	335.5	12 15	0				15 38
PARIS	82.29	339.2	12 18	2			12 30	12 25 PCP
GARCHY	83.55	338.2	12 24A	1				
FLORENCE X.	84.26	331.5	12 29	3				13 10
CLERMONT-FD.	84.93	337.6	12 31	2				
COLUMBIA	88.54	40.4	13 0	13				
SOUTH POLE	134.95	180.0	19 11	-1				
HALLEY BAY	149.49	181.6	19 56	18				23 34 PP

DECEMBER 6 8.H 36.M 19.S EPICENTRE 44.95 150.66 DEPTH= 0.KM

A=-0.61897 B= 0.34797 C= 0.70413 D= 0.4900 E= 0.8717
G=-0.6138 H= 0.3451 K=-0.7101 HT= -3.5

SE= 2.28

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
KURILSK	1.99	279.0	0 38K	2	1 4	2		
NEMURO	4.00	247.8	1 3	-1	1 47	-6		1 13
ABASHIRI	4.66	260.7	1 19	5	2 8	-2		1 44
KUSIRO	4.93	248.6	1 17	-1	2 9	-7		
OBIHIRO	5.75	251.9	1 35	6	2 30	-7		
Y.-SAKHLINSK	5.88	292.7	1 35	4				
ASAHIGAWA	6.06	261.8	1 36	3				
WAKKANAI	6.36	277.4	2 27	49				3 23
URAKAWA	6.37	246.7	1 40	2	3 3	11		
SAPPORO	6.97	257.6	1 48	2	3 4	-3		3 29
TOMAKOMAI	7.01	252.9	2 3	16				
UGLEGORSK	7.17	308.2	1 53	4				
MURORAN	7.50	252.9	1 54	0	3 26	5		
MORI	7.86	252.3	2 3	4	3 47	17		
HAKODATE	7.90	249.8	1 59	0	3 7	-24		2 52
AOMORI	8.34	243.8			3 49	7		
MORIOKA	8.77	236.5	2 12	1	3 41	-11		
PETROPAVLOVK	9.72	29.8	2 31	6				
SENDAI	9.89	230.9			4 11	-9		
HUKUSIMA	10.50	230.3	2 42	7				
SHIRAKAWA	11.10	228.8			5 38	48		
MITO	11.53	225.6			4 37	-23		
UTUNOMIYA	11.71	227.9			4 51	-13		
KAKIOKA	11.79	226.0	2 48	-5	5 3	-4		
TUKUBASAN	11.84	226.2	2 51	-3				4 56
MAEBASI	12.25	229.8			5 0	-18		
KUMAGAYA	12.27	228.1			5 10	-8		4 8
OIWAKE	12.59	231.0			4 8	-78		

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MATUSIRO	12.61	232.6	3 2	-2	4 49 -37	3 59
HUNATU	13.09	227.9			5 29 -9	
KOHU	13.09	228.8			3 34-124	
VLADIVOSTOK	13.62	268.9	3 18	1		
MAGADAN	14.62	0.3	3 31	1		
CHANGCHUN	18.13	275.4	4 15	0		
HUKUOKA	19.30	240.9	4 36	8	8 7 5	
PEKING	25.78	271.2	5 33A	-2		
ZO-SE	26.85	249.1	5 45A	0		
NANKING	27.87	253.5	5 55	1		
LANCHOW	36.26	272.5	7 7A	0		
HONG KONG	37.41	245.0	6 41	-36		
COLLEGE	38.62	37.0	7 27	0		
CHENGTU	38.98	264.9	7 30A	0	13 26 -4	
KOROR	40.03	205.4	7 26	-13		
KUNMING	43.31	259.2	8 6A	0	14 31 -3	
LHASA	48.77	273.0	8 51	2		
RABAUL	48.95	178.0	8 51	1		
SHILLONG	50.61	268.2	9 4A	1		
CHITTAGONG	52.66	265.0	9 19	0		
RESOLUTE	53.08	17.6	9 21A	-1		10 28 PCP
CHATRA	53.18	272.7	9 21	-1		
NORD	53.52	357.7	9 24A	-1		
THULE	56.38	10.3	9 42	-4		10 36 PCP
APATITY	58.31	336.3	9 45	-14		10 46
STALINABAD	58.96	295.0	10 4	0	18 8 -2	
LAHORE	59.34	285.3	10 5	-2		
WARSAK DAM	59.77	289.2	10 9A	-1		
SODANKYLA	60.30	338.3	10 10	-3		10 56 PCP
SHASTA	60.92	60.3	10 16	-1		11 31
HUNGRY HORSE	61.27	49.2	10 19	-1		
KIRUNA	61.48	340.7	10 19	-2		
MINERAL	61.61	60.2	10 21	-1		
BERKELEY	62.68	62.8	10 43	14		
RENO	63.20	60.0	10 42	9		
LICK	63.39	63.0	10 48	14		
BUTTE	63.47	50.7	10 35	1		
BOZEMAN	64.52	50.2	10 43	2		
CHARTERS TS.	64.77	184.6	10 44K	1		
QUETTA	65.19	288.5	10 45A	-1	19 23 -5	
EUREKA	65.57	58.1	10 49	1		
ASHKABAD	65.88	300.1	10 50	0	19 36 -1	
HELSINKI	66.25	333.7	10 51	-1		
SALT LAKE C.	67.19	54.8	10 58	0		
PASADENA	67 58	63.8	11 14	13		
POONA	67.90	274.4	11 1	-2		
BOULDER CITY	68.50	60.4	11 5	-2		
UPPSALA	68.70	336.7	11 6	-2		
RAPID CITY	69.77	47.5	11 14	0		
KIROVOBAD	71.06	308.9	11 24	2		
COLOMBO	71.58	261.2	11 58	33		
GORIS	71.93	308.0	11 28	0		
BRISBANE	72.11	177.8			20 53 2	
TUCSON	73.45	61.0	11 37	1		
SIMFEROPOL	74.31	318.7	11 43	2		
LWOW	74.80	327.4	11 44	0		
IASI	75.48	323.8	11 45	-3		
KRAKOW	76.14	329.8	11 50	-2		12 4 PCP
HAMBURG	76.26	337.1	11 53A	0		
RACIBORZ	76.72	330.8	11 55	0		
HALLE	77.52	335.0	11 58	-2		
WITTEVEEN	77.82	338.6	12 2	1		
LUBBOCK	77.91	54.5	12 3	1		
PRAGUE	77.99	332.9	12 2	0		
PRUHONICE	78.03	332.8	12 2	0		13 49
JENA	78.13	334.9	12 1	-2		
PLAUEN	78.34	334.4	12 1	-3		13 13
BRATISLAVA	78.72	330.4	12 8	2		
BENSBERG	79.37	337 5	12 9	-1		
RATHFARNHAM	80.15	346.2	12 15	1	12 27	
KEW	80.73	342.1	12 16	-1		
STUTTGART	80.76	335.3	12 17	0		
OTTAWA	81.11	31.1	12 18	-1		
SHAWINIGAN	81.16	28.7	12 19	0		
STRASBOURG	81.35	336.1	12 22	2		12 50
EBINGEN	81.36	335.2	12 20	0		
BREBEUF	81.78	29.7	12 20K	-3		
BASLE	82.35	335.7	12 24A	-1		

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PARIS	82.56	339.4	12 27	0							
GARCHY	83.83	338.5	12 34A	1							
MORGANTOWN	84.30	36.9	12 36K	1							
ATHENS	84.60	320.6	12 37	0							
MONACO	85.83	334.2	12 42K	-1							
HELWAN	87.32	310.7								17	6
COLUMBIA	88.50	40.7	12 56	0						23	10
SOUTH POLE	134.76	180.0	19 20	-1							

DECEMBER 7 3.H 16.M 55.S EPICENTRE -6.86 123.64 DEPTH= 676.KM

DEPTH OF FOCUS= 0.101R

A=-0.55008 B= 0.82663 C=-0.11871 D= 0.8325 E= 0.5540
G= 0.0658 H=-0.0988 K=-0.9929 HT= 6.9

SE= 1.12

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
DJAKARTA	16.72	271.4	3 55	32					4 51				
KOROR	17.77	37.7	3 31	-2	6 21	-2					7	25	PCP
MANILA	21.47	352.9	4 6	0	7 17	-6							
BAGUIO CITY	23.33	352.6	4 21	-1	7 15	-37							
CHARTERS TS.	25.54	123.0	4 41K	-1	8 25	-2							
RABAUL	28.51	86.2	5 7	0									
GUAM	29.11	46.1	5 11	-1	9 20	-2							
CANTON	31.44	341.5	5 32	0	9 54	-3	7	6					
TRUK	31.53	63.7	5 33	0	9 57	-2					10	49	SCP
PHU-LIEN	32.17	329.1	5 40	2							10	5	
BRISBANE	34.60	129.8	5 58	0	10 42	-3							
MELBOURNE	36.40	151.0	6 14A	1	11 14	3	7	58	8	30	PCP		
RIVERVIEW	36.98	140.3	6 19	2	11 24	4	8	4	14	37	*SS		
KUNMING	37.72	328.0	6 25	2	11 31	1							
ZO-SE	37.82	356.6	6 24	0	11 28	-4	8	10					
NANKING	38.97	353.5	6 35	2	11 48	-1	8	22					
NAGASAKI	39.82	8.2	6 40	0	11 58	-3							
CHENGTU	41.78	334.2	6 55	-1	12 25	-4							
CHITTAGONG	42.60	313.9	7 1	-1	12 39	-1	8	40					
ABUYAMA	43.01	14.4	7 5	0							8	41	PCP
KYOTO	43.19	14.5	7 5K	-2									
TOCKLAI	43.58	321.2			12 56	2							
SHILLONG	44.65	317.4	7 17K	-1									
MATUSIRO	45.30	16.6	7 22A	-1	13 12	-5	8	48	16	38	SS		
TUKUBASAN	45.56	18.7	7 24	-1	13 12	-9					8	48	PCP
TAIYUAN	45.60	347.7			13 26	5							
LANCHOW	46.60	337.8	7 33	0	13 36	1	9	26					
PEKING	47.17	352.2			13 41	-2							
SENDAI	47.69	18.4	7 44	3									
LHASA	47.95	320.8	7 44	1	13 55	1							
LAHORE	60.60	312.0			16 34	-4					11	17	PP
OASIS-BUNG.	61.31	190.4	9 14	-1									
MIRNY	63.21	193.2	9 26	-1	17 10	1							
WARSAK DAM	63.85	313.1	9 31	0									
QUETTA	65.62	307.4	9 42	0	17 29	-9	11	52	22	12			
NAMANGAN	67.32	319.7	9 52	0	17 58	1							
CAPE HALLETT	71.25	166.4	10 16A	1	18 48	6							
SCOTT BASE	74.36	171.4	10 33	0									
TANANARIVE	74.68	252.3	10 33	-2			12	49					
TIKSI	78.41	1.7	10 55	0	19 56	-2							
SOUTH POLE	83.18	180.0	11 19	0	20 34	-11					37	33	PKPPKP
TIFLIS	86.26	312.6	11 35	1	21 20	6							
KIRUNA	101.30	337.9	12 41	-1									
RESOLUTE	108.72	10.1	13 16	777							17	16	PKP
THULE	110.18	3.0	17 18	1									
MINERAL	113.23	49.0									17	28	
RENO	114.74	49.6									18	39	
HUNGRY HORSE	116.27	38.9	17 31	2							18	50	PP
EUREKA	117.64	48.9	17 35	3							18	58	PP
TAMANRASSET	118.53	292.1	17 38	2									
BOULDER CITY	119.38	52.5	17 39	1									
TUCSON	123.50	55.8	17 47	4							19	47	PP
RAPID CITY	124.87	39.9	17 48	3									
FAYETTEVILLE	134.82	44.5									20	38	PP
SHAWINIGAN	138.01	16.9	18 13	2									
SEVEN FALLS	138.01	14.8	18 2	-9									
OTTAWA	138.09	20.5	18 8A	-3									

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BREBEUF	138.70	18.4	18	10	-2						
MBOUR	140.62	284.2								20	55 SKP
PALISADES	142.57	22.1	18	20	0						
CHAPEL HILL	144.38	32.5	18	23	1						
COLUMBIA	144.65	36.8	18	25	2						
HUANCAYO	153.37	134.8	18	42	7					21	23 *SPKP2
LA PAZ	154.03	153.5	18	41	5			20	45	22	53 PP

DECEMBER 7 14.H 11.M 13.S EPICENTRE 43.19 100.26 DEPTH= 0.KM

A=-0.13023 B= 0.71972 C= 0.68195 D= 0.9840 E= 0.1781
G=-0.1214 H= 0.6710 K=-0.7314 HT= -2.9

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	
YUMEN	3.77	221.1	1	3	3								
WUWEI	5.56	160.1	1	25	-1								
YINCHUAN	6.56	133.9	1	43	3								
ULAN-BATOR	6.64	42.3	1	43	2						3	31	SG
KYAKHTA	8.34	28.4	2	3	-2	4	20	39					
IRKUTSK	9.49	15.3	2	24	3	4	56	47			2	54	PG
TIENSHUI	9.60	151.7	2	24	2								
KABANSK	9.86	23.7	2	35	9						5	12	SG
BAYANDAI	10.49	17.7	3	17	43	5	32	58					
LINFEN	11.20	125.4	2	43	-1								
PEKING	12.32	99.4	3	1	2								
CHENGTU	12.86	165.3	3	7	0	5	35	3			5	50	SS
LHASA	15.41	211.7	3	39	-1								
CHILIK	15.88	278.9	3	51	5								
KURMENTY	16.05	277.0	3	47	-1								
PRZHEVALSK	16.05	275.0	3	48	0								
ILI	16.81	280.6	3	58	0								
ALMATA	16.98	278.3	4	6	6						9	13	
TOCKLAI	17.00	197.0	4	5	5								
RYBACHE	17.74	275.9	4	11	1						4	20	PP
CHANGCHUN	18.17	79.4	4	13	-2								
KUNMING	18.20	172.9	4	10	-5								
NANKING	18.38	121.1	4	15	-3								
FRUNSE	18.76	277.9	4	24A	2						8	5	SS
SHILLONG	18.87	204.0	4	20K	-4	7	52	0					
CHATRA	19.49	217.3	4	27	-4	8	10	5					
ZO-SE	20.52	119.1	4	40	-2								
NAMANGAN	21.29	273.9	4	52	2	8	39	-4					
FERGANA	21.38	272.2	4	51A	0								
CHITTAGONG	21.92	201.3	4	56A	0	8	55	0					
TCHIMKENT	22.48	278.3	5	3	1	9	14	5					
KHOROG	22.52	265.1	5	4	2								
CANTON	22.77	147.6	5	7	2								
CALCUTTA	22.86	209.4				9	22	10					
TASHKENT	22.94	276.0	5	7	0						12	22	
PHU-LIEN	22.95	164.6	5	5	-2	9	17	5					
VLADIVOSTOK	23.02	79.2	5	9	2								
LAHORE	23.56	249.1	5	14	1								
KULYAB	23.68	267.5	5	14	0								
AGRA	24.12	235.6	5	29K	11								
WARSAK DAM	24.14	257.3	5	20A	2	9	42	8					
STALINABAD	24.18	269.7	5	17	-2						13	13	
SAMARKAND	25.10	273.4	5	27	0								
SVERDLOVSK	28.44	312.6	5	58	0								
QUETTA	29.49	255.0	6	8A	0	10	59	-3					
MATUSIRO	29.69	89.9	6	9	0	11	34	29			6	32	
TIKSI	31.75	16.8	6	30	2	11	35	-2			7	29	PP
TIFLIS	40.31	287.6	7	50	10						9	14	PP
APATITY	42.25	328.3	7	56	0								
PULKOVO	44.34	317.2	8	14	1								
SODANKYLA	44.88	328.3	8	17	-1						10	13	PP
HELSINKI	46.88	318.5	8	33	-1						8	41	
KIRUNA	47.16	329.4	8	35A	-1								
UPPSALA	50.50	319.5	9	0A	-2								
NORD	51.26	350.3	9	6A	-1								
SKALSTUGAN	51.58	325.2	9	10	0								
KRAKOW	53.09	307.4	9	17	-4						12	21	PPP
PRUHONICE	56.21	309.2	9	42	-2						10	59	
COLLMBERG	56.44	311.2	9	43	-3								
JENA	57.40	311.3	9	50	-2								

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TRUK	57.41	112.7	9 54	2	
STUTTGART	59.84	310.1	10 8	-1	
COLLEGE	60.00	27.2	10 8	-2	
THULE	60.45	356.9	10 9	-4	
RESOLUTE	61.98	4.5	10 21A	-3	
PARIS	63.49	312.9	10 32	-2	11 10 PCP
RABAUL	66.40	121.1	10 50	-3	
CHARTERS TS.	75.77	135.7	11 52K	3	
TAMANRASSET	78.07	289.9	11 57	-5	12 26
HORSESHOE B.	80.23	27.2	12 18	4	
VICTORIA	80.93	27.7	12 15	-2	
HUNGRY HORSE	83.98	22.2	12 31	-2	
BRISBANE	85.41	134.8	12 43	3	
BUTTE	86.51	22.2	12 45	-1	
BOZEMAN	87.25	21.4	12 48	-1	
MINERAL	88.66	30.7	12 54	-2	
BERKELEY	90.56	32.3	13 11	6	
EUREKA	91.42	27.2	13 8	-1	
BOULDER CITY	94.97	27.9	13 26	1	
HUANCAYO	148.74	351.7	19 50	5	

DECEMBER 8 16.H 26.M 31.S EPICENTRE 44.46 104.19 DEPTH= 0.KM

A=-0.17557 B= 0.69429 C= 0.69796 D= 0.9695 E= 0.2452
G=-0.1711 H= 0.6767 K=-0.7161 HT= -3.3

SE= 3.58

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
ULAN-BATOR	3.94	27.5	0 58	-5				1 58 SG
KYAKHTA	6.11	13.7	1 28K	-6	2 31	-14		3 2 SG
KABANSK	7.77	11.3	1 59	2				4 4 SG
IRKUTSK	7.82	0.6	1 59	1	4 2	34		2 24 PG
LANCHOW	8.37	182.1	2 6	1	3 49	7		
BAYANDAI	8.67	5.3						4 28 SG
KWANTING	9.44	112.6	2 50	30	4 50	42		
PEKING	9.92	112.3	2 22	-5				
CHENGTU	13.77	180.7	3 26	7	5 46	-8		
CHANGCHUN	15.18	85.0	3 40	3				
NANKING	16.85	132.4	3 58	-1	7 17	11		
LHASA	18.10	219.6	4 16	2	7 45	11		
KURMENTY	18.75	274.8	4 21	-1				
PRZHEVALSK	18.80	273.0	4 22	-1				8 25
ZO-SE	18.87	129.2	4 20	-4	7 54	2		
ALMATA-2	19.35	275.9	4 27	-2				
KUNMING	19.40	184.1	4 26	-4	8 3	-1		
RYBACHE	20.47	274.3	4 39	-3				8 47 SS
NARYN	20.82	271.5	4 45	0	8 25	-9		
SHILLONG	21.33	212.0	4 49K	-2				
FRUNSE	21.43	276.2	4 50	-2				11 19
CHATRA	22.30	223.6	4 56	-4	9 6	5		
ANDIJAN	23.63	272.2	5 13	0				12 43
PHU-LIEN	23.68	174.3	5 16	2				12 35
NAMANGAN	24.06	273.1	5 17	-1				
FERGANA	24.18	271.7	5 17	-2				11 27
CHITTAGONG	24.28	208.8	5 20	0	9 44	7		
DEHRA DUN	24.98	244.5	5 31	5	9 57	9		
TCHIMKENT	25.13	277.3	5 28	0	9 44	-7		6 14 PP
HOWRAH	25.45	216.0	5 32	1				10 8
KHOROG	25.46	265.5	5 32	1				
TASHKENT	25.65	275.3	5 33	0	10 9	9		14 17
KULYAB	26.58	267.8	5 40	-1				
MATUSIRO	26.90	95.2	5 46	2	10 28	8		6 42
STALINABAD	27.03	269.8	5 41	-5				
WARSAK DAM	27.19	258.7	5 45A	-2				
AGRA	27.20	239.3	5 52	5				
SAMARKAND	27.87	273.2	5 51	-2				
SVERDLOVSK	29.74	310.2	6 9	-1				
TIKSI	29.74	15.5						7 0 PP
BAGUIO CITY	31.19	148.5						13 29 SS
QUETTA	32.56	256.8	6 33A	-2				
KARACHI	35.23	250.7	7 8	10				
KIROVOBAD	41.97	285.9	7 53	-1				
TIFLIS	42.63	288.0	7 59	-1				

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APATITY	42.69	327.7	8	5	5			
SODANKYLA	45.31	327.9	8	17	-4			
PULKOVO	45.36	316.9				18	41	SS
KIRUNA	47.52	329.2	8	40	1			
HELSINKI	47.82	318.5	8	49	8			
NORD	50.48	350.6	9	4	2			
UPPSALA	51.38	319.8	9	15	7			
SKALSTUGAN	52.15	325.5	9	22	8			
ISTANBUL KA.	53.43	294.5				11	17	PP
KRAKOW	54.57	308.1	9	3	-29	13	5	PP
TRUK	55.36	117.0	9	36	-2			
COLLEGE	57.54	28.8	9	48	-5			
PRUHONICE	57.59	310.1	10	9	15	12	37	
PRAGUE	57.61	310.3				12	41	
RESOLUTE	60.47	5.7	10	15K	1			
STUTTGART	61.17	311.2	10	25	6			
BOLOGNA	62.49	306.3	10	26	-1	11	22	
FLORENCE X.	62.96	305.7				9	45	PG
ROME	63.36	303.4				9	41	PG
RABAUL	64.70	125.0	10	38	-4			
CHARTERS TS.	74.78	139.2	11	40	-4			
TAMANRASSET	80.27	292.2	12	8	-6	12	20	PCP
ASTRIDA	80.78	257.2	12	14	-3	12	59	
LWIRO	81.18	258.1	12	20	1			
HUNGRY HORSE	81.68	24.7	12	17	-4			
UVIRA	81.83	257.0	12	28	6			
MINERAL	86.07	33.3	12	40	-4			
RENO	87.47	32.5	12	55	5			
RAPID CITY	88.53	19.4	13	1	5			
EUREKA	88.95	29.9	12	56	-2			
LARAMIE	90.52	22.0	13	2	-3			
BOULDER CITY	92.47	30.7	13	20	6			
CAPE HALLETT	125.15	160.0	19	29	26			
SOUTH POLE	134.26	180.0	19	19	-1			
HUANCAYO	147.71	359.1	19	54	10			

DECEMBER 9 22.H 7.M 41.S EPICENTRE 65.39-133.22 DEPTH= 0.KM

A=-0.28673 B=-0.30512 C= 0.90812 D=-0.7287 E= 0.6848
G=-0.6219 H=-0.6618 K=-0.4187 HT=-10.6

SE= 1.56

	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	
COLLEGE	6.18	271.8	1	31	-3	3	11	24					
SITKA	8.43	187.8	2	2	-4	3	59	16			2	28	
RESOLUTE	15.68	37.6	3	40A	-3	6	19	-20					
LILLOOET	15.86	152.9	4	0	14								
ALBERNI	16.76	160.6	8	41	284	13	47	403					
HORSESHOE B.	16.89	157.1	3	59K	0	8	48	101					
VICTORIA	17.70	158.1	4	9A	0	9	11	106					
SEATTLE	18.73	156.5	4	24A	2	8	30	42					
SASKATOON	18.94	121.8	7	30	186	10	9	136			10	49	
HUNGRY HORSE	19.89	139.9	4	35	0	8	22	8					
CORVALLIS	21.57	160.4	5	55	62								
BUTTE	22.43	139.9	5	2	1	9	35	31					
THULE	22.43	34.1	5	1	0	9	1	-3					
BOZEMAN	23.17	137.7	5	9	0						5	54	
MINERAL	25.96	159.4	5	36	1								
RAPID CITY	27.02	127.5	5	47	2								
RENO	27.03	156.8	5	46	1								
SALT LAKE C.	27.52	143.2	5	51	1								
EUREKA	27.80	150.5	5	53	1	10	30	-5			6	32	
BERKELEY	28.30	161.5				11	1	18					
LICK	28.91	160.7	6	2	0								
NORD	29.46	15.5	6	8	1								
FRESNO	29.74	157.9	6	11	1								
BOULDER	30.02	134.1	6	14	2								
BOULDER CITY	31.41	150.6	6	25	0								
TIKSI	32.54	324.3	6	33	-1	11	49	-1			9	13	PCP
PASADENA	32.57	156.4	6	34	-1	11	54	4					
MAGADAN	33.57	296.7									7	58	PP
OTTAWA	36.59	94.5	7	9A	0						16	57	SCS
SHAWINIGAN	36.90	90.6	7	12A	0	12	54	-3			9	11	PPP
LUBBOCK	37.02	133.8	7	13	0								

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FAYETTEVILLE	37.25	122.6	7	13K	-2				8	31 PP
SEVEN FALLS	37.26	88.3	7	17	2				15	10
BREBEUF	37.38	92.4	7	17A	1	12	55	-9		
CLEVELAND	37.41	104.0	7	18	2					
MORGANTOWN	39.62	103.9	7	36K	1					
PALISADES	40.95	96.8	7	44	-1	13	52	-6	9	12 PP
HALIFAX	42.28	84.3							22	27
CHAPEL HILL	43.17	105.9							22	33
COLUMBIA	44.05	109.3	8	11	0					
KIRUNA	45.75	13.6	8	24A	0					
SODANKYLA	46.75	10.5	8	35	3					
APATITY	47.00	7.0	8	33K	-1	15	33	7	19	4 SS
SKALSTUGAN	48.87	19.7	8	48A	-1					
UPPSALA	53.18	17.9	9	19	-3					
HELSINKI	53.69	13.3	9	24	-1					
PULKOVO	54.54	10.1							20	55 SS
IRKUTSK	54.67	320.5	9	31	-2	17	14	2		
COPENHAGEN	56.46	22.5	9	45	0					
MATUSIRO	56.84	285.9	9	48	0					
ULAN-BATOR	57.88	316.5	9	58	2	18	2	7		
HAMBURG	58.07	24.9	9	59A	2					
WITTEVEEN	58.17	27.4	9	58	0					
BENSBERG	60.04	27.7	10	11	0					
HALLE	60.40	24.2	10	12	-1					
COLLMBERG	60.77	23.6	10	15	-1					
JENA	60.88	24.7	10	16	0					
PARIS	61.10	31.8	10	18	0				12	29 PP
PLAUEN	61.39	24.4	10	19	-1					
PRAGUE	62.19	22.9	10	26	1				12	55 PP
PRUHONICE	62.30	22.9	10	25	-1				11	4 PCP
STRASBOURG	62.43	28.1	10	28	1					
STUTTGART	62.52	27.1	10	27	0					
GARCHY	62.68	32.0	10	29A	1					
RACIBORZ	62.76	20.3	10	30	1					
SAN JUAN	63.94	103.1	10	35	-2					
BRATISLAVA	64.46	21.6	10	41	1					
CERNAUTI	65.52	15.1	10	47	0					
RAKHOV	65.65	16.5	10	47	-1					
ANTIGUA	67.21	99.1	10	53	-5					
KURMENTY	69.15	335.8	11	8	-2					
ALMATA	69.16	336.9	11	7	-3					
FABRICHNAYA	69.33	337.3	11	11	0					
ALUSHTA	69.82	9.4	11	16	2					
FRUNSE	69.91	338.6	11	15	1					
YALTA	70.02	9.6	11	16	1					
RYBACHE	70.10	337.3				20	29	3	11	39 PCP
TCHIMKENT	71.18	342.3	11	23	1					
GROZNY	71.62	0.8	11	25	0					
NAMANGAN	72.20	340.4	11	30	2					
ANDIJAN	72.33	339.9	11	30	1	20	55	3		
FERGANA	72.77	340.2	11	31	-1	20	55	-2		
ISTANBUL KA.	72.98	13.9	11	33	0					
RELIZANE	72.99	37.9	11	35	2				14	20 PP
TIFLIS	73.21	1.5	11	35	1	21	5	3	13	31
AKHALKALAKI	73.51	2.6	11	37	1					
STEPANAVAN	73.93	1.9	11	40	2					
KIROVOBAD	74.21	0.3	11	41	1					
STALINABAD	74.98	342.3	11	45	1					
ATHENS	75.41	18.7	11	47K	0					
KULYAB	75.49	341.4	11	46	-1	21	26	-2		
KHOROG	75.65	339.8	11	50	2					
TRUK	76.98	259.4	11	57	1				14	57 PP
WARSAK DAM	79.07	339.2	11	51	-16					
LAHORE	81.03	336.4	12	17	-1	22	27	0		
QUETTA	83.46	342.5	12	31A	1	22	54	2		
HELWAN	84.29	13.4	12	36	1					
KOROR	84.35	275.1	12	36	1					
TAMANRASSET	86.61	37.6	12	49	3				15	19
MBOUR	87.44	60.5	12	45	-5					
HUANCAYO	88.32	124.0	12	56A	2					
KIMBERLEY	140.84	31.4	19	29	-3					
CAPE HALLETT	142.55	204.8	19	32	-3					
BYRD STATION	145.41	175.8	19	39	-1					
SCOTT BASE	147.48	200.0	19	44A	1					
SOUTH POLE	155.25	180.0	19	52	-2					

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DECEMBER 10 14.H 36.M 3.S EPICENTRE -6.60 154.83 DEPTH= 30.KM

A=-0.89910 B= 0.42257 C=-0.11422 D= 0.4254 E= 0.9050
G= 0.1034 H=-0.0486 K=-0.9935 HT= 6.9

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
RABAUL	3.56	311.9	0 55	1	1 54	18		
TRUK	14.29	348.0	3 17	-5	5 48	-12		
MADANG	14.81	322.3	2 15	-74				
CHARTERS TS.	15.71	211.2	3 40K	0	6 47	14		
NOUMEA	19.22	145.5	4 23K	-1	8 8	15		6 21
BRISBANE	20.83	184.5	4 39K	-2	8 30	3		
KOROR	24.57	303.9	5 18A	0	9 25	-9		5 50 PP
RIVERVIEW	27.31	186.7	5 45K	2	10 21	2		6 28 PP
MELBOURNE	32.35	194.7	6 28A	0	11 40	1		7 29 PP
APIA	33.60	105.0	6 49	10				8 9 PP
ONERAHI	34.12	151.0	6 47	3	12 11	4		
KARAPIRO	36.40	151.9	7 3	0	12 50	8		
FORT NELSON	36.78	189.2	6 54	-12			7 3	
TONGARIRO	37.44	153.1	7 12	0				
COBB RIVER	37.87	157.8	7 20	5				13 5
WELLINGTON	38.84	155.8	7 22A	-1	13 20	1		16 27 SS
MANILA	39.62	302.3	7 27	-3	15 23	112		
GEBBIES PASS	40.13	159.9	7 35	1				17 10 SS
ROXBURGH	40.79	164.4	7 37	-3	13 47	-1		9 33 PP
BAGUIO CITY	40.88	304.4	7 39	-1	13 53	3		
TAWU	43.95	311.9	8 12	6				
TAITUNG	44.01	312.5	8 21	15				
HSINKONG	44.06	313.1	8 6	0	14 42	6		
PERTH	44.23	230.1	8 8	0	14 45	6		10 0 PP
HONGO	44.41	342.4	8 12	3				20 20
HWALIEN	44.42	314.3	8 16	7	14 50	9		
TUKUBASAN	44.78	343.0	8 12	0			8 17	
ILAN	44.83	315.3	8 24	11	14 48	1		
TAINAN	44.84	312.1	8 11	-2				
KYOTO	45.15	337.7	8 11A	-4				
TAIPEI	45.16	315.4	8 18	3	14 51	-1		
MATUSIRO	45.66	341.2	8 18A	-1	14 56	-3		10 25 PP
MIZUSAWA	47.24	345.5	8 54	22				
DJAKARTA	47.69	267.7	8 32	-3	15 26	-2		
ZO-SE	49.40	321.2	8 47	-1	15 53	1		10 40 PP
CANTON	50.19	307.3	8 55	1	16 8	5		
NANKING	51.54	320.4	9 4A	-1	16 26	4		11 5 PP
VLADIVOSTOK	53.69	339.3	9 20A	-1	16 52	1		
HONOLULU	53.86	57.7	9 20	-2	17 13	20		10 28 PCP
Y.-SAKHLINSK	54.39	349.8	9 29	3	17 8	8		18 36 PS
PHU-LIEN	54.60	301.2	9 28	1	17 12	9		
HAWAII V.OB.	55.52	61.1	9 34	0	17 15	-1		
CHANGCHUN	56.85	334.8	9 41	-3				
PEKING	58.50	325.8	9 52	-3	17 56	1		
SIAN	59.43	316.3	10 6	4				
KUNMING	59.68	303.9	10 4A	1	18 16	6		12 15 PP
CHENGTU	61.12	310.3	10 12	-1	18 29	0		
LANCHOW	63.93	315.5	10 32A	0	19 9	5		12 49 PP
PORT BLAIR	64.38	286.2	10 37	2	18 7	-63	11 15	12 30 PP
MAGADAN	66.02	357.8	10 46	1	19 32	2		
CAPE HALLETT	66.32	174.9	10 46A	-1	19 33	0	10 55	23 27 SS
WILKES	66.87	197.9	10 48	-3	19 39	-1		23 3 SS
TOCKLAI	66.90	302.6	10 54A	3				
CHITTAGONG	68.02	297.2	10 59A	1	19 55	1		
ULAN BATOR	68.69	327.6	11 0	-2	20 4	1		
SHILLONG	68.97	300.5	11 2A	-2	20 2	-3	12 2	12 27 *SP
OASIS-BUNG.	70.06	200.5	11 9A	-1	20 17	-1		
LHASA	70.98	304.3	11 17A	1	20 31	2		13 52 PP
CALCUTTA	71.16	296.4	11 18A	1	20 39	8		25 9 SS
SCOTT BASE	71.49	177.4	11 18	-1	20 41	7		11 27 PCP
IRKUTSK	72.65	330.2	11 23A	-3				
MIRNY	73.00	201.6	11 27A	-1	20 52	0		
CHATRA	73.37	300.4	11 28	-2				21 20
BOKARO	73.76	297.0	11 34	1	21 2	2	12 47	14 17 PP
COLOMBO	75.97	278.8	11 45	0	21 33	8		
MADRAS	76.65	285.0	11 48A	-1	21 38	6		14 47 PP
KODAIKANAL	78.82	281.8	12 9A	8	22 8	12		15 7 PP
HYDERABAD	79.08	289.1	12 1A	-2	21 59	1		22 51 PS
TIKSI	79.93	351.9	12 7	0	22 8	1		15 14 PP
AGRA	81.36	298.6	12 15A	0	22 23	1		15 19 PP

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DEHRA DUN	82.00	301.8	12	22	4	22	32	3	15 39 PP
BYRD STATION	82.78	169.9	12	21A	-1				
COLLEGE	82.79	21.2	12	19	-3	22	33	-4	28 17 SS
SOUTH POLE	83.44	180.0	12	24K	-1	22	45	2	
POONA	83.58	289.4	12	27	1	22	47	2	15 27 PP
BOMBAY	84.61	289.7	12	34	3	22	53	-2	15 47 PP
SITKA	84.76	31.0	12	31	-1	23	3	7	24 7 SCS
LAHORE	85.38	302.4	12	33A	-2	22	57	-5	12 42 PCP
FRUNSE	87.35	313.5	12	41	-4	23	9	-12	23 25 SCS
UKIAH	87.92	50.4	12	51	4				16 18 PP
WARSAK DAM	88.11	304.4	12	46A	-2				23 11 SKS
BERKELEY	88.44	51.8	12	50A	0	23	30	-1	24 39 PS
ALBERNI	88.70	40.2	12	43	-8				
SHASTA	88.81	49.0	12	52	0				
LICK	88.84	52.4	12	51A	-1				
MINERAL	89.35	49.4	12	55A	1				
VICTORIA	89.46	41.1	12	56A	1	23	37	-4	30 13 SS
HORSESHOE B.	89.71	40.3	12	55	-1	23	41	-2	
SEATTLE	90.05	42.1	13	15	17	23	57	11	30 15 SS
FRESNO	90.21	53.2	12	58	0				
RENO	90.59	50.4	13	1	1				
KARACHI	90.85	295.8	13	0	-1				16 34 PP
TASHKENT	90.98	311.3	12	59	-3				23 57
PASADENA	91.19	55.9	13	2A	-1	24	17	21	16 39 PP
QUETTA	91.45	300.0	13	3A	-1	24	1	2	16 45 PP
EUREKA	93.53	50.8	13	14	0				30 23 PKKP
BOULDER CITY	94.11	54.4	13	17	1	24	7	-15	17 4 PP
HUNGRY HORSE	95.64	42.1	13	23K	0	24	35	0	24 5 SKS
BUTTE	96.51	44.5	13	35	8				
SALT LAKE C.	96.78	49.8	13	30	2				
ASHKABAD	99.12	307.3	13	42	3				24 17 SCS
RESOLUTE	101.63	14.8	13	48	-2				18 3 PP
TANANARIVE	104.03	248.7	14	7	6	24	47	-58	17 39 PP
THULE	106.40	9.7	14	12	777				18 32 PP
TACUBAYA	107.20	71.8							23 52
APATITY	107.71	339.9				24	45	-1	27 55 PS
TIFLIS	109.29	311.8	14	27	777				33 39 SS
KIRUNA	111.68	343.0	18	25	-6				28 35 PS
PULKOVO	112.54	333.2	14	36	-237				
FLORISSANT	113.39	50.6							19 25 PP
ST. LOUIS 1	113.52	50.8							19 29 PP
HELSINKI	114.66	335.0	18	38	1				
SIMFEROPOL	116.15	317.1	18	43	3				14 59 P
SKALSTUGAN	117.06	342.2	18	43	1				
KSARA	117.62	304.7	18	37	-6	25	31	-2	19 53 PP
UPPSALA	117.81	337.2	18	42	-1				19 55 PP
JERUSALEM	118.55	302.5	18	30	-14				20 9
CLEVELAND	119.27	45.8	18	44A	-2				29 50 PS
KIMBERLEY	120.44	231.2	18	49K	1				
LWOW	120.50	325.3	18	50	2				26 43 SKKS
ISTANBUL KA.	120.91	314.3	18	48	-1				25 46 SKS
HERMANUS	121.50	222.7	20	31	101				30 12 PS
BERGEN	121.62	342.8	19	5	15				30 19 PPS
BUCHAREST	121.67	318.9	20	29	98				30 51
OTTAWA	121.72	39.8	18	50K	-1	26	4	17	20 29 PP
HELWAN	122.20	301.1	18	53	1				20 32 PP
KRAKOW	122.64	327.2	19	5	13				20 32 PP
COPENHAGEN	122.67	335.7							20 34 PP
BREBEUF	123.00	38.9	18	52	-1				27 19 SKKS
SHAWINIGAN	123.03	37.4	18	53K	0				
GEORGETOWN	123.35	47.3				26	5	13	20 47 PP
RACIBORZ	123.55	327.9	18	57	3				
SEVEN FALLS	123.89	36.0	18	54K	-1	26	8	14	20 41 PP
ASTRIDA	124.43	262.3	18	56	0				20 50 PP
PALISADES	124.79	43.8	18	50	-7				15 34 P
BELGRADE	125.08	321.6							21 15 PP
HAMBURG	125.18	335.2	19	20A	23				21 48 PP
BRATISLAVA	125.24	326.5	19	1	4				20 57
COLLMBERG	125.40	331.6	18	58	0				21 36
LWIRO	125.41	262.5	15	39	-199				26 9 SKS
PRUHONICE	125.49	329.6	18	58	0				32 29 PPS
PRAGUE	125.49	329.7	19	27	29				30 53 PS
HALLE	125.75	332.3	18	59	1				21 4 PP
JENA	126.31	332.0	19	1	2				20 49 PP
PLAUEN	126.33	331.3	18	57	-2				20 51 PP
HUANCAYO	126.80	110.3	19	3	3				22 23 PKS
BENSBERG	128.26	334.5	18	32	-31				19 0
LA PLATA	128.44	145.4							22 21 PKS

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STUTTGART	128.91	331.3	19	6A	2				21	13 PP
TALA POZO	129.05	134.0							22	17 PKS
EBINGEN	129.43	330.9	19	7	2					
HALIFAX	129.48	35.1	19	7	1				22	30 PKS
STRASBOURG	129.72	332.0	19	8A	2				21	21 PP
CHINCHINA	129.80	89.0	19	8	2				22	32 SKP
BOLOGNA	130.64	325.9							20	45
KEW	130.77	339.7							22	31 PKS
RATHFARNHAM	130.96	345.1							21	27 PP
FLORENCE X.	131.13	325.2	19	10K	1				24	25 PP
NEUCHATEL	131.23	331.1	19	11	2					
BOGOTA	131.31	89.6	19	18	9				22	33 SKP
PAVIA	131.37	327.9							21	26 PP
BESANCON	131.52	331.9	19	6	-3				22	57 PKS
ROME	131.54	322.5	19	14	5				21	44 PP
MESSINA	131.57	316.6							22	28 PP
LA PAZ	131.70	118.9	19	12	2				21	36 PP
PARIS	131.86	335.7	19	28	18				21	37 PP
GARCHY	132.81	333.9	19	11	-1				22	38 SKP
CLERMONT-FD.	133.94	332.6							22	55 SKP
BERMUDA	135.19	49.8	19	22	6	25 47	-35		21	57 PP
SAN JUAN	138.45	69.8	19	13	-9				22	57 PP
ALGIERS UNI	140.44	323.4	19	24	-2				22	22 PP
ALICANTE	141.29	328.3	19	26	-1	26 35	3		22	30 PP
RELIZANE .	142.60	324.5	19	33	3				22	36 PP
ST CLAUDE	143.04	72.1	19	23	-7					
ANTIGUA	143.38	70.4	19	25	-6					
ALMERIA	143.45	328.7	19	28	-3				22	20 PP
GRANADA	143.77	330.2	19	45K	13	26 25	-11		23	4 PP
FORT FRANCE	143.78	74.1	19	31	-1					
TRINIDAD	143.86	81.0	19	29	-3					
ST. VINCENT	143.88	76.8	19	29	-3					
LISBON	144.90	337.9	19	37K	3					
BARBADOS	145.50	76.5	19	37	2					
TAMANRASSET	146.35	301.8	19	37	1				23	8 PP
LOME	153.77	270.4	19	45	-2				23	51 PP
MBOUR	168.83	314.4	20	5	2				25	5 PP

DECEMBER 11 18.H 11.M 7.S EPICENTRE 30.46 142.11 DEPTH= 0.KM
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G=-0.3981 H= 0.3098 K=-0.8635 HT= 1.7

SE= 2.82

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
TORISIMA	1.56	271.1	0	32	3	0	54	4				
HATIDYOZIMA	3.27	324.2	0	57	4	1	37	3				
MERA	4.84	337.2	1	22	7	2	19	6				
OSIMA	4.87	332.5	1	18	2							
AJIRO	5.23	331.8	1	15	-6	2	15	-8				
OMAESAKI	5.27	322.5	1	48	26	2	51	27				
MISIMA	5.35	331.0	1	21	-2	2	27	1				
YOKOHAMA	5.37	338.0	1	28	5	2	23	-3			1	43
SHIZUOKA	5.47	326.2	1	25	1						2	58
TOKYO C.M.O.	5.57	339.8	1	26	0	2	23	-8			3	17
HONGO	5.59	340.1	1	49	23						3	15
HUNATU	5.75	331.7	1	28	0	2	43	7				
KOHU	5.95	331.0	1	30	-1	2	40	-1				
KAKIOKA	5.97	344.9	1	30	-1	2	31	-11				
TUKUBASAN	5.98	344.2	1	29	-3	2	37	-5				
MITO	6.06	347.4	1	34	1	2	35	-9			3	15
TITIBU	6.06	336.1	1	31	-2							
KUMAGAYA	6.12	338.8	1	31	-2	2	39	-6			3	7
IIDA	6.19	325.7	1	36	1							
UTUNOMIYA	6.35	343.5	1	35	-2	2	40	-11				
NAGOYA	6.38	318.7	1	48	11	3	0	8				
MAEBASI	6.44	337.6	1	36	-2	2	49	-4				
KAMEYAMA	6.46	314.1	1	56	18							
ONAHAMA	6.55	351.5	1	45	5	2	43	-13			2	1
OIWAKE	6.56	334.0	1	41	1							
GIHU	6.66	319.1	1	38	-3						2	8
MATUMOTO	6.73	330.2	1	43	1							
SHIRAKAWA	6.82	347.2	1	41	-2	2	49	-14			2	5
IBUKISAN	6.87	317.0	1	49	5							

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HIKONE	6.87	315.8	1	46	2				4	38	
MATUSIRO	6.88	332.9	1	43A	-1	2	59	-5	3	32	
NAGANO	7.00	333.3	1	49	3				3	39	
KYOTO	7.04	311.9	1	46A	0						
KOBE	7.20	307.5	2	28	39				3	33	
SUMOTO	7.24	304.3	1	52	3				2	32	
TOKUSIMA	7.32	301.4	1	55	5						
HUKUSIMA	7.40	349.9	1	58	7	3	17	0			
HUKUI	7.41	320.3				3	21	4			
TOYAMA	7.45	328.0	1	53	1	3	29	11			
TAKAMATU	7.82	301.5	2	6	9				4	23	
SENDAI	7.85	353.0	1	53	-5	3	15	-14			
NIIGATA	7.86	342.0	3	10	72						
YAMAGATA	7.90	349.9	1	55	-4						
ISINOMAKI	7.98	355.5	1	55	-5	3	18	-14			
MIZUSAWA	8.69	355.0	2	9	0	3	36	-13			
YONAGO	8.87	306.3				4	17	23			
HIROSIMA	9.06	298.0	2	15	0						
MORIOKA	9.25	355.5	2	15	-2	3	50	-13			
MIYAZAKI	9.27	281.8	2	42	24				5	22	
AKITA	9.38	350.5				3	57	-10			
HAMADA	9.55	300.2	2	11	-10	4	19	8			
KAGOSIMA	9.98	279.3	2	27	0	4	18	-3			
YAKUSIMA	10.02	272.9	2	30	2						
SIMONOSEKI	10.09	293.1	2	31	2						
AOMORI	10.39	354.4				4	8	-23			
HUKUOKA	10.40	290.4	2	36	3	4	15	-17	5	2	
NAGASAKI	10.67	285.4	2	41	4						
URAKAWA	11.68	2.5	2	51	0	4	49	-14	5	45	
MORI	11.68	354.3				4	38	-25	5	27	
OBIHIRO	12.47	3.7	3	11	10						
KUSIRO	12.63	7.7	3	4	1	5	5	-21			
NEMURO	13.14	11.2				5	16	-22			
VLADIVOSTOK	15.03	330.0	3	31	-4	6	19	-4			
Y.-SAKHLINSK	16.47	1.5	3	55	1						
GUAM	17.09	171.2	4	4	3	7	19	8			
ZO-SE	18.00	277.4	4	11	-2						
UGLEGORSK	18.60	359.9	4	21	1						
CHANGCHUN	18.86	319.7	4	19	-4						
NANKING	19.99	280.6	4	34A	-2	8	13	-3			
PEKING	23.17	301.4	5	6	-3	9	12	-5			
KOROR	24.10	198.8	5	18	0						
BAGUIO CITY	24.14	239.5	5	19	1	9	41	7			
TRUK	24.63	156.3	5	27	4				6	12	PP
MANILA	25.04	235.5	5	25	-2	9	59	10			
ULAN-BATOR	32.03	313.0	6	50	20	11	41	-1			
LANCHOW	32.35	290.3	6	29	-4	11	37	-10			
CHENGTU	32.70	280.2	6	33	-3	11	46	-6			
KUNMING	35.18	271.0	6	56	-1						
IRKUTSK	35.19	319.2	6	57A	0	12	32	1			
RABAUL	35.78	162.7	7	3	1						
TIKSI	41.85	353.8	7	53	0				17	17	SS
SHILLONG	44.33	276.5	8	0	-13						
CHITTAGONG	45.45	272.3	8	22	0						
CHARTERS TS.	50.34	174.9	9	0	0						
COLLEGE	54.42	29.6	9	30	-1						
DEHRA DUN	54.55	287.3	9	33	1						
LAHORE	57.22	289.9	9	48A	-3	17	42	-4			
TASHKENT	58.41	302.3	9	57	-2				18	5	PS
BRISBANE	58.55	168.6	10	0	0	18	5	2			
WARSAK DAM	58.70	293.5	9	59A	-2	17	54	-11			
STALINABAD	59.52	299.4	10	5	-2						
SVERDLOVSK	60.55	321.4	10	12	-2						
POONA	62.43	276.2	10	21	-6						
BOMBAY	63.16	277.0	10	31	-1	19	6	4	20	24	
QUETTA	63.65	290.9	10	33A	-2	19	9	1	12	50	PP
KARACHI	65.22	286.4	10	48	3						
ASHKABAD	67.47	301.7				19	50	-5	11	19	PCP
APATITY	68.93	337.1	11	7	-1	20	1	-12			1
SODANKYLA	71.25	338.4	11	21	-2						
THULE	71.69	7.2	11	22	-3				11	37	PCP
KIRUNA	72.87	340.2	11	31	-1						
PULKOVO	74.16	330.8	11	40	0	21	9	-4			
SHASTA	74.65	51.7	11	50	7						
KIROVOBAD	74.80	308.4	11	42	-1						
MINERAL	75.35	51.7	11	51	4						
TIFLIS	75.39	309.9	11	47	0				14	42	PP
BERKELEY	76.04	54.2	11	53	2						

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HELSINKI	76.12	332.7	11 49	-2						
HUNGRY HORSE	76.24	41.8	11 51	-1						
LICK	76.72	54.5	11 56	2						
RENO	76.94	51.8	11 56	0						
SKALSTUGAN	78.25	339.5	12 3	0						
FRESNO	78.29	54.3	12 2	-1						
BUTTE	78.30	43.3	12 1	-2						
SCORESBY SD.	78.70	354.6	12 4	-1						
UPPSALA	79.12	334.9	12 6	-2						
BOZEMAN	79.39	43.1	12 8	-1						
EUREKA	79.55	50.4	12 11	1						
PASADENA	80.74	55.9	12 15	-1						
SALT LAKE C.	81.55	47.6	12 22	1						
BOULDER CITY	82.14	52.9	12 24	0						
RAPID CITY	84.85	41.1	12 40	3						
KRAKOW	84.88	326.8	12 37	-1					12 51 PCP	
LARAMIE	85.14	44.4	12 38	-1						
KSARA	85.49	306.7	12 43	2	23 5	-7			16 4 PP	
RACIBORZ	85.67	327.6	12 31	-10						
ISTANBUL KA.	85.72	315.8	12 37	-5	23 16	2				
HAMBURG	86.59	333.7	12 44A	-2						
TUCSON	86.95	54.2	12 47	-1						
JERUSALEM	87.09	305.3	12 48	0						
COLLMBERG	87.09	330.8	12 47	-1						
STUTTGART	90.61	331.0	13 5	0						
TAMANRASSET	112.63	316.6	18 3	-35					19 19 PP	
BYRD STATION	121.24	168.4	18 56	1						
HUANCAYO	140.83	70.3	19 33	1						
LA PAZ	149.10	70.2	19 46	0						

DECEMBER 12 18.H 38.M 24.S EPICENTRE -13.62 166,71 DEPTH= 25.KM

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	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
NOUMEA	8.64	181.6	2 2	-4	3 38	-6		
RABAUL	17.13	301.8	4 0	1				5 51
BRISBANE	18.80	220.7	4 21K	1	7 47	2		
CHARTERS TS.	20.57	249.2	4 40A	1	8 31	8		
APIA	20.90	93.0	4 43	0				5 9 PP
ONERAHI	23.11	164.0	5 13	8				
AUCKLAND	24.26	164.1	5 27	11	9 45	15		
RIVERVIEW	24.59	212.5	5 21A	2	9 41	5	5 31	5 57 PP
KARAPIRO	25.44	163.6	5 30	3				
TONGARIRO	26.64	164.6	5 36	-2				
WELLINGTON	28.44	167.2	7 6	71				11 36
GEBBIES PASS	30.41	171.5	6 10	-2				
MELBOURNE	30.91	214.8	6 17A	0	11 20	2	6 28	7 12 PP
FORT NELSON	33.64	206.1	6 44	4				9 23
GUAM	34.61	320.2	6 49	0				8 3
KOROR	38.18	301.1	7 20	1				9 13 PCP
MANILA	53.24	300.1	9 16	-2				10 52 PP
BAGUIO CITY	54.49	301.8	9 26	-2	17 8	5		
TUKUBASAN	55.58	334.0	9 34	-1			9 43	
KYOTO	56.60	329.6	9 42A	-1				
MATUSIRO	56.68	332.6	9 42A	-1	17 32	0		21 30 SS
CAPE HALLETT	58.69	178.7	9 56	-2	18 0	1		
SCOTT BASE	64.24	180.0	10 33A	-2	18 42	-27	10 57	
WILKES	64.32	202.0	10 33A	-2	19 9	-1		23 20 SS
VLADIVOSTOK	64.84	332.5	10 38	-1	19 16	0		
OASIS-BUNG.	68.00	203.6	10 57	-2				
CHANGCHUN	68.51	329.0	11 1A	-1				
MIRNY	71.12	204.0	11 16	-2				20 52
KUNMING	73.29	301.6	11 33A	2	21 2	6		
BYRD STATION	73.87	170.0	11 31	-3				
SOUTH POLE	76.47	180.0	11 47	-2				
LANCHOW	77.19	312.3	11 55	2	21 44	5		
TOCKLAI	80.52	300.5	12 14A	3				
ULAN-BATOR	81.04	323.9	12 16	2	22 23	3		
CHITTAGONG	81.60	295.4	12 20A	3	22 36	10		15 30 PP
SHILLONG	82.58	298.5	12 23A	1				
BERKELEY	83.85	48.8	12 52	24				

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LICK	84.11	49.5	12 30	0							
LHASA	84.59	302.1	12 35	3	23	0	4				
IRKUTSK	84.71	326.8	12 32	-1	22	55	-2				
SHASTA	84.84	46.2	12 32	-1							
MINERAL	85.26	46.7	12 44	9							
FRESNO	85.27	50.6	12 37	1							
COLLEGE	85.44	17.8	12 34	-2						13	1
PASADENA	85.62	53.5	12 36	-1						16	8
RENO	86.25	48.0	12 57	17							
CHATRA	86.98	298.4	12 43	-1							
HORSESHOE B.	87.70	37.9	12 48	1							
TIKSI	88.78	348.8	12 51	-2	23	30	-9				
BOULDER CITY	88.80	52.6	12 51	-2							
EUREKA	89.02	49.0	12 52	-2						16	35 PP
MADRAS	89.71	283.4	12 58	1						16	31
TUCSON	90.92	57.2	13 19	16						13	40
HUNGRY HORSE	93.06	41.0	13 15	3							
POONA	96.89	287.3	13 30	0							
BOMBAY	97.92	287.5	13 54	19	25	24	29			19	40
LAHORE	98.99	300.3	13 37	-2						17	44 PP
NAMANGAN	102.57	309.4								17	14 PP
QUETTA	105.06	297.9	14 5A	777	24	47	2			18	29 PP
RESOLUTE	105.26	15.8								33	12 SS
THULE	111.05	12.0	18 19	-12						29	34 PKKP
KIRUNA	121.56	345.7	18 49	-2							
SEVEN FALLS	121.82	42.7	18 50	-2							
TIFLIS	122.68	311.0	19 4	11							
PULKOVO	123.92	335.1								30	33 PS
HELSINKI	125.76	337.6	19 0	1							
SKALSTUGAN	126.99	346.0	19 0	-2							
UPPSALA	128.54	340.6	19 5	0							
KSARA	131.21	303.1	19 10	0						21	42 PP
JERUSALEM	132.16	300.6	19 13	1						21	8
ASTRIDA	134.39	252.5	19 17	1						21	55 PP
UVIRA	134.62	251.1	19 18	2							
LWIRO	135.38	252.5	19 18	0						21	56
HELWAN	135.81	298.9	19 18	0						22	59 PP
HALLE	137.09	337.0	19 21	0							
JENA	137.68	336.7	19 23	1							
PLAUEN	137.80	335.9	19 20	-2							
GARCHY	143.76	341.1	19 31	-2							
TAMANRASSET	159.96	299.7	19 57	1						24	24 PP
MBOUR	176.35	77.6	20 9	2	26	59	-7			29	0

DECEMBER 13 1.H 31.M 57.S EPICENTRE 6.76 -76.75 DEPTH= 52.KM

DEPTH OF FOCUS= 0.003R

A= 0.22760 B=-0.96671 C= 0.11689 D=-0.9734 E=-0.2292
G= 0.0268 H=-0.1138 K=-0.9931 HT= 6.9

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	
CHINCHINA	2.10	147.6	0	32	-1								
BOGOTA	3.41	128.4	0	54	2	1	39	7					
GALERAZAMBA	4.26	20.0	1	9	5								
SANTIAGO MA.	13.33	301.0	3	17	9								
SAN SALVADOR	14.09	300.4	3	16	-2								
SAN JUAN	15.52	40.9	3	32A	-4	6	15	-12	3	45			
TRINIDAD	15.55	74.5	3	34	-3								
FORT FRANCE	17.24	61.4	3	49	-9						7	29	SSS
ST. CLAUDE	17.38	56.7	4	5	5						7	44	
COMITAN	17.76	303.4	4	3	-2	7	22	4			9	21	
BARBADOS	18.03	68.2	4	7	-1								
ANTIGUA	18.36	54.9	4	2	-10								*
HUANCAYO	18.74	175.7	4	17K	0	7	53	13	4	32			
MERIDA	18.82	319.8	4	23	5	7	48	6			15	54	SCS
VERA CRUZ	22.54	305.1	5	3	7				5	27	15	59	SCS
LA PAZ	24.63	159.8	5	13K	-3	9	33	2	5	22	5	49	PP
TACUBAYA	25.18	302.1	5	24A	2	9	58	17	5	48	6	25	PP
COLUMBIA	27.40	352.3	5	42A	0	10	19	2	5	55			
CHAPEL HILL	29.10	356.2	5	57	-1								
GUADALAJARA	29.22	300.9	6	11	12						17	43	
MANZANILLO	29.47	297.1									8	18	

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ANTOFAGASTA	30.85	168.6	6 13	0	11 19	7				
LITTLE ROCK	31.38	334.8	6 16	-2						
WASHINGTON	32.00	359.5	6 24K	1						
MORGANTOWN	32.85	355.4	6 33	2						
PHILADELPHIA	33.08	2.2	6 35	2	11 51	4				
FAYETTEVILLE	33.28	333.7	6 33A	-1						
PITTSBURGH	33.66	355.6	6 32A	-6						
PENNSYLVANIA	33.91	358.5	6 38	-2	12 6	6			7 53	PP
ST. LOUIS 1	34.00	340.9	6 39A	-1	12 3	2			9 16	PCP
FORDHAM	34.04	3.9	6 41	0	12 6	4				
FLORISSANT	34.19	340.9	6 41A	-1	12 3	-1				
PALISADES	34.20	3.8	6 41A	-1	12 12	8			7 44	PP
CLEVELAND	34.84	353.7	6 48A	0	12 17	3				
CHIHUAHUA	35.23	311.7	7 0	9	12 27	7			8 27	PP
LUBBOCK	35.40	322.3	6 52	0						
WESTON	35.80	6.9	6 57	1					16 36	
CHICAGO CGS.	36.18	346.2	6 54	-5						
OTTAWA	38.50	1.2	7 19A	1	13 15	5			8 45	PP
BREBEUF	38.69	3.5	7 21A	1	13 58	45				
HALIFAX	39.42	14.8	7 27	1						
SHAWINIGAN	39.79	4.3	7 30A	1					9 35	PCP
SANTA LUCIA	40.38	172.2	7 37	3	13 31	-7				
SEVEN FALLS	40.53	6.2	7 36A	1	13 56	15			16 50	SS
TUCSON	40.62	313.2	7 36A	0	13 46	4	7 49		9 13	PP
BOULDER	41.86	326.6	7 46	0						
RAPID CITY	43.79	332.4	8 OK	-2			8 14		9 48	PP
LA PLATA	45.08	158.0	8 3	-9	14 51	4			10 9	PP
BOULDER CITY	45.37	315.3	8 14A	-1			8 33			
SALT LAKE C.	46.12	322.7	8 21A	0	15 7	5	8 46		9 55	PP
PASADENA	46.92	311.3	8 26A	-1	15 17	4	8 49		9 57	PCP
EUREKA	47.97	318.8	8 35A	0						
BOZEMAN	48.80	328.3	8 39A	-3			8 56			
FRESNO	49.27	313.7	8 44A	-1						
BUTTE	49.83	327.7	8 49A	0					9 27	
RENO	50.56	316.9	8 55A	0					9 25	
LICK	50.85	313.5	8 57A	0						
SASKATOON	51.47	336.9	9 0	-2	16 15	-2				
BERKELEY	51.52	313.8	9 2A	0	16 20	3			10 16	
HUNGRY HORSE	52.10	329.2	9 5A	-2	16 29	4	9 19		11 19	PP
MINERAL	52.16	317.0	9 5A	-2					12 48	
UKIAH	52.73	314.9	9 11A	0			9 23			
SHASTA	52.85	317.0	9 9A	-3						
ARCATA	54.08	316.5	9 21	0						
CORVALLIS	55.26	320.9	9 29A	-1						
SEATTLE	56.19	324.5	9 36A	-1						
VICTORIA	57.29	324.9	9 42	-2						
LILLOOET	57.62	327.7	9 35A	-12						
HORSESHOE B.	57.65	325.8	9 45	-2						
ALBERNI	58.46	325.1	9 51	-2						
MBOUR	59.12	77.3	9 57	0	18 5	6	10 21		10 47	PCP
SITKA	67.61	329.7	10 52	-1						
RESOLUTE	68.68	354.9	10 57A	-3	19 55	-2			13 36	PP
THULE	69.77	2.1	11 7A	1					12 8	
SCORESBY SD.	72.39	16.7	11 21	-1						
TOLEDO	72.43	50.4	11 23A	1						
GRANADA	72.53	53.3	11 25A	2			12 3		14 3	PP
RATHFARNHAM	72.98	36.3	11 22A	-4			11 37		12 27	PCP
ALMERIA	73.40	53.7	11 27	-1						
ALICANTE	75.08	52.2	11 22	-16					14 11	PP
RELIZANE	75.78	54.9	11 43	1					14 36	PP
COLLEGE	75.92	335.4	11 41A	-2					14 30	PP
DURHAM	75.96	35.3	11 43K	0	21 27	7				
KEW	76.29	38.7	11 45A	0			12 0		12 10	
ALGIERS UNI.	77.83	53.9	11 53	0						
PARIS	77.86	41.6	11 53	0			12 18		14 55	PP
CLERMONT-FD.	78.13	44.8	11 56	1						
GARCHY	78.16	43.2	11 55A	0						
NORD	79.14	7.5	12 OK	0						
DE BILT	79.75	38.4	12 5A	1						
BESANCON	80.14	43.3	12 6A	0			12 30			
TAMANRASSET	80.31	68.1	12 9A	2			12 37		15 18	PP
WITTEVEEN	80.68	37.7	12 10A	1						
NEUCHATEL	80.81	43.6	12 10	1						
BENSBERG	80.96	39.6	12 11A	1					16 45	
STRASBOURG	81.35	42.0	12 13A	1			12 39		14 32	
KARLSRUHE	81.77	41.5	12 15	1					14 30	
EBINGEN	82.16	42.4	12 17	1						
TUBINGEN	82.22	42.0	12 17	0						
STUTTGART	82.30	41.8	12 18A	1					14 17	

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CHUR	82.58	43.7	12	20	2						
HAMBURG	82.67	36.9	12	20A	1						
SKALSTUGAN	83.57	26.8	12	24	0			12	39		
JENA	83.75	39.5	12	25	1			12	49	15 44	PP
FLORENCE X.	83.93	46.7	12	13	-12						
HALLE	83.96	38.9	12	27	2					15 38	PP
COPENHAGEN	84.02	34.7	12	27	1						
PLAUEN	84.14	38.9	12	25	-1			12	51	15 45	PP
POTSDAM	84.59	38.0	12	31	2						
COLLMBERG	84.62	39.1	11	34	-55					12 34	PP
PRAGUE	85.63	40.3	12	37A	3					14 15	
PRUHONICE	85.72	40.3	12	35	1					15 47	PP
UPPSALA	86.41	30.3	12	37	-1			12	52		
KIRUNA	86.50	22.2	12	38	0			12	54		
BRATISLAVA	87.58	42.0	12	46	3					16 7	PP
RACIBORZ	88.04	40.0	12	47	1						
SODANKYLA	88.92	22.1	12	50	0			13	4		
KRAKOW	89.15	39.8	12	52	1	23 15	-18	13	5	16 15	PP
HELSINKI	89.98	29.3	12	54	-1			13	10		
TIMISOARA	90.74	43.9	13	2	4						
APATITY	91.36	21.1	13	1A	0					15 22	
SOFIA	92.82	46.6	13	10	2						
ATHENS	94.07	51.2	13	15K	1						
SOUTH POLE	96.71	180.0	13	26	0	23 52	-47			17 19	PP
CAPE HALLETT	103.28	196.8				24 37	-57				
LWIRO	105.70	90.4	13	6	777						
UVIRA	106.15	91.7	13	10	777					18 34	PP
ASTRIDA	106.68	90.7	13	12	777					18 42	PP
WILKES	120.43	183.4				25 41	3			30 4	SP
TANANARIVE	124.58	108.2	18	57	4					20 39	PP
TUKUBASAN	125.02	323.7	18	30	-24					20 17	PP
ULAN BATOR	125.46	357.0	18	58	4						
MATUSIRO	125.88	325.3	18	57	1						
BRISBANE	128.58	240.2								23 43	PPP
TRUK	129.51	285.4	19	6	3						
RABAUL	131.25	270.3	19	8	2					22 30	PKS
CHARTERS TS.	136.27	248.1	14	40K	-276						
KOROR	145.85	293.6	19	35A	2			20	4	20 22	*SPKP
CHITTAGONG	148.97	20.8	19	43A	5			20	13	23 33	PP
PHU-LIEN	152.40	353.1	19	47	4					22 45	PKS
MANILA	152.47	320.4	19	42	-2					27 44	

DECEMBER 13 1.H 45.M 5.S EPICENTRE 34.41 47.67 DEPTH= 42.KM

DEPTH OF FOCUS= 0.001R

A= 0.55677 B= 0.61121 C= 0.56252 D= 0.7393 E=-0.6734
G= 0.3788 H= 0.4159 K=-0.8268 HT= 0.3

SE= 2.39

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
LENKORAN	4.45	11.7	1	8	1								
NAKHICHEVAN	5.11	339.8	1	16	0								
GORIS	5.19	348.5	1	18	1								
BAKU	6.22	15.9	1	33	1						2	4	
SHEMAKHA	6.26	6.7	1	33A	1								
KIROVOBAD	6.39	351.1	1	33	-1								
LENINAKAN	7.04	335.6	1	45	2						2	19	
STEPANAVAN	7.08	339.4	1	46	2								
TIFLIS	7.64	343.6	1	53	1	3	14	-3					
AKHALKALAKI	7.72	335.9	1	55	2						4	3	
GORI	8.06	340.8	2	0	3								
BORZHOMI	8.14	336.8	2	1	3						4	12	
ABASTUMANJ	8.26	333.9	2	2	2						2	33	
MAKHACH-KALA	8.55	359.2	2	4	0	3	44	4					
GROZNY	9.02	351.0	2	13	2								
ZUGDIDI	9.28	332.5	2	16	2						4	53	
ASHKABAD	9.33	64.7	2	14K	-1						4	8	
KSARA	9.79	269.9	2	22	1	4	16	5			2	32	PP
PIATIGORSK	10.24	341.0	2	19	-8								
JERUSALEM	10.77	259.4	2	31	-4	4	36	1					
SOTCHI	11.04	328.4	2	41A	3	4	46	4					
BAIRAM-ALI	12.13	70.6	2	53K	0						3	53	
YALTA	14.48	318.0	3	24	0	6	11	7					
HELWAN	14.56	256.4	3	25	0	6	7	1					

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SIMFEROPOL	14.80	319.4	3	27A	-1	6	16	5			
ISTANBUL KA.	16.13	299.8	3	43	-2	6	55	13			
ISTANBUL UN.	16.18	299.6	3	35K	-11				4	1	PP
QUETTA	16.84	99.2	3	51K	-3	6	56	-3			
STALINABAD	17.46	70.2	4	0	-2	7	15	2			
TASHKENT	18.38	61.6	4	11	-2	7	37	3	5	3	
KARACHI	18.79	111.9	4	24K	6	8	2	19			
FOCSANI	19.25	312.0	4	24	1	8	6	13	9	18	
BUCHAREST	19.38	307.5	4	26A	1	8	5	9	11	20	
ATHENS	19.64	287.4	4	27A	-1	8	4	3	8	38	SS
WARSAK DAM	19.75	84.4	4	23K	-6						
IASI	19.80	316.2	4	28	-2	8	10	5	9	41	
CAMPULUNG	20.42	308.8	4	38	2	8	31	14	5	8	
SOFIA	20.70	300.8	4	39	0	8	35	12	7	1	
LAHORE	22.53	89.8	4	54K	-3	9	5	8			
FRUNSE	22.58	60.0	4	58	0				5	29	PP
TIMISOARA	23.08	307.3	5	6	3	9	21	14	5	26	PP
LWOW	23.21	318.8	5	4	0	9	15	6	8	50	PCP
BELGRADE	23.30	304.6	5	5K	0	9	21	10	5	34	PP
SZEGED	23.97	307.8	5	14	3	9	47	25	8	18	PCP
SVERDLOVSK	24.10	17.6	5	14	1	9	27	3	5	50	PP
KECSKEMET	24.48	309.1	5	18	2	9	50	19	5	50	PP
KALOCSA	24.81	307.8	5	21	1	9	53	16	5	53	PP
SKALNATE PL.	25.03	314.4	5	23	1	9	55	15	6	8	PP
BUDAPEST	25.08	310.0	5	23	1	9	49	8	10	39	SS
KRAKOW	25.61	316.0	5	26	-1	9	45	-5	16	30	SCS
HURBANOVO	25.77	310.4	5	29	0	10	11	19	6	57	
DEHRA DUN	25.93	90.6	5	30	0	10	0	5	6	35	PPP
REGGIO CALA.	26.01	287.5	5	31	0	10	0	4	10	16	
MESSINA	26.09	287.7	5	32	0	10	3	5	6	13	PP
WARSAW	26.10	321.2	5	32A	0	10	13	15	6	25	PP
BRATISLAVA	26.56	310.4	5	35A	-1	10	20	15	6	18	PP
ZAGREB	26.61	304.9	5	36	0	10	14	8	15	42	
RACIBORZ	26.62	315.0	5	36	0	10	10	4	8	59	PCP
AGRA	27.00	97.3	5	40	0	10	16	3	6	34	PP
VIENNA-H.	27.05	310.2	5	40A	0	10	19	6	6	26	PP
BOMBAY	27.17	118.2	5	39	-2	10	22	7	6	29	PP
PULKOVO	27.81	341.1	5	47	0	10	31	5	9	3	PCP
POONA	28.16	117.5	5	50	0	10	38	7	6	52	PPP
ROME	28.51	295.7	5	53A	-1	10	53	16	7	0	PP
PRUHONICE	28.76	312.9	5	55	-1	10	43	2			
PRAGUE	28.86	313.0	5	57A	0	10	45	2	7	4	PP
FLORENCE X.	29.57	299.4	6	2A	-1	11	4	10	6	49	PP
BOLOGNA	29.60	300.8	6	5	2	11	34	40			
PRATO	29.69	299.6	6	4	0						
HELSINKI	29.71	337.1	6	3	-1	10	59	3	7	0	PP
CHEB	30.12	312.1	6	2	-6	11	8	6	6	54	PP
COLLMBERG	30.15	314.7	6	12	4	11	24	21	7	17	PP
PLAUEN	30.39	312.8	6	6	-4	11	5	-2	8	14	
POTSDAM	30.50	316.7	6	11	0	11	12	4	7	6	PP
HALLE	30.83	314.6	6	13	-1	11	27	13	7	12	PP
JENA	30.87	313.4	6	11	-4	11	16	2	7	5	PP
CHUR	31.19	305.1	6	15	-2	11	21	2			
PAVIA	31.21	301.8	6	18A	0	11	25	5	7	25	PPP
RAVENSBURG	31.30	306.9	6	18	0	11	16	-5			
STUTTGART	31.78	308.6	6	20	-3	11	29	0	7	17	PP
EBINGEN	31.81	307.4	6	20	-3	11	29	0			
TUBINGEN	31.81	308.1	6	21	-2	11	27	-2	7	25	PP
ZURICH	31.92	305.8	6	23	-1	11	30	-1			
UPPSALA	32.12	331.6	6	23A	-3	11	34	0	7	33	PP
COPENHAGEN	32.20	322.2	6	26A	0	11	42	7	16	8	
HYDERABAD	32.27	113.8	6	22K	-5	11	33	-3	7	23	PP
MONACO	32.33	298.9	6	27A	0				7	50	PP
KARLSRUHE	32.34	308.8	6	24K	-3	11	55	18	7	35	PP
STRASBOURG	32.67	307.9	6	29	-1	11	50	8	7	25	PP
HAMBURG	32.68	317.5	6	29A	-1	11	50	7			
NEUCHATEL	32.96	304.9	6	30	-3	11	50	3			
BENSBERG	33.56	312.0	6	37A	-1	12	9	13			
BESANCON	33.65	305.2	6	41	2	11	57	-1	7	50	PP
APATITY	34.19	350.3	6	42K	-1	12	9	3	7	49	PP
CHATRA	34.66	91.7	6	17	-30				12	18	
BOKARO	34.76	97.4	6	29A	-19	12	27	12	8	14	
DE BILT	35.03	313.5	6	52	1	12	27	8	8	9	PP
SODANKYLA	35.18	346.0	6	51	-1						
CLERMONT-FD.	35.50	302.3	6	54A	-1	12	31	5	8	16	PP
GARCHY	35.63	304.8	6	53A	-3	12	27	-1	8	29	PPP
VIZIANAGRAM	35.73	107.8				12	40	10			
ALGIERS UNI.	36.12	286.9	6	59A	-1	12	38	2	8	23	PP

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PARIS	36.16	307.4	6	57	-3	12	35	-1	8	20	PP
BARCELONA	36.27	294.8	6	59	-2	12	52	14	8	25	PP
KODAIKANAL	36.35	124.4	7	4	2	12	47	8	8	31	PP
MADRAS	36.36	117.9				12	41	2	9	4	PCP
SKALSTUGAN	36.43	334.1	6	54A	-8						
LHASA	36.87	85.1	7	7	1	12	52	5			
KIRUNA	36.92	343.2	7	5A	-2	12	48	0	8	24	PP
CALCUTTA	37.43	97.5	7	11	0	12	57	1	8	3	PP
BERGEN	37.67	326.8	7	10A	-3	13	4	5	8	39	PP
KEW	38.28	311.4	7	18A	0	13	9	0	8	43	PP
RELIZANE	38.29	285.9	7	19	1	13	16	7	8	48	PP
TAMANRASSET	38.53	263.9	7	22A	2	13	19	6	8	47	PP
ALICANTE	38.62	290.2	7	21	0	13	16	2	8	52	PP
SHILLONG	39.03	90.8	6	27A	-57	13	2	-18	8	13	PP
YUMEN	39.26	66.5	7	30	4						
DURHAM	39.54	316.4	7	27A	-1	13	24	-4	8	55	PP
ABERDEEN	40.30	320.0	7	33K	-2	13	44	5	9	1	PP
CHITTAGONG	40.37	95.4	7	37K	2	13	47	7	9	11	PP
COLOMBO	40.38	125.3	7	35	0	13	27	-13			
ALMERIA	40.45	288.4	7	35	-1	13	47	6	9	13	PP
ASTRIDA	40.50	208.3	7	37	1	13	12	-30			
LWIRO	40.55	209.8	7	9	-28	13	49	6			
EDINBURGH	40.64	317.9	7	39	1	13	55	11	9	8	PP
TOCKLAI	40.97	87.6	6	28	-72						
TOLEDO	41.11	293.3	7	42A	0	14	3	12	9	15	PP
GRANADA	41.27	289.2	7	43A	0	14	5	11	8	39	PP
UVIRA	41.54	208.6	7	45	0						
RATHFARNHAM	42.10	313.6	7	48A	-2	14	16	10	9	28	PP
IRKUTSK	43.69	48.0	8	3A	0	14	35	6	9	44	PP
COIMBRA	44.37	294.6	8	7	-1	14	35	-4			
LISBON	45.22	292.7	8	16A	1	15	1	10	10	3	PP
LANCHOW	45.34	71.1	8	15	-1				9	57	PP
ULAN-BATOR	45.51	54.1	8	11	-6	14	53	-2			
CHENGTU	47.13	78.1	8	31	1	15	23	5	10	21	PP
KUNMING	48.17	85.7	8	37K	-1	15	33	0			
REYKJAVIK	50.79	328.0	9	0	2				10	52	PP
SCORESBY SD.	51.20	336.2	9	1	0	16	29	14	19	54	SS
LOME	51.24	247.5	9	3	1	16	22	6	11	5	PP
NORD	52.48	350.4	9	10	-1	16	40	7			
TANANARIVE	53.03	180.1	9	15K	0	16	54	14	11	22	PP
TIKSI	55.00	22.5	9	28	-1				19	8	SCS
CANTON	57.75	82.6				17	49	6			
NANKING	58.39	70.7	9	52K	-2	17	55	3			
CHANGCHUN	58.92	55.6	9	55A	-2						
ZO-SE	60.63	70.7	10	8	-1	18	24	4			
MBOUR	61.18	268.1	10	13	0	18	36	8	12	27	PP
THULE	62.55	346.1	10	19A	-3	18	51	6	11	4	PCP
TAINAN	63.45	79.3	10	31	3						
TAIPEI	63.56	76.7	10	3	-26	19	5	8			
VLADIVOSTOK	63.64	54.4	10	29	0	19	2	4	20	19	SCS
HWALIEN	64.13	77.7	10	34	2	19	12	8			
TAITUNG	64.32	79.1	10	37	3						
HSINKONG	64.34	78.7	10	37	3	19	15	8			
PIETERMZBURG	65.74	196.5	10	44	1						
BAGUIO CITY	66.97	85.4	10	45	-5	19	45	6			
MAGADAN	67.14	32.6	10	52	0	19	47	6	20	47	SCS
RESOLUTE	68.42	350.0	10	58K	-2	20	5	8	20	53	SCS
DJAKARTA	68.82	113.7	11	13	11	19	59	-2			
Y.-SAKHLINSK	68.91	47.0	11	2A	-1	20	6	4			
TAKAMATU	68.97	62.2	11	5	2						
WAKKANAI	68.99	48.8				20	8	5			
SUTTSU	69.29	51.8	10	51	-14	19	43	-24	12	35	
TOKUSIMA	69.47	62.3	11	6	0						
MORI	69.84	52.4	11	12	4	20	11	-2	21	8	
KYOTO	69.86	60.9	11	9A	1						
SAPPORO	69.89	51.1	10	59	-10	20	6	-8	24	53	SS
IBUKISAN	70.16	60.3	11	4	-6						
GRAHAMSTOWN	70.23	198.7							11	13	PCP
GIHU	70.43	60.1	11	11	-1						*
AOMORI	70.60	53.5	11	23	10						
AKITA	70.67	54.7				20	29	6			
NAGANO	70.83	58.3	11	23	9						
MATUMOTO	70.87	58.8	11	14	-1						
MATUSIRO	70.91	58.4	11	13	-2	20	28	2	12	29	
OIWAKE	71.24	58.5	11	20	3						
URAKAWA	71.26	51.5	11	18	1	20	33	3			
MORIOKA	71.40	54.3	11	21	3	20	31	0			
MAEBASI	71.58	58.2	11	19	0				12	3	

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KOHU	71.60	59.1	11	21	2						
HUNATU	71.81	59.2	11	21	1						
KUMAGAYA	71.92	58.3	11	27	6	20	29	-8			
SENDAI	71.92	55.8	11	20	-1						
UTUNOMIYA	72.06	57.8	11	22	0	20	43	4		17	26
TUKUBASAN	72.39	58.0	11	22	-2	20	43	0	11 30	11	41 PCP
TOKYO C.M.O.	72.41	58.6	11	27	3	20	47	4			
KAKIOKA	72.44	57.9	11	26	2						
HERMANUS	73.47	204.2	11	36	6	21	6	11		21	40 PS
PETROPAVLOVK	74.30	35.8	11	32	-3	21	2	-2		26	1 SS
HALIFAX	79.65	317.4	12	5A	0						
COLLEGE	80.30	6.6	12	8A	0	22	7	-2		27	39 SS
SEVEN FALLS	81.86	322.7	12	16A	0	22	31	6		15	25 PP
SHAWINIGAN	83.22	323.2	12	23A	0						
KOROR	83.29	85.7	12	25K	1	22	44	4		15	50 PP
BREBEUF	84.38	322.8	12	31A	2	22	47	-3			
WESTON	85.36	319.4	12	33A	-1						
HARVARD	85.40	319.7	12	36	2						
OTTAWA	85.49	323.8	12	35A	0	22	59	-2		15	52 PP
PALISADES	87.70	319.8	12	48A	3	23	28	6		19	8 PPP
SITKA	88.86	1.6	12	53K	2	23	41	8		24	41 PS
PHILADELPHIA	89.13	319.8				23	19	-17		16	25 PP
GEORGETOWN	90.91	320.1	13	1	0	23	31	-21		25	4 SP
WASHINGTON	90.91	320.1	13	2K	1	23	35	-17			
SASKATOON	90.94	344.5	13	0	-1	23	55	3		23	29 SKS
CLEVELAND	91.23	324.4	13	11K	9	23	35	-20			
MORGANTOWN	91.86	322.3	13	5	0						
PERTH	91.99	127.9				23	43	-20		17	4 PP
CHAPEL HILL	94.17	319.3	13	15	0						
LILLOOET	94.76	353.4	13	11K	-7						
HUNGRY HORSE	96.00	347.8	13	25K	1	24	42	6		16	51 PKP
HORSESHOE B.	96.19	354.1	13	25K	0	24	1	-36			
COLUMBIA	96.68	319.2				24	5	-37		17	17 PP
VICTORIA	97.06	354.0	13	30K	1	24	48	3		24	7 SKS
TRUK	97.37	75.8	13	31	1			.		17	28 PP
FLORISSANT	97.43	328.2				24	6	-42		26	21 SP
RAPID CITY	97.50	339.3	13	31K	0					17	27 PP
ST. LOUIS 1	97.50	328.0	13	33K	2						
SEATTLE	97.82	353.2	13	35K	3	24	53	2		24	17 SKS
BUTTE	97.97	346.2	13	34K	1					16	56 PKP
BOZEMAN	98.00	345.1	13	34K	1	24	11	-42		17	5 PKP
SAN JUAN	98.07	298.6	13	40	7	24	9	-44		17	30 PP
CORVALLIS	100.96	353.4								17	44 PP
FAYETTEVILLE	101.35	329.3	13	58	10						
SALT LAKE C.	102.85	344.2	13	57K	2	24	35	-58		25	19
RABAUL	104.32	85.2								18	20 PP
SHASTA	104.70	352.2	14	3	0						
MINERAL	104.95	351.5	14	4A	0					16	57
RENO	105.51	350.0	17	11	777						
LUBBOCK	106.57	333.8	17	20	777					18	40 PP
BERKELEY	107.48	351.7								18	47 PP
LICK	107.93	351.1	15	12	777					17	23
BOULDER CITY	108.09	345.1	14	21	777					18	45 PP
FRESNO	108.23	349.4	17	31	777						
PASADENA	110.52	347.5	17	42	-46					19	4 PP
TUCSON	110.68	340.6	14	17	-251					26	10 SKKS
WILKES	111.17	157.2				25	8	2		28	43 PS
MERIDA	111.58	317.0				25	25	18		19	25 PP
CHIHUAHUA	112.56	335.1								19	31 PP
MELBOURNE	115.26	119.7				25	27	5		29	13 SP
VERA CRUZ	116.53	321.4	18	43	4	25	40	14		19	52 PP
COMITAN	116.75	316.0								29	47 PS
TACUBAYA	117.89	324.3								19	59 PP
RIVERVIEW	118.17	113.3				25	38	6		29	29 PS
GUADALAJARA	118.66	328.8								26	23 SKKS
HONOLULU	119.42	27.7				28	[illegible]	6		20	15 PP
LA PLATA	120 21	246.4	18	49	2	26	19	40		20	13 PP
LA PAZ	120.26	270.1	18	55	8	25	43	3		20	16 PP
HUANCAYO	123.86	278.9	18	59	5	26	6	15		20	36 PP
SOUTH POLE	124.23	180.0	18	53	-1	25	47	-5		15	52 P
SCOTT BASE	129.41	166.1	19	6	2					22	27 SKP
CAPE HALLETT	132.22	159.6	19	58	48					22	41 PP
ROXBURGH	134.84	122.5								22	25 PP
WELLINGTON	138.21	115.6								22	55 PP

DECEMBER 13 20.H 26.M 20.S EPICENTRE 52.12-169.67 DEPTH= 0.KM

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A=-0.60657 B=-0.11058 C= 0.78730 D=-0.1793 E= 0.9838
G=-0.7745 H=-0.1412 K=-0.6166 HT= -6.2

SE= 2.44

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
COLLEGE	17.00	32.9	4	0	-1	7	22	12			4	48	
PETROPAVLOVK	19.18	285.6	4	33	5	8	3	4					
SITKA	20.36	62.4	4	42	1	8	32	7			8	54	
MAGADAN	23.11	304.3	5	9	0								
SEATTLE	30.41	79.3	6	24	7	11	23	6					
CORVALLIS	31.27	85.2	6	34	10								
HONOLULU	32.05	159.4	6	48	17	11	45	2					
TIKSI	32.85	329.1	6	37	-1	11	52	-3					
SHASTA	33.96	90.6	6	48	0								
UKIAH	34.39	93.5	6	57	6								
MINERAL	34.65	90.4	6	53	-1								
HUNGRY HORSE	35.05	73.5	6	56	-1	12	27	-2			8	20	PP
BERKELEY	35.76	94.4	7	3K	0	12	36	-4					
RENO	36.24	90.1	7	7	0								
LICK	36.47	94.6	7	10K	1								
RESOLUTE	36.68	25.4	7	9K	-2	13	0	5			9	32	PCP
BUTTE	37.05	76.2	7	14	0	13	2	2					
SASKATOON	37.60	64.2	7	18	-1	12	55	-14					
FRESNO	37.97	93.7	7	21	-1								
TUKUBASAN	38.55	265.9	7	26	0								
EUREKA	38.64	87.3	7	28	1								
VLADIVOSTOK	39.42	280.7	7	31	-3								
MATUSIRO	39.49	267.9	7	36K	2	13	35	-2			9	43	PP
PASADENA	40.69	95.5	7	44	0	13	53	-2					
BOULDER CITY	41.54	90.6	7	51	0						8	18	
KYOTO	42.02	268.1	7	57	2								
RAPID CITY	43.68	73.1	8	8	-1								
LARAMIE	43.89	77.8	8	10	0								
NORD	45.74	5.3	8	24	-1								
TUCSON	46.49	91.4	8	31	0	15	20	0			10	42	PP
IRKUTSK	49.65	306.4	8	54	-2								
ULAN-BATOR	50.95	300.6	9	10	4	16	38	16					
LUBBOCK	51.12	83.3	9	7	0	16	22	-2					
GUAM	52.98	240.5	9	18	-3								
FAYETTEVILLE	54.06	75.6									12	26	PPP
CHICAGO CGS.	54.11	66.1				16	59	-6					
TRUK	54.53	229.3	9	32	0								
SCORESBY SD.	55.51	12.6	9	38	-2								
OTTAWA	58.08	55.9	9	55K	-3	17	56	-2					
SHAWINIGAN	58.76	53.3	10	1	-2								
BREBEUF	59.07	54.6	10	1A	-4								
SEVEN FALLS	59.31	51.7	10	5K	-1	18	14	0					
APATITY	59.40	349.9	10	7	0	18	9	-6			15	56	
MORGANTOWN	59.83	63.3	10	8K	-2								
KIRUNA	60.13	355.6	10	10	-2	18	24	-1					
PENNSYLVANIA	60.15	61.0				18	22	-3					
SEMIPALATNSK	62.00	317.1	10	24	-1								
PALISADES	62.11	58.4	10	22	-3	18	47	-3			22	57	SS
PHILADELPHIA	62.20	60.0	10	44	18	18	53	2					
WESTON	62.46	55.8	10	27	-1								
CHAPEL HILL	62.97	65.7	10	30	-1								
COLUMBIA	63.23	68.5	10	30	-3	18	58	-6			20	20	SCS
KOROR	63.70	246.3	10	24	-12								
SVERDLOVSK	63.82	331.9	10	38	1								
HALIFAX	64.58	49.4				19	36	15					
SKALSTUGAN	64.63	359.0	10	41	-1								
RABAUL	64.77	222.9	10	40	-3						14	9	
BAGUIO CITY	64.79	264.4	10	56	13								
PULKOVO	67.30	349.2	10	58	-1								
HELSINKI	67.44	352.1	10	59	-1								
UPPSALA	68.23	356.0	11	3	-2	19	58	-7			21	16	
PHU-LIEN	70.05	278.4				20	26	-1			20	53	PS
MOSCOW	70.17	344.0	11	13	-4								
FRUNSE	70.31	315.3	11	17	-1	20	32	2					
COPENHAGEN	72.55	358.7	11	32	1	21	12	16			25	58	SS
NAMANGAN	73.12	316.0	11	34	-1	20	58	-4					
BERMUDA	73.46	58.5				21	10	4			25	55	SS
RATHFARNHAM	74.03	10.3	11	54K	14								
HAMBURG	74.68	0.2	11	45A	1								
SHILLONG	75.17	292.5	11	46K	0	21	28	3					
WARSAW	75.63	353.2	11	48A	-1	21	14	-16					

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KEW	76.39	6.8			22	0	22			
HALLE	76.75	359.0	11	56	1					
COLLMBERG	76.93	358.3	11	56	0					
JENA	77.32	359.2	12	4	5					
CHITTAGONG	77.68	290.4	12	1	0	21	53	1	14	58 PP
PLAUEN	77.74	358.8	11	57	-4					
LWOW	77.76	351.0	12	0	-1					
KRAKOW	77.88	353.7	12	1	-1				12	14 PCP
RACIBORZ	77.96	354.8	12	3	1					
PRAGUE	78.13	357.3	12	6	3				12	20 PCP
DEHRA DUN	78.85	305.4	12	10	3	22	19	14		
PARIS	79.23	5.3	12	10	1				15	22 PP
STUTTGART	79.48	0.8	12	10	0	22	28	16		
CALCUTTA	79.54	293.1	12	17	6	22	27	15		
STRASBOURG	79.65	1.7	12	13K	2	22	28	15	22	58 SP
TUBINGEN	79.72	0.9	12	12	0					
BRATISLAVA	79.92	355.4	12	15	2					
BOKARO	79.94	295.8	12	13	0	22	29	13		
IASI	79.96	348.2	12	13	0					
MAKHACH-KALA	79.98	333.2	12	25	12					
EBINGEN	80.07	0.9	12	14	0					
BESANCON	80.94	3.0	12	7	-11					
SIMFEROPOL	81.16	343.1	12	28	9					
NEUCHATEL	81.22	2.3	12	19	-1					
SOTCHI	81.35	338.9	12	20	0					
CHARTERS TS.	81.44	221.4	12	20	-1					
AGRA	81.46	303.5	12	19	-2				22	38
TIFLIS	81.87	334.7	12	23	0					
GORIS	83.52	332.8	12	33	1					
SAN JUAN	83.71	68.2	12	31	-1					
QUETTA	84.26	313.4	12	36A	1	23	0	0	28	32 SS
FLORENCE X.	84.48	359.3							12	28 PPS
BRISBANE	85.73	212.7	12	39	-4	23	9	-6		
ISTANBUL KA.	85.77	345.9	12	42	-1	23	22	7		
KARACHI	87.93	311.1	13	0A	7				23	29 SKS
CHINCHINA	88.60	83.8	12	54	-3	23	40	-2		
HYDERABAD	89.14	297.6	12	56A	-3	23	25	-22		
POONA	90.70	301.9	13	7	1	24	18	17	23	37 SKS
BOMBAY	90.93	302.9	13	8	1					
KSARA	91.54	339.0	13	9	-1	24	8	-1	16	52 PP
RIVERVIEW	92.20	211.8	13	30	17	24	24	9	23	48 SKS
HELWAN	96.31	341.8	13	33	1				24	10 SKS
LA PAZ	109.91	91.4	18	41	777				28	53 PS
CAPE HALLETT	124.92	187.3							38	25 SS
LWIRO	127.96	336.3	19	11	2				26	26
ASTRIDA	128.06	335.1	19	9	0					
SOUTH POLE	141.93	180.0	19	27	-7					
PRETORIA	150.40	326.0							20	1 PKP2
KIMBERLEY	154.29	329.7							20	13 PKP2

DECEMBER 16 17.H 27.M 51.S EPICENTRE 49.82-126.59 DEPTH= 12.KM

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SE= 3.13

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
ALBERNI	1.28	115.0	0	24A	1							
VICTORIA	2.46	120.9	0	39A	-1							
SEATTLE	3.58	125.8	0	57A	1	2	2	24			2	10
CORVALLIS	5.70	155.6	1	24A	-2						6	40
HUNGRY HORSE	8.38	95.3	2	4	1	3	41	3			2	22
SITKA	8.91	327.6	2	5	-6	3	36	-16				
ARCATA	9.12	167.9	2	12	-2							
SHASTA	9.59	160.5	2	20A	0							
MINERAL	10.11	157.7	2	27A	0						3	2
BUTTE	10.15	106.7	2	20	-8						3	19
UKIAH	10.96	166.1	2	37	-2	4	50	8			3	46
BOZEMAN	11.25	105.7	2	42	-1	5	1	12				
RENO	11.35	152.4	2	45A	1						4	27
BERKELEY	12.35	163.8	2	57A	-1	5	13	-3				
SASKATOON	12.79	72.0	2	58	-6	5	24	-2				
EUREKA	12.80	139.9	3	3	-1							
SANTA CLARA	12.91	163.2	3	19K	14	6	39	70				

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LICK	12.98	162.2	3	5A	-1					3	11	
SALT LAKE C.	13.75	125.6	3	18	2							
FRESNO	13.94	156.8	3	19	0							
BOULDER CITY	16.27	143.8	3	48	-1					5	20	
PASADENA	16.85	155.2	3	54A	-2							
RAPID CITY	16.94	100.9	3	56	-1							
BOULDER	17.92	115.0	4	11	1							
COLLEGE	18.78	331.3	4	17	-3	7	53	7		4	46	
TUCSON	21.13	140.3	4	45	-1	8	47	12				
LUBBOCK	24.42	122.3	5	18	0	9	54	20				
CHIHUAHUA	26.30	136.0	5	39	3	10	29	23		6	43	
FAYETTEVILLE	27.16	108.0	5	44A	0	10	59	39		14	19	
CHICAGO CGS.	28.08	91.6	5	56	4	10	40	6				
RESOLUTE	28.24	17.2	5	53K	-1	10	45	8				
CLEVELAND	32.17	87.5	6	29	0	11	44	5				
PITTSBURGH	33.73	88.0	6	41K	-1							
OTTAWA	34.04	77.5	6	45A	0	12	15	7	7 17	8	3	PP
MORGANTOWN	34.18	82.4	6	45K	-1					9	57	PCP
PENNSYLVANIA	34.88	86.0	6	53	1	12	25	4				
BREBEUF	35.32	76.2	6	56A	0	12	33	5				
SHAWINIGAN	35.39	74.1	6	57A	1	12	34	5		8	17	PP
SEVEN FALLS	36.35	72.3	7	2A	-3	12	52	8		8	23	PP
WASHINGTON	36.43	88.2	7	6	1	12	57	12		13	37	
COLUMBIA	36.79	97.9	7	9	1	12	55	4		8	30	PP
PALISADES	37.33	83.0	7	13	0	12	53	-6		8	37	PP
TACUBAYA	37.40	134.4	7	12K	-1	12	34	-26		8	30	PP
WESTON	38.27	79.5	7	21	0	13	23	10				
VERA CRUZ	39.04	130.5	7	25K	-2	13	35	10		10	39	
MERIDA	41.02	121.1	7	48	5					9	27	PP
HALIFAX	41.98	72.0	7	51A	0	14	15	6		18	9	SS
PETROPAVLOVK	44.71	304.3	8	9	-5							
TIKSI	47.85	335.5	8	35	-3	15	31	-2				
BERMUDA	48.39	86.8	8	45	2	15	51	10		10	31	PP
SCORESBY SD.	48.51	25.7				15	53	11				
SAN JUAN	57.18	100.5	9	46	-2					10	34	PCP
KIRUNA	60.09	13.8	9	46	-22							
SODANKYLA	61.39	11.5	10	14	-3					10	54	PCP
CHINCHINA	61.84	118.6	10	18	-2	18	47	6		10	26	
SKALSTUGAN	62.41	19.4	10	23	-1					10	30	
BOGOTA	63.01	117.4	10	3	-25	19	3	8				
SENDAI	63.41	298.4	10	37	7							
TUKUBASAN	65.29	297.3	10	46	3							
DURHAM	66.07	31.3	10	54K	6	19	44	11				
MATUSIRO	66.14	298.7	10	48	0	19	26	-8		13	18	PP
UPPSALA	66.89	18.7	10	51	-2					10	59	
HELSINKI	67.97	14.9	11	5	5							
KYOTO	68.64	299.1	11	10K	6							
ABUYAMA	68.84	299.1	11	10	5							
PULKOVO	69.16	12.3	11	19	12							
IRKUTSK	69.51	329.4	11	12	3	20	25	11				
WITTEVEEN	70.36	28.0	11	23	9							
HAMBURG	70.67	25.8	11	17A	1							
ULAN-BATOR	72.27	325.4	11	30	4	20	49	3				
HALLE	73.06	25.6	11	31	0					12	8	
JENA	73.47	26.1	11	31	-2							
COLLMBERG	73.53	25.1	11	32	-1							
NAGASAKI	73.60	301.3	11	40	6	20	47	-14				
PLAUEN	74.02	26.0	11	41	5							
STRASBOURG	74.40	29.5	11	38	0					12	18	
STUTTGART	74.68	28.6	11	39	-1					12	2	
BESANCON	74.97	31.3	11	41	-1							
PRAGUE	75.04	24.8	11	42	0					14	29	PP
EBINGEN	75.13	29.0	11	43	1							
HUANCAYO	76.20	128.2	11	48A	-1	21	38	8		14	46	PP
KRAKOW	76.46	21.5	11	43	-7					12	12	
GRANADA	79.82	42.9	12	10A	1							
LA PAZ	83.69	124.7	12	25A	-4	22	53	4				
MESSINA	86.20	29.0	12	33	-8	23	21	8		24	38	
RABAUL	87.54	260.6	12	41	-7							
NAMANGAN	88.16	346.3	12	56	5							
KOROR	90.18	281.5	12	55	-5							
KSARA	95.28	14.6				24	45	10		17	3	PP
TAMANRASSET	96.17	43.5	13	36	8					17	23	PP
QUETTA	99.45	348.1								17	41	PP
LWIRO	128.18	32.0								24	54	
ASTRIDA	128.82	31.0	19	7	1							
UVIRA	129.44	32.1	18	1	-67							
CAPE HALLETT	129.48	200.7	19	14	6							

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BYRD STATION	129.65	178.4	19 6	-2	
SOUTH POLE	139.63	180.0	19 18	-8	22 18 PP
TANANARIVE	148.81	10.8	19 49A	7	
KIMBERLEY	149.74	56.6	19 46	2	
MIRNY	153.89	215.4	19 54	4	

DECEMBER 17 5.H 10.M 18.S EPICENTRE 53.54 162.11 DEPTH= 54.KM

DEPTH OF FOCUS= 0.003R

A=-0.56803 B= 0.18341 C= 0.80231 D= 0.3073 E= 0.9516
G=-0.7635 H= 0.2465 K=-0.5969 HT= -6.7

SE= 3.34

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
PETROPAVLOVK	2.11	260.3	0 31A	-3	0 57	-2		0 44 *SP
KLYUCHI	2.89	345.1	0 44A	-1	1 21	2		
MAGADAN	8.67	318.5	2 6	1				
KURILSK	12.44	233.8	2 53	-3				3 23
UGLEGORSK	13.29	258.5	3 8	0				3 20 *SP
Y.-SAKHLINSK	14 02	249.8	3 14	-3				3 27 *SP
NEMURO	14.95	233.6	3 31	2	6 25	11		6 58
ABASHIRI	15.08	238.1	3 40	9				7 27
WAKKANAI	15.52	246.7	3 38	1	7 14	47		
KUSIRO	15.78	235.1	3 46	6	6 37	4		
ASAHIGAWA	16.24	241.0	3 50	4				
OBIHIRO	16.42	237.3	4 27	39				8 55
URAKAWA	17.20	236.3	3 51	-7	6 47	-19		4 56
SAPPORO	17.26	241.1	4 5	6	7 24	17		4 37
TOMAKOMAI	17.53	239.4	4 50	48				
SUTTSU	18.04	242.3	4 14	6	7 28	3		4 40
MORI	18.36	240.2	4 26	14	8 4	32		4 53
HAKODATE	18.51	239.2	4 38	24				7 40
HATINOHE	19.04	235.2	4 19	-1	8 7	20		
AOMORI	19.19	237.1	4 20	-2	8 7	17		
MIYAKO	19.51	232.7	4 22A	-3				8 24
MORIOKA	19.85	234.3	4 26	-3	8 20	16		
MIZUSAWA	20.32	233.3	4 31	-3	8 28	14		
AKITA	20.36	236.2	4 33	-1	8 29	15		
ISINOMAKI	20.78	231.8	4 37	-2	8 39	16		
SENDAI	21.11	232.2	4 40A	-2	8 26	-3		5 5
SAKATA	21.13	235.1	4 41	-1	8 46	17		
HUKUSIMA	21.73	232.1	4 48	0				
ONAHAMA	22.18	230.1	4 52	-1				5 38
NIIGATA	22.28	234.8	5 6	12	9 5	15		5 41
SHIRAKAWA	22.35	231.6	4 49	-5	9 0	8		5 6
VLADIVOSTOK	22.46	254.6	4 49A	-6				
AIKAWA	22.59	236.3	5 1	4	9 6	10		
MITO	22.84	230.0	4 58	-1	9 9	9		12 39
UTUNOMIYA	22.98	231.3	5 1	0	9 12	9		5 26
KAKIOKA	23.10	230.3	4 57	-5	9 12	7		
TUKUBASAN	23.14	230.4	4 46	-16	8 37	-29		9 13 PCP
TIKSI	23.19	333.8	5 1	-2				5 33 PP
TAKADA	23.31	234.8	5 8	4				
SUIHWA	23.39	267.1	5 4	0				
MAEBASI	23.48	232.4	5 5	0	9 21	9		5 33
KUMAGAYA	23.54	231.5	5 5	-1				8 9
NAGANO	23.68	234.2	5 9A	2	9 27	12		12 3
HONGO	23.72	230.3	5 8	0				9 29
TOKYO C.M.O.	23.75	230.3	5 4A	-4	9 1	-15		6 22 PP
WAZIMA	23.76	237.3	4 51	-17	9 10	-6		
MATUSIRO	23.76	234.0	5 8A	0	9 25	9		6 0 PP
TITIBU	23.81	231.8	5 10	1				
YOKOHAMA	24.00	230.1	5 11	1	9 31	10		5 46
MATUMOTO	24.12	234.0	5 12	0	9 36	13		
TOYAMA	24.14	235.8	5 11	-1	9 25	2		
KOHU	24.34	232.1	5 13	-1	9 41	15		5 53
MERA	24.34	229.1	5 8	-6	9 39	13		6 32
HUNATU	24.35	231.6	5 18	4	9 40	13		
KANAZAWA	24.55	236.4	5 18	2				
TAKAYAMA	24.55	235.0	5 6	-10				
AJIRO	24.57	230.5	5 15	-1				6 50
MISIMA	24.58	230.8	5 16A	0				8 50
OSIMA	24.67	229.6	5 15	-2				
IIDA	24.78	233.1	5 21	3				

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SHIZUOKA	24.96	231.5	5	20A	0	9	46	9	11	49
OMAESAKI	25.35	231.3	5	39	16				9	0
GIHU	25.39	234.6	5	23	-1	9	59	15	10	20
NAGOYA	25.47	234.0	5	24	-1	10	10	25		
HAMAMATU	25.48	232.2	5	31	6					
IBUKISAN	25.59	235.2	5	28	2					
HIKONE	25.75	235.2	5	31	4	10	8	18	9	34
CHANGCHUN	25.89	263.0	5	25	-3					
KAMEYAMA	25.97	234.3	5	37	8	10	12	18	6	41 PP
TU	26.05	234.1	6	37	67					
KYOTO	26.20	235.7	5	31A	0	10	6	9		
TOYOOKA	26.25	237.7	5	41	9	10	1	3		
NARA	26.42	235.1	5	41	8					
OWASE	26.74	233.7	5	33	-3				17	11
KOBE	26.74	236.0	5	35	-1	10	12	6		
YONAGO	27.08	239.7	5	53	14	10	33	21		
WAKAYAMA	27.11	235.5	5	55	13					
SUMOTO	27.16	236.0	5	39	-1	10	54	41	6	14
MATSUE	27.21	240.1	5	41	0	10	33	19		
COLLEGE	27.24	45.7	5	39A	-2				6	7
SIOMISAKI	27.45	233.6	5	44	1	10	25	7		
TOKUSIMA	27.53	236.1	5	44	1					
TAKAMATU	27.59	237.2	5	56	12	10	25	5		
TORISIMA	27.95	223.2	6	16	29					
HAMADA	28.15	240.7	5	47	-2	10	34	5	13	19
HIROSIMA	28.38	239.5	5	48	-3	11	36	63		
MUROTO	28.38	235.6	5	54	3				15	52
KOTI	28.47	236.9	5	51	-1	10	43	9	15	0
MATUYAMA	28.64	238.4	5	52	-1				7	54
UWAZIMA	29.21	237.9				10	56	10		
SIMIDU	29.36	236.8	5	20	-40	10	49	1	6	12 PP
SIMONOSEKI	29.48	241.0	5	59	-2					
OOITA	29.69	239.2	6	3	0				8	41
HUKUOKA	30.03	241.2	6	6A	0	10	59	0	6	39
ITUHARA	30.16	243.4	6	30	23					
KUMAMOTO	30.48	239.9	6	34	24	11	6	0		
MIYAZAKI	30.83	237.9	6	14	1	11	23	12	14	20
NAGASAKI	30.98	240.8	6	28	14				16	32
KAGOSIMA	31.55	238.6	6	40	21				16	26
TOMIE	31.65	242.1				10	31	-53	14	46
YAKUSIMA	32.48	237.4	6	25	-2					
IRKUTSK	34.06	291.8	6	38A	-3				7	56 PP
ULAN-BATOR	34.63	283.6	6	43	-3				8	55 PP
SITKA	34.70	58.4	6	54A	8	12	18	6	17	3 SCS
ZO-SE	36.94	249.2	7	4A	-1	12	52	6		
NANKING	37.57	252.8	7	10A	-1	13	0	4	8	43 PP
TAIPEI	41.51	242.9	7	42	-1	14	7	12		
RESOLUTE	42.46	22.6	7	50A	-1	14	14	5		
HSINKONG	43.16	241.5	8	6	9	14	23	4		
TIENSHUI	43.44	267.5	8	8	9					
LANCHOW	43.56	270.7				14	26	1		
TAINAN	43.85	242.6	8	21	19					
TAWU	44.02	241.4	8	22	18					
HONOLULU	44.16	121.0	8	1	-4	14	41	7	10	22
LILLOOET	44.67	61.4	8	12	3					
VICTORIA	45.13	64.7	8	20	7					
SEATTLE	46.25	65.0	9	12	50	15	12	9		
THULE	46.39	14.6	8	20	-3	14	55	-11		
HAWAII V.OB.	47.17	119.4	8	23	-6	15	18	1		
CANTON	47.58	249.9	8	31A	-1	15	27	5		
SEMIPALATNSK	47.89	301.3	8	30	-4				15	38 PS
BAGUIO CITY	49.14	237.3	8	42	-2	15	48	4		
HUNGRY HORSE	50.19	59.7	8	51	-1	16	5	6	10	21 PCP
MANILA	50.50	235.6	8	51	-4	16	16	13		
SHASTA	50.60	72.3	8	55	0					
KOROR	51.22	216.2	8	54	-6	16	17	4		
SASKATOON	51.42	52.0	8	57	-5	16	8	-8		
KUNMING	52.18	261.3	9	6A	-1	16	32	6		
BUTTE	52.46	61.2	9	8A	-1	16	44	14		
SVERDLOVSK	52.78	317.4	9	7	-5				20	18 SS
RENO	52.84	71.7	9	14	2					
SANTA CLARA	53.12	75.1				17	11	32		
PHU-LIEN	53.15	254.4	9	12	-2				15	2
LICK	53.30	74.9	9	29	13					
APATITY	53.31	338.0	9	13A	-3					
BOZEMAN	53.48	60.6	9	17A	0				9	42
FRESNO	54.76	74.2	8	59	-27					
SODANKYLA	54.89	340.6	9	25	-2				9	38

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EUREKA	55.04	69.2	9	29A	1						
TOCKLAI	55.61	269.4	10	32	60						
KIRUNA	55.63	343.4	9	31A	-2				9	43	
LHASA	55.71	274.7	9	33A	0	17	22	8			
SCORESBY SD.	56.26	1.6	9	48	11	17	27	6		10	20
SALT LAKE C.	56.42	65.4	9	37K	-1					10	3
PASADENA	57.55	75.2	9	41	-5	17	42	4		21	42 SS
RABAUL	58.13	191.7	9	47	-3					13	26 PPP
BOULDER CITY	58.15	71.4	9	51A	1					10	16
SHILLONG	58.22	270.8	9	46	-5	21	9	202	10	19	10 38 *SP
RAPID CITY	58.60	57.3	9	52A	-2					39	40 PKPPKP
LARAMIE	59.37	61.0	9	59	0						
TASHKENT	59.63	299.3	9	59	-2	18	10	5	10	14	24 54 SSS
CHATRA	60.08	275.4	10	5	1						
BOULDER	60.45	61.9	10	9	3						
PULKOVO	60.61	334.3	10	8	1				10	20	22 54 SS
CHITTAGONG	60.67	268.4	10	7A	-1	18	22	3			12 22 PP
SKALSTUGAN	60.88	345.1	10	7	-2				10	21	10 42 PCP
HELSINKI	61.57	337.2	10	13	-1				10	24	10 38
STALINABAD	61.92	297.5	10	15	-1	18	40	6			
CALCUTTA	62.62	271.3	10	3	-18	18	33	-10			10 36 PCP
DEHRA DUN	62.84	284.8	10	29	7	18	52	6			19 26 PPS
TUCSON	63.13	71.6	10	24A	0	19	10	20			10 49 PCP
BOKARO	63.14	274.2	10	23	-1	18	56	6			10 54 PCP
UPPSALA	63.43	340.9	10	24	-2	18	56	3	10	38	19 15
WARSAK DAM	63.78	292.2	10	25A	-4						
LAHORE	64.05	288.4	10	28	-2	19	4	3			12 42 PP
BERGEN	64.91	347.5									36 42
AGRA	65.25	282.5	10	37	-1	19	15	-1			10 53 PCP
LUBBOCK	67.09	64.3	10	49	-1	19	47	9			
ASHKABAD	67.72	303.9	10	55	1						19 55
COPENHAGEN	68.32	342.1	11	10A	13	20	13	20			20 29 PS
CHIHUAHUA	68.54	70.7				20	44	49			31 14
FLORISSANT	68.89	53.0	11	OK	-1	20	3	3			
ABERDEEN	68.90	350.9				20	13	13			30 2 SSS
ST. LOUIS 1	69.08	53.0	11	2	0	20	4	2			
FAYETTEVILLE	69.15	57.4	11	1	-2	20	4	1			
QUETTA	69.22	292.7	11	2A	-1	20	5	2			13 35 PP
WARSAW	69.70	335.7	11	11	5	20	25	16			20 41 SP
TERRE HAUTE	69.74	50.6									20 7
OTTAWA	69.79	39.5	11	3	-3	20	10	0			13 43 PP
SHAWINIGAN	69.91	36.9	11	2	-5						13 39 PP
SEVEN FALLS	70.10	35.4	11	8	0	21	13	59			25 1 SS
BREBEUF	70.49	38.1	11	7	-4						14 5
CLEVELAND	70.72	45.5	11	18	6	20	34	13			
HAMBURG	70.78	342.8	11	12A	0				11	27	11 45
TIFLIS	70.92	315.3	11	14	1	20	31	8			20 56 PS
LITTLE ROCK	71.10	57.0	11	16	2						
LWOW	71.11	332.8	11	15	1						
DURHAM	71.22	350.1	11	58	43	22	2	95			21 36
POTSDAM	71.33	340.6	11	17	1						11 32
KRAKOW	71.98	335.4	11	19	-1						11 38 PCP
WITTEVEEN	72.05	344.6	11	21	1						11 33
GORIS	72.09	312.9	11	21	1	20	38	1			14 3 PP
SIMFEROPOL	72.30	324.0	11	20A	-2	20	44	5			21 14 SCS
RACIBORZ	72.37	336.5	11	23	1						11 52 PCP
HALLE	72.39	341.0	11	21	-1	20	51	11			14 9 PP
HYDERABAD	72.43	275.6	11	19	-3	20	43	2			13 57 PP
ASI	72.46	329.4	11	20	-2	21	0	19			
KARACHI	72.53	289.8	11	31A	8	20	58	16			11 43 PCP
SKALNATE PL.	72.70	334.9				21	2	18			21 23
SUVA	72.76	163.7				21	1	16			
PENNSYLVANIA	72.81	43.5	11	23	-2	21	2	17			14 21 PP
MORGANTOWN	72.92	45.5	11	24K	-1						
DE BILT	72.98	345.4	11	24	-2	21	0	13			
JENA	73.00	341.0	11	25	-1	20	58	11	11	36	14 9 PP
RATHFARNHAM	73.10	352.7	11	19K	-7						12 6
PRAGUE	73.23	338.9	11	27A	0	21	8	18			14 32 PP
PRUHONICE	73.29	338.8	11	27	0	21	0	10			14 12 PP
PLAUEN	73.30	340.5	11	45	18						12 31
CHEB	73.65	340.2	11	28	-1	21	15	21			30 12 SSS
BENSBERG	73.77	343.8	11	25	-5						12 3 PCP
WESTON	74.02	38.2	11	37A	5	21	3	4			
POONA	74.30	279.9	11	32	-1	21	5	3			14 17 PP
KEW	74.33	348.7	11	35	2	21	8	6	11	45	21 31
C.C.N.Y.	74.37	40.8									16 26
FORDHAM	74.37	40.8	11	33	-1						16 26
BRATISLAVA	74.41	336.5	11	35	1	21	19	16			22 38

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HURBANOVO	74.43	335.7	12	9	35	21	19	16			
CHARTERS TS.	74.51	195.5	11	32A	-2						
BUDAPEST	74.57	335.0	11	42	7	21	13	8	15	30	PP
BOMBAY	74.61	280.9	11	36	1	21	12	7	14	5	PP
PHILADELPHIA	74.63	42.1	12	0	25	21	6	1	16	27	PPP
GEORGETOWN	74.75	44.0	11	35	-1	21	6	-1	20	16	
MADRAS	74.87	271.4	11	35	-1	21	15	7	14	35	PP
DJAKARTA	75.39	237.6	11	30	-9	21	0	-14			
BUCHAREST	75.41	329.0	11	18	-22	21	18	4	12	8	
KARLSRUHE	75.43	342.5	11	40A	0	21	32	18	11	52	PCP
STUTTGART	75.52	341.9	11	38	-2	21	22	7	14	24	PP
TIMISOARA	75.61	332.9	10	42	-59				21	35	
TUBINGEN	75.77	341.9	11	41	-1						
STRASBOURG	75.96	342.8	11	43A	0	21	34	14	14	42	PP
EBINGEN	76.13	341.8	11	44	0						
RAVENSBURG	76.39	341.3	11	47	2						
CHAPEL HILL	76.42	47.0	11	44	-1						
PARIS	76.58	346.3	11	50	4	21	38	11	14	44	PP
BELGRADE	76.68	333.0	11	48A	1				22	4	PS
ZURICH	76.98	341.9	11	56	7						
MANZANILLO	76.99	75.7							16	54	PPP
COLUMBIA	77.15	49.5	11	48A	-1	21	33	0	22	50	
CHUR	77.30	341.1	11	51A	1						
BESANCON	77.56	343.6	11	51A	-1				15	6	PP
NEUCHATEL	77.63	342.9	11	51	-1				21	5	
SOFIA	77.81	330.2	11	56	3				17	22	PPP
KODAIKANAL	78.67	271.8	11	51	-7	21	48	-1			
OROPA	78.78	341.8	11	59	1				21	1	
PAVIA	78.97	340.9	11	57	-2				17	16	PPP
SKOPJE	79.04	331.3	12	4K	4	22	21	28	12	24	PCP
BOLOGNA	79.19	339.2	12	14	13	22	12	17	44	2	
CLERMONT-FD.	79.46	345.2	12	14	12				22	16	SCS
TACUBAYA	79.65	71.5	12	13	10	22	20	20	15	38	PP
PRATO	79.83	339.1	11	12	-52	21	19	-43			
FLORENCE X.	79.89	339.0	12	3A	-1	22	22	20	15	15	PP
MONACO	80.71	341.7	12	9	0				15	4	PP
BRISBANE	81.06	188.2	12	11	0	22	21	7			
KSARA	81.33	317.2	12	21	9				15	18	PP
ROME	81.41	337.6	12	21	9	22	28	10			
VERA CRUZ	81.53	69.3	13	46	93				42	22	
TARANTO	81.59	333.6	11	23	-50	20	42	-98			
ATHENS	82.02	328.0	12	13K	-3						
JERUSALEM	83.38	316.7	12	22	-1	23	12	34			
MERIDA	83.67	63.3	12	42	18				22	46	
MESSINA	84.17	334.1	12	16	-11				15	16	PP
TORTOSA	84.69	346.1	13	30	61	23	26	35			
BERMUDA	85.31	38.2	13	6	34	22	58	1	16	6	PP
COMITAN	86.14	67.9				23	18	13			
TOLEDO	86.19	349.4	12	38A	1	23	11	5	28	59	SS
COIMBRA	86.28	352.7	13	36	59				23	17	
HELWAN	86.62	318.8	12	39	0	23	14	4			
ALICANTE	87.25	346.4	12	45	3	23	26	10	16	13	PP
RIVERVIEW	87.52	189.1	12	46	3	23	27	9	12	55	16 16 PP
LISBON	87.81	353.2	12	45K	1	22	56	-25	13	17	
ALGIERS UNI.	88.25	343.3	14	20	94	23	37	12			
GRANADA	88.81	348.6	13	22K	33	24	22	52	16	22	PP
ALMERIA	89.00	347.7	13	17	27						
MELBOURNE	92.20	193.5	13	22	17				23	57	
PERTH	94.12	218.0							15	5	
WELLINGTON	95.07	170.5							24	29	
ROXBURGH	98.90	174.9							23	38	
TAMANRASSET	101.34	338.0	13	56	10	24	30	-48	17	57	PP
FORT FRANCE	102.59	42.8							17	54	PP
CHINCHINA	104.39	60.4				24	36	-68	18	43	PP
BOGOTA	105.49	59.2				24	47	-66	19	7	PP
MBOUR	112.36	359.0							19	15	PP
ASTRIDA	115.98	304.8							19	37	PP
LWIRO	116.13	305.9	15	1	-216	25	40	18			
UVIRA	117.04	304.9							19	35	PP
HUANCAYO	118.73	70.1	18	46	4				21	24	PP
WILKES	125.65	203.0							37	53	SS
CAPE HALLETT	125.67	176.9	18	57	2				20	33	PP
LA PAZ	126.35	66.3	18	58	1	26	13	17	20	57	PP
MIRNY	130.55	209.5	18	56	-9						
TALA POZO	137.51	71.6				26	12	-9	22	17	PP
KIMBERLEY	140.29	291.3	19	24	1						
GRAHAMSTOWN	142.69	284.6	19	10	-17						
SOUTH POLE	143.35	180.0	19	26	-2				22	56	PP
HERMANUS	147.66	291.1							20	19	

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DECEMBER 17 13.H 50.M 20.S EPICENTRE -12.37 166.73 DEPTH= 120.KM

DEPTH OF FOCUS= 0.014R

A=-0.95099 B= 0.22429 C=-0.21289 D= 0.2295 E= 0.9733
G= 0.2072 H=-0.0489 K=-0.9771 HT= 6.2

SE= 2.54

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S
NOUMEA	9.88	181.5	2 22	2				
SUVA	12.66	118.4	3 1A	4				
RABAUL	16.53	298.2	3 46	0	6 48	2		15 46 SCS
BRISBANE	19.76	218.5	4 20K	-3	7 58	4		
APIA	20.98	96.3	4 37	2	8 51	34		4 58 PP
CHARTERS TS.	21.06	246.2	4 33K	-3				
ONERAHI	24.30	164.8	5 12	5	9 27	12		
TRUK	24.64	322.4	5 8K	-3	9 25	4		8 45 PCP
AUCKLAND	25.45	164.8	5 20	2	10 45	71		
RIVERVIEW	25.65	211.1	5 17	-3	9 39	2	5 38	5 58 PP
KARAPIRO	26.63	164.3	5 30	1	9 58	5		6 9
MADANG	27.18	308.8	4 42	-52				5 56
WELLINGTON	29.65	167.7	5 54	-2	10 42	0		6 54 PP
KAIMATA	30.31	173.1	6 7	5	10 55	3		6 51
GEBBIES PASS	31.63	171.8	6 12	-2	11 13	0		8 2
MELBOURNE	31.94	213.7	6 13	-3	11 17	-1		7 19 PP
ROXBURGH	33.14	176.7	6 26	-1	11 2	-34		
GUAM	33.68	319.0	6 30K	-1	11 45	0		7 58 PP
KOROR	37.56	299.7	7 1A	-3	12 49	5	7 37	8 35 PP
MACQUARIE I.	42.47	186.7	7 46	1	14 4	* 7		9 23 PP
HONOLULU	48.09	46.2	8 30A	1	15 26	9	9 6	9 42 PCP
HAWAII V.OB.	48.99	50.4	8 37	1	15 34	4		
TORISIMA	49.62	329.7	8 42	1	15 38	-1		
PERTH	50.51	238.7	8 48	0	15 56	5		10 48 PP
HATIDYOZIMA	52.00	331.2	9 1	2	16 5	-6		10 25
MANILA	52.64	299.2	8 59	-5	16 19	-1		
MERA	53.51	332.5	9 11A	1	16 26	-6		10 12
OSIMA	53.59	332.0	9 13A	2	16 34	1		12 37
BAGUIO CITY	53.85	301.0	9 8	-5	16 36	-1		
AJIRO	53.95	331.9	9 13	0	16 40	2		10 23
OMAESAKI	53.99	330.9	9 15A	1	16 45	7		12 49
YOKOHAMA	54.01	332.6	9 16	2	16 42	3		9 43
MISIMA	54.07	331.8	9 12A	-2	16 40	0		12 51
TOKYO C.M.O.	54.18	332.9	9 15A	0	16 39	-2		10 24
HONGO	54.19	332.9	9 15	0	16 45	4		17 17 *SS
SHIZUOKA	54.21	331.3	9 12	-3	16 45	4		12 45
SIOMISAKI	54.29	328.0	9 17A	1	16 48	6		
HAMAMATU	54.33	330.5						15 26
KAKIOKA	54.45	333.6	9 16	-1	16 47	2		
MITO	54.45	334.0	9 18	1	16 43	-2		18 42 SCS
HUNATU	54.47	332.0	9 18	1	16 47	2		
TUKUBASAN	54.47	333.6	9 14	-3	16 45	0		11 18 PP
OWASE	54.55	328.8	9 15	-3	16 50	4		
KOHU	54.67	331.9	9 17	-2	16 44	-3		12 47
TITIBU	54.73	332.5	9 20	1				
KUMAGAYA	54.73	332.9	9 15	-4				12 56
ONAHAMA	54.75	334.7	9 20A	1	16 50	1		10 36 PCP
UTUNOMIYA	54.85	333.6	9 19A	-1	16 46	-4		10 33 PCP
TU	54.92	329.6	9 22	1				
IIDA	54.92	331.2	9 21	0				
MUROTO	54.97	326.6	9 30	9	17 3	11		
YAKUSIMA	55.02	321.5	9 24	3	15 53	-59		
KAMEYAMA	55.04	329.6	9 17	-4	16 52	0		10 15 PCP
NAGOYA	55.05	330.3	9 24	2	16 57	4		
MAEBASI	55.08	332.8	9 22A	0				13 3
SHIRAKAWA	55.18	334.2	9 22	0	16 56	2		10 38 PCP
WAKAYAMA	55.21	328.1	9 23	0	17 5	10		
NARA	55.22	329.0	9 25	2				
OIWAKE	55.26	332.3	9 26	3	17 0	5		
SIMIDU	55.28	325.3	9 25A	2	16 58	2		14 22
GIHU	55.33	330.3	9 22	-2	16 57	1		10 58
TOKUSIMA	55.39	327.5	9 22	-2	17 0	3		
SUMOTO	55.45	328.0	9 24A	0	16 59	1		11 25 PP
MATUMOTO	55.45	331.8	9 10	-14	17 1	3		13 9

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HIKONE	55.48	329.8	9	25	0	17	3	5		11	30 PP
IBUKISAN	55.51	329.9	9	24	-1	17	2	3			
MIYAZAKI	55.53	323.4	9	28A	3	17	10	11			
KYOTO	55.54	329.2	9	22A	-3	17	0	1			
KOTI	55.55	326.3	9	24A	-1	17	4	5		11	14 PP
KOBE	55.55	328.5	9	25	0	17	2	3		19	9 SCS
MATUSIRO	55.59	332.2	9	21A	-4	16	45	-15		12	39 PPP
HUKUSIMA	55.61	334.9	9	26	0	17	2	2			
NAGANO	55.69	332.3	9	23A	-3	17	0	-1		13	28
TAKAYAMA	55.71	331.2	9	35	9						
KAGOSIMA	55.79	322.5	9	25A	-2	17	5	3		13	49
HIMEJI	55.82	327.7	9	28	1	17	7	4			
UWAZIMA	55.85	325.3	9	29A	2	17	1	-2		18	12
ISINOMAKI	55.85	336.0	9	23	-4					11	23
TAKAMATU	55.86	327.3	9	29A	2	17	6	3		12	16
SENDAI	55.88	335.5	9	24	-3	17	2	-2		10	36 PCP
TAKADA	56.03	332.6	9	32	3						
MAIZURU	56.03	329.3	9	27	-2						
HUKUI	56.10	330.3	9	30	1	17	10	4			
TOYAMA	56.18	331.5	9	32	2	17	8	0			
MATUYAMA	56.19	325.9	9	16	-14	17	11	3		23	38
KANAZAWA	56.30	331.0	9	20	-10						
NIIGATA	56.36	333.8	9	33	2	16	45	-25		11	9
OOITA	56.37	324.6	9	29	-2	17	5	-5		13	14
TOYOOKA	56.40	328.8	9	30A	-1	17	8	-3		10	2
ASOSAN	56.44	323.9	9	34	3						
MIZUSAWA	56.53	336.2	9	33	1	17	13	1			
HENGCHUN	56.57	306.9	9	35	3						
KUMAMOTO	56.60	323.6	9	34A	1	17	15	2			
TAWU	56.65	307.3	9	34	1	17	15	1			
MIYAKO	56.65	337.2	9	32A	-1	17	15	1			
TAITUNG	56.67	307.9	9	36	3						
TOTTORI	56.68	328.4	9	25A	-8	17	12	-2			
HSINKONG	56.69	308.4	9	24	-9	17	17	3			
HIROSIMA	56.77	326.1	9	33A	-1	17	8	-7		13	26
AIKAWA	56.79	333.2	9	35	1	17	18	2		13	42
SAKATA	56.85	335.1	9	36	2					13	15
WAZIMA	56.87	331.8	9	36	2	17	21	4			
HWALIEN	56.99	309.4	9	24	-11	17	7	-11			
MORIOKA	57.00	336.6	9	36	1	17	19	1			
NAGASAKI	57.01	322.9	9	37A	2	17	24	5		10	9
YONAGO	57.08	327.6	9	38A	2	17	22	3			
SAGA	57.14	323.7	9	39A	3						
MATSUE	57.24	327.4	9	36	-1	17	22	0			
SIMONOSEKI	57.29	324.7	9	40	3						
HUKUOKA	57.31	324.0	9	41A	3	17	28	6		10	37 PCP
ILAN	57.34	310.3	9	43	5						
HAMADA	57.36	326.3	9	38A	0	17	25	2		12	6
ALISHAN	57.36	308.4	9	37	-1	17	22	-1			
AKITA	57.44	335.8	9	40A	2	17	29	5		10	28 PCP
TAINAN	57.53	307.6	9	42	3						
HATINOHE	57.58	337.4	9	40A	1	17	28	2		10	25 PCP
TOMIE	57.59	322.1	9	36A	-4	17	23	-3			
TAIPEI	57.66	310.4	9	41	1	17	25	-2			
SAIGO	57.68	328.2	9	39	-1	17	32	5			
TAICHUNG	57.80	309.0	9	43	2						
AOMORI	58.12	337.0	9	45A	2	17	37	4			
ITUHARA	58.41	323.7	9	44	-1						
URAKAWA	58.55	339.3	9	48	2	17	44	5		10	21 PCP
NEMURO	58.71	342.1	9	47A	0	17	42	1		13	46
KUSIRO	58.76	341.0	9	49A	1	17	43	2		10	25 PCP
HAKODATE	58.97	337.5	9	47	-2	17	49	5		10	22 PCP
OBIHIRO	59.09	340.0	9	52	2						
TOMAKOMAI	59.30	338.6	9	47	-4						
MORI	59.30	337.6	9	55A	4	17	54	6		10	58
DJAKARTA	59.34	270.1	9	56	4	17	56	7			
ABASHIRI	59.73	341.4	9	56A	2	17	58	4		12	37
SAPPORO	59.86	338.7	9	56A	1	17	50	-6		21	53 SS
CAPE HALLETT	59.93	178.7	9	58	2						
SUTTSU	60.04	337.7	9	58	2	17	57	-1		11	2
ASAHIGAWA	60.14	339.8	9	53	-4	18	1	2			
ZO-SE	61.48	315.8	10	2A	-4	18	17	1			
WAKKANAI	61.82	340.2	10	3	-5	18	32	12			
Y.-SAKHLINSK	62.85	341.7	10	17A	2				10 47	14	46
CANTON	63.07	303.9	10	15A	-2	18	41	5			
NANKING	63.67	315.3	10	19A	-2						
SCOTT BASE	65.48	180.0	10	30	-2	19	15	9	10 59	13	2 PP
WILKES	65.48	201.8	10	36	4	19	10	4		23	39 SS

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PETROPAVLOVK	65.60	354.7	10	33A	0			11	3	19 52	PS
DAIREN	66.11	322.8	10	37	1						
CHANGCHUN	67.46	328.8	10	43	-2	19	34 4			20 33	SCS
PHU-LIEN	67.63	298.7	10	44	-2	19	32 0				
SUIHWA	68.68	331.8	10	54	2						
OASIS-BUNG.	69.15	203.4	10	51	-4					19 49	
PEKING	70.11	320.9	10	59	-2	20	6 5				
KWANTING	70.58	320.8	11	6	2						
TAIYUAN	71.12	317.3	11	7	0						
SIAN	71.83	312.5	11	12	1						
TATUNG	71.96	319.6	11	16	4						
MIRNY	72.26	203.8	11	11	-3					20 27	
KUNMING	72.65	301.3	11	15A	-1						
MAGADAN	72.82	351.6	11	19	2			11	49		
PAOTOW	74.30	318.6	11	25	-1						
YINCHUAN	75.74	315.2	11	38	4						
LANCHOW	76.37	312.1	11	36A	-2	21	12 1				
SOUTH POLE	77.71	180.0	11	42K	-3	20	54 -32	12	16	14 33	PP
WUWEI	78.04	313.4	11	48	1						
SINING	78.09	311.9	11	49	2						
TOCKLAI	79.91	300.3	11	59	2						
ULAN-BATOR	80.05	323.8	11	52	-6	21	49 -1				
CHITTAGONG	81.09	295.2	12	3A	0	22	7 6			15 6	PP
SHILLONG	82.00	298.3	12	5A	-3			12	38	23 44	*SS
UKIAH	82.79	47.5	12	13A	1	22	32 13	12	48	17 6	PPP
ARCATA	82.85	45.6	12	15	3					12 50	
YUMEN	82.99	313.7	12	17	4						
BERKELEY	83.02	48.9	12	11A	-2	22	25 4	12	46	15 24	PP
SANTA CLARA	83.06	49.5	12	13K	0					23 10	SP
LICK	83.29	49.6	12	14A	-1						
IRKUTSK	83.68	326.8	12	18A	1	22	32 5	12	48	28 4	SS
LHASA	83.94	302.0	12	17	-1	22	31 1				
SITKA	83.97	27.8	12	19K	1	22	36 6	12	53	15 58	PP
SHASTA	83.97	46.2	12	17	-1						
CALCUTTA	84.22	294.5	12	21	2	22	37 4			15 25	PP
COLLEGE	84.25	17.8	12	16	-3	22	31 -2			23 22	PS
MINERAL	84.40	46.8	12	18	-2			12	56		
FRESNO	84.47	50.7	12	17A	-3			12	56		
CORVALLIS	84.82	42.4	12	25A	3			12	57		
PASADENA	84.87	53.6	12	19A	-3	22	35 -4	12	54	16 13	PP
RENO	85.41	48.0	12	24A	-1	22	39 -5	13	1		
ALBERNI	85.74	37.7	12	29	2	22	54 6			18 5	
VICTORIA	86.29	38.7	12	30A	1	22	49 -4			13 5	
CHATRA	86.41	298.3	12	28	-2	22	48 -6				
SEATTLE	86.64	39.8	12	32	1	22	48 -8			23 15	
HORSESHOE B.	86.71	38.0	13	32A	61					14 9	
BOKARO	86.82	295.1	12	35	3	23	2 4	13	22	15 41	PP
VIZIANAGRAM	87.54	289.0	12	38	3	23	12 7				
TIKSI	87.55	348.8	12	32	-4	23	3 -2	13	4		
LILLOOET	88.03	37.1	12	33A	-5					13 15	
BOULDER CITY	88.04	52.7	12	37A	-1	23	1 -8	13	3		
EUREKA	88.20	49.1	12	38K	-1						
COLOMBO	88.41	277.4	12	41	1	23	1 -12				
MADRAS	89.44	283.3	12	45	1	23	39 17			16 39	PP
TUCSON	90.24	57.1	12	47A	-1	23	35 6	13	20	23 12	SKS
KODAIKANAL	91.44	280.1	12	56	2	23	17 -23			16 2	
SALT LAKE C.	91.59	48.7	12	56K	1	24	41 60	13	27	23 17	SKS
HYDERABAD	92.03	287.3	12	59	2	23	14 -31			16 4	
HUNGRY HORSE	92.12	41.0	12	54A	-3	23	55 9	13	32	23 22	SKS
BUTTE	92.45	43.5	12	58K	0	23	15 -34			30 55	SS
MANZANILLO	92.98	71.3	12	56	-5					13 54	
BOZEMAN	93.38	44.1	13	2K	-1	23	20 -37	13	37	30 28	SS
CHIHUAHUA	93.40	61.6	13	2A	-1					16 40	PP
GUADALAJARA	94.24	69.9	13	2	-5	24	10 6			16 50	PP
AGRA	94.41	296.7	13	11	4	23	27 -39			16 49	
DEHRA DUN	95.02	299.8	13	15	5	23	36 -35			17 50	
BOULDER	96.30	50.5	13	14	-2						
LARAMIE	96.33	49.2	13	18	2						
POONA	96.54	287.5	13	17	0	24	37 13			16 43	PP
SEMIPALATNSK	97.19	319.9	13	21	1			13	48	17 19	
BOMBAY	97.56	287.7	13	24	2	24	40 7	16	30	17 15	PP
SASKATOON	97.60	38.4	13	25	3	23	44 -49			17 10	PP
TACUBAYA	97.80	71.9	13	20A	-3	24	41 6			23 51	SKS
LUBBOCK	97.90	57.4	13	25	2					17 25	PP
LAHORE	98.38	300.4	13	23	-2					13 56	
RAPID CITY	98.54	46.8	13	27K	1	24	8 -33	14	3	38 13	PKPPKP
VERA CRUZ	100.62	72.6	13	40	4	24	16 -42			17 48	PP
WARSAK DAM	101.06	302.5	13	35A	-3						

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LINCOLN	102.95	50.7	13	48	2				14	24	18 0	PP
TASHKENT	103.62	309.8	13	50	1				14	20	24 21	SKS
STALINABAD	103.78	306.9	13	52	2						18 17	PP
KARACHI	103.91	293.8	13	53	3						18 7	PP
COMITAN	103.92	76.2									18 10	PP
RESOLUTE	104.07	15.7	13	52A	1	25	27	0			18 7	PP
FAYETTEVILLE	104.46	55.7	13	54	1							
QUETTA	104.49	298.2	13	51	-2	24	28	-62			17 55	PP
LITTLE ROCK	105.86	57.2	14	2	777	24	26	28	14	37	18 7	PKP
CONCEPCION	106.22	134.4	14	35	777						29 15	
SAN SALVADOR	106.29	79.2	18	28	777						19 3	
MERIDA	106.93	71.7	14	7	777						18 40	PP
SANTIAGO MA.	106.99	79.5	19	8	777						20 1	
FLORISSANT	107.66	53.1	14	9A	777	26	7	16	14	42	18 37	PP
ST. LOUIS 1	107.76	53.2	14	9A	777	26	3	20			28 1	PS
SANTA LUCIA	108.87	131.9	14	19	777						18 48	PP
SVERDLOVSK	109.07	326.0	14	14	777						24 45	SKS
CHICAGO CGS.	109.80	49.9	17	49	777	24	49	16			14 17	P
THULE	109.83	11.9	14	15A	777	26	18	105	14	50	18 50	PP
TERRE HAUTE	109.96	52.4	17	25	777	28	8	214				
NORD	110.73	0.5									19 2	PP
ASHKABAD	111.96	306.0	14	27A	-234						19 19	
TANANARIVE	112.48	243.4	18	22	0				18	49	19 9	PP
ANTOFAGASTA	113.65	122.8				27	59	181				
HUANCAYO	113.81	109.2	14	37	-227						19 26	PP
CLEVELAND	114.36	50.0	18	30	4						19 59	
COLUMBIA	115.20	58.2	18	30A	3	27	4	120			19 58	PP
PITTSBURGH	115.64	51.0	18	31	3						20 3	
MORGANTOWN	115.72	51.9	18	30A	2						20 6	PP
CHAPEL HILL	116.72	56.0	18	32	2							
LA PLATA	116.74	139.7									19 34	PP
APATITY	117.00	341.7	18	31	0	25	16	5			19 32	PP
PENNSYLVANIA	117.18	50.4	18	57	26						20 18	PP
OTTAWA	118.00	45.0	18	31K	-2	26	13	59			19 33	PP
WASHINGTON	118.02	52.5	18	38	5	28	16	182			15 2	P
CHINCHINA	118.04	90.9									29 32	PS
LA PAZ	118.65	116.6	18	35K	1	25	25	8			19 54	PP
SODANKYLA	119.10	343.5	18	34	-1						20 3	PP
PHILADELPHIA	119.34	51.1	19	1	26						26 1	SKKS
GALERAZAMBA	119.36	84.5									19 20	PP
BREBEUF	119.43	44.6	18	36A	1	25	19	0				
SHAWINIGAN	119.76	43.2	18	36K	0						19 59	PP
PALISADES	120.11	49.7	18	34	-3	25	20	-2	15	32	15 2	P
FORDHAM	120.16	49.9	18	39	2						20 4	PP
KIRUNA	120.36	345.9	18	36	-1	25	24	1			20 6	PP
PIETERMZBURG	120.71	224.4	18	41	3							
GRAHAMSTOWN	120.78	218.6	18	38	0							
GORIS	121.16	308.8	18	42	3	25	34	9			15 9	P
SCORESBY SD.	121.68	3.4	18	39	-1				19	14	20 13	PP
WESTON	121.74	47.7	18	39K	-1							
TIFLIS	121.87	311.6	18	41	1				19	16	15 13	P
PULKOVO	122.80	335.5	18	47	5	25	39	9			22 21	PKS
HERMANUS	124.16	212.5	18	49	4						15 22	P
HELSINKI	124.61	337.9	18	44	-1	25	44	8			20 40	PP
PRETORIA	124.64	226.5	18	9	-36							
KIMBERLEY	125.01	221.4	18	25A	-21							
SKALSTUGAN	125.79	346.2	18	47	-1						28 25	PKKP
HALIFAX	126.47	43.1	18	50	1						20 46	PP
AKUREYRI	126.66	2.5									22 16	PKS
UPPSALA	127.37	341.0	18	48	-3						20 50	PP
REYKJAVIK	127.96	4.8	18	55K	3				19	28		
SIMFEROPOL	128.29	318.3	18	56	4				19	26	15 38	P
SAN JUAN	128.83	76.3	18	55A	1	26	16	28	19	30	21 2	PP
VIK	128.86	3.3									22 34	PKS
BERMUDA	128.99	58.3	18	56	2						15 48	P
BERGEN	130.14	348.1	18	59	3						21 15	PP
KSARA	130.54	304.0	19	3	6				16	22	15 53	P
IASI	131.28	323.6	18	59	1						21 21	PP
JERUSALEM	131.53	301.6	19	0	1						21 26	
WARSAW	131.63	332.4	19	2A	3						21 22	PP
LWOW	131.73	328.3	19	17	18							
FOCSANI	132.28	322.1									21 31	PP
COPENHAGEN	132.38	340.6	19	2	2						21 28	PP
TRINIDAD	132.74	86.8	19	4	3						22 21	
ST. CLAUDE	132.99	79.6	19	6	5						22 6	PP
ST. VINCENT	133.24	83.5	19	5	3						22 6	
ISTANBUL KA.	133.27	315.6	19	3	1						21 30	PP
FORT FRANCE	133.46	81.4	19	5	3						22 9	PP
ANTIGUA	133.56	78.2	19	2	0						22 3	

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BUCHAREST	133.61	321.1	19	7	4				19	37	21	38 PP
KRAKOW	133.61	330.8	19	5	2						21	30 PP
CAMPULUNG	133.80	322.7	19	9	6						22	4
SKALNATE PL.	134.04	329.7	19	6	3						21	37 PP
RACIBORZ	134.40	331.9	19	8	4						21	41 PP
ABERDEEN	134.48	351.5	19	15A	11						22	40 SKP
POTSDAM	134.83	337.4	19	8	3						21	40 PP
HAMBURG	134.94	340.6	19	9A	4						21	41 PP
UVIRA	135.03	252.2	18	56	-9						21	43 PP
HELWAN	135.22	300.0	18	56	-10						21	40 PP
TIMISOARA	135.72	325.4	19	12	6				20	7	25	29 SKP
BUDAPEST	135.76	328.7	19	13	7							
LWIRO	135.76	253.7	16	15	-172						21	36 PP
KECSKEMET	135.80	327.7	19	10	3							
EDINBURGH	135.85	351.9	19	23	16	26	19	15			21	57 PP
HURBANOVO	135.93	329.6	19	15	8						21	54 PP
HALLE	135.95	337.5	18	58	-9	26	3	-1			21	51 PP
PRAGUE	136.08	334.4	19	10	3				19	41	21	52 PP
PRUHONICE	136.09	334.2	18	56	-11				19	51	21	43 PP
SOFIA	136.23	320.6	18	56	-11						20	47
BRATISLAVA	136.26	330.7	19	5	-2	26	40	36	19	42	21	53 PP
KALOCSA	136.43	327.7	19	13	5						22	40 PKS
JENA	136.54	337.3	19	0	-8				19	43	21	51 PP
VIENNA-H.	136.55	331.3	19	10	2						21	55 PP
WITTEVEEN	136.61	342.5	19	2	-6						19	13
PLAUEN	136.67	336.5	19	11	3						21	52 PP
DURHAM	136.71	350.1	19	5K	-3						21	50 PP
BELGRADE	136.71	324.8	19	2A	-6						21	56 PP
CHEB	136.91	335.9	19	11	2						21	48 PP
DE BILT	137.67	343.1	19	0	-10						21	54 PP
SKOPJE	137.82	320.8	19	15	5						22	16 PP
BENSBERG	138.07	340.7	19	6	-5						22	3 PP
ATHENS	138.35	314.3	19	5A	-6						22	5 PP
ZAGREB	138.45	329.0	19	15	4						22	51 PKS
RATHFARNHAM	138.80	353.6	19	8A	-4	25	6	-6ℓ	19	40	22	9 PP
STUTTGART	139.20	337.2	19	2	-11	26	25	16	19	49	22	6 PP
KARLSRUHE	139.29	338.1	19	12	-1						22	12 PP
TUBINGEN	139.45	337.1	19	7	-6						22	8 PP
KEW	139.62	347.5	19	8	-6				19	50	32	18 SP
EBINGEN	139.77	336.9	19	8	-6						22	11 PP
STRASBOURG	139.89	338.3	19	8K	-6	26	46	36			22	11 PP
ZURICH	140.59	336.5	19	12	-3						22	20 PP
CHUR	140.63	335.2	19	13K	-3						22	20 PP
BASLE	140.84	337.5	19	12A	-4						22	22 PP
TARANTO	141.24	321.8	19	22	5						20	52
PARIS	141.39	343.3	19	7	-10				19	28	22	6 PP
NEUCHATEL	141.51	337.7	19	12	-5						22	23 PP
BESANCON	141.65	338.8	19	16K	-1						22	21 PP
BOLOGNA	141.67	331.3	19	16	-1						22	15 PP
PAVIA	142.11	333.9	19	16A	-2	30	26	252			22	30 PP
PRATO	142.25	330.8	19	16	-2						22	59
FLORENCE X.	142.25	330.6	19	12A	-6				19	52	22	29 PP
OROPA	142.26	335.5	19	15	-3						22	24
ROME	143.00	327.4	19	15	-5						22	34 PP
REGGIO CALA.	143.66	319.9	19	11	-10						22	38
MESSINA	143.67	320.1	19	19A	-2						22	37 PP
CLERMONT-FD.	143.92	340.4	19	19A	-2						22	38 PP
MONACO	144.02	334.1	19	18	-3	26	12	-5			22	32 PP
BARCELONA	148.08	337.8	19	34	6						23	22
TORTOSA	149.19	339.3	19	38	8						23	9 PP
TOLEDO	151.42	345.1	19	33K	0						23	15 PP
ALGIERS UNI.	151.62	331.7	19	36	2						23	32 PP
ALICANTE	151.73	338.4	19	40	6	26	40	13			23	21 PP
COIMBRA	151.96	352.1	19	37A	3	26	46	18			23	32 PP
LISBON	153.51	352.8	19	37K	1	26	47	18	20	16	23	36 PP
RELIZANE	153.59	334.1	19	41	5							
ALMERIA	153.77	340.1	19	39	2	26	45	15			23	40 PP
GRANADA	153.82	342.3	19	36A	-1	25	38	-52			23	44 PP
TAMANRASSET	159.34	302.6	19	45	1						20	21 PKP2
LOME	164.41	247.8	19	58	9						24	50 PP
MBOUR	175.88	60.6	20	0	5						25	33 PP

DECEMBER 20 11.H 18.M 42.S EPICENTRE -30.74 -71.51 DEPTH= 0.KM

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A= 0.27301 B=-0.81654 C=-0.50866 D=-0.9484 E=-0.3171
G=-0.1613 H= 0.4824 K=-0.8610 HT= 1.6

SE= 2.96

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
SANTA LUCIA	2.77	165.4	0	51	5	1	36	15					
CONCEPCION	6.09	184.1	1	57	24								
ANTOFAGASTA	7.13	8.1	2	9	21	3	38	27					
LA PLATA	12.15	113.5	2	48	-9								
LA PAZ	14.51	13.1	3	33	5	6	22	11			3	47	PP
HUANCAYO	18.94	348.4	4	25	1	8	9	16					
BOGOTA	35.25	355.6	7	0	2	12	45	13					
CHINCHINA	35.73	353.0	7	2	0	12	41	2			8	9	PP
GALERAZAMBA	41.44	354.4				14	13	7					
SAN JUAN	49.11	6.8	8	48	-3								
TACUBAYA	56.52	328.3	9	56	10						10	45	PCP
SOUTH POLE	59.43	180.0	10	0	-6	17	56	-19					
BERMUDA	63.11	6.5				19	8	6			23	15	SS
COLUMBIA	65.02	351.3	10	52	8						11	55	
SCOTT BASE	66.35	191.3	10	53	1								
CAPE HALLETT	68.91	196.8	11	11A	3	20	10	-2			28	24	SSS
MBOUR	68.99	57.7	11	11	2	20	17	4			11	29	PCP
FAYETTEVILLE	69.81	340.6	11	11A	-3								
LUBBOCK	70.10	333.4	11	13	-3								
PALISADES	71.43	358.1	11	18	-6	20	38	-4			25	20	SS
TUCSON	72.89	325.8	11	31	-1								
HERMANUS	73.92	120.7				21	21	11					
OTTAWA	75.88	356.9	12	1	11	21	34	2					
BREBEUF	75.91	358.5	11	48	-2								
SHAWINIGAN	76.94	359.1	11	55	-1								
SEVEN FALLS	77.50	0.5	11	58	-1								
BOULDER CITY	77.84	325.3	12	0	-1								
PASADENA	78.12	322.0	12	1	-1	20	48	-68			26	6	SS
LARAMIE	78.30	334.5	12	3	0								
GRAHAMSTOWN	79.82	122.6	12	13A	2								
RAPID CITY	79.90	337.4	11	12	-60								
SALT LAKE C.	80.35	330.1	12	13	-1								
KIMBERLEY	80.76	117.8									12	19	PCP
FRESNO	80.98	322.6	12	16	-2								
EUREKA	81.17	326.7	12	18	-1								
LICK	82.37	321.9	12	24	-1								
RENO	83.09	324.4	12	29	0								
BERKELEY	83.10	321.9	12	31	2								
WILKES	83.35	180.8	12	30	0	22	50	-1			28	6	SS
BOZEMAN	84.09	333.3	12	33	-1								
PIETERMZBURG	84.53	121.1	12	38A	2								
MINERAL	84.60	323.9	12	38	2								
BUTTE	84.98	332.6	12	37	-1								
SHASTA	85.26	323.7	12	37	-3								
HUNGRY HORSE	87.46	333.2	12	49	-1								
TAMANRASSET	91.00	64.1	13	9A	2						16	44	PP
LWIRO	97.71	97.2	13	39	1	24	30	-31					
ASTRIDA	98.32	98.0	17	42	242								
RESOLUTE	106.28	353.7				26	18	1			28	2	PS
STUTTGART	106.83	43.0									20	48	PP
QUETTA	144.34	80.0	19	38	0						22	55	PP
KOROR	146.32	231.6	19	43	2								
POONA	146.39	103.1	19	48	7								
WARSAK DAM	148.74	74.2	19	46	1								
LAHORE	150.82	79.5	19	56	8								
MATUSIRO	154.64	291.2	19	54	0						20	58	
SHILLONG	164.47	105.3	20	7	2								

DECEMBER 23 12.H 34.M 8.S EPICENTRE 35.16 -35.79 DEPTH= 35.KM

DEPTH OF FOCUS= 0.000R

A= 0.66464 B=-0.47926 C= 0.57320 D=-0.5849 E=-0.8111
G= 0.4649 H=-0.3353 K=-0.8194 HT= 0.1

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
PONTA DELGDA	8.55	69.6	2	3	-1	3	49	9				

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LISBON	21.56	72.6	4	48K	0	8	54	14		5	17 PP
COIMBRA	22.19	68.8	4	54	0	7	59	-53		5	27 PP
HALIFAX	23.24	302.4	5	4	-1	9	14	4			
BERMUDA	24.14	271.7	5	24	11	9	35	9			
TOLEDO	25.54	69.9	5	21	-6	9	57	7		5	1
GRANADA	26.01	76.1	5	38K	7	10	17	20	5 50	6	55 PP
MBOUR	26.74	136.0	5	36	-2	10	16	7		6	25 PP
ALMERIA	26.94	76.6	5	44	4	10	24	11		11	38 SS
RATHFARNHAM	27.57	39.7	5	46A	1	10	26	3		11	53
ALICANTE	28.37	73.0	5	57	4	10	46	10		12	13 SS
WESTON	28.47	295.4	5	59	5						
SEVEN FALLS	28.73	305.3	6	5	9	10	59	18		13	7 SSS
TORTOSA	29.02	67.8	5	54	-4	10	10	-36			
RELIZANE	29.51	78.2	5	59	-4						
SHAWINIGAN	29.93	303.7	6	8	1						
KEW	30.16	46.3				11	7	3			
BARCELONA	30.24	66.6				11	11	6			
BREBEUF	30.38	301.5	6	9	-2						
PALISADES	30.39	292.6	6	10	-1	11	7	-1		6	57 PP
FORT FRANCE	30.54	234.6								14	4 SSS
DURHAM	30.71	39.6	6	19	6	11	17	4		7	24 PP
CLERMONT-FD.	31.17	58.2	6	18	0	11	22	2		7	26 PPP
PARIS	31.21	52.2				11	20	-1			
ALGIERS UNI.	31.34	75.5	6	8	-11	11	8	-15		7	4 PP
PHILADELPHIA	31.40	290.6	7	12	52	11	32	8			
ABERDEEN	31.56	35.3								13	17
BESANCON	33.29	55.8	6	34	-2	12	8	15		8	12
DE BILT	33.61	46.9				12	1	3			
NEUCHATEL	33.92	56.3	6	36	-6						
BASLE	34.40	55.5	6	47A	1						
OROPA	34.55	58.9								8	28 PP
BENSBERG	34.59	49.4	6	49	2					8	4
STRASBOURG	34.63	53.6	6	49A	1	12	17	3		7	58 PP
WITTEVEEN	34.67	46.1	6	52	4						
PAVIA	35.39	59.7				12	33	8		8	27 PP
EBINGEN	35.39	54.5	6	50	-4					8	3 PP
STUTTGART	35.59	53.5	6	53	-3	12	28	-1		8	8 PP
CHUR	35.68	56.8	6	53	-4						
SCORESBY SD.	36.17	7.8	7	1	0	12	41	3		5	30
BERGEN	36.47	33.3								15	37
FLORENCE X.	36.90	62.0	7	12	5	13	18	29		8	30 PP
COLUMBIA	37.02	281.6	7	10	2	12	56	5			
JENA	37.35	50.1	7	15	4	12	57	1		8	41 PP
HALLE	37.64	49.2	7	12	-1	12	57	-3		9	17
PLAUEN	37.66	50.9	7	14	1					11	52
CHEB	37.77	51.6				13	11	9			
TAMANRASSET	37.94	97.7	7	12A	-4	13	8	3		8	47 PP
ROME	37.95	65.0	7	18	2	13	10	5			
COLLMBERG	38.27	49.7	7	15	-3					8	56
POTSDAM	38.44	48.0	7	18	-2					13	22
COPENHAGEN	38.60	42.6	7	26	5	13	22	7			
PRAGUE	39.09	51.8	7	25	0	13	22	0		8	12
MESSINA	40.86	70.1	7	36	-4	13	52	3		9	2 PP
RACIBORZ	41.52	51.8	8	48	63						
TARANTO	41.72	66.4	7	14	-33	11	54	-127			
UPPSALA	42.16	37.2	7	47	-3	14	10	2			
KRAKOW	42.63	51.9	8	0	6					10	52
THULE	43.92	349.5	8	3	-2	14	34	1			
LOME	44.66	121.6	8	15	4	14	48	4		18	0 SCS
KIRUNA	45.32	26.3	8	16	0						
FAYETTEVILLE	46.84	289.0	8	26	-2						
NORD	47.09	3.8	8	27	-3						
ATHENS	47.18	68.2	8	35	4						
SODANKYLA	47.52	27.7	8	29	-4						
RESOLUTE	48.36	342.2	8	35	-5	15	38	1			
KISHINEV	48.83	55.2	8	42	-2	15	48	5			
APATITY	50.14	27.9	9	49K	55						
ISTANBUL KA.	50.33	62.8	8	50	-5						
RAPID CITY	51.37	301.6	9	2	-1						
MOSCOW	52.78	42.9	9	21	7						
SIMFEROPOL	52.89	56.8	9	16	2	16	40	1			
LARAMIE	53.83	298.9	9	22	1						
HELWAN	55.90	75.1	9	33	-3	17	22	2			
BOZEMAN	56.30	305.4	9	38	-1						
SOTCHI	57.13	56.9	9	42	-3	17	32	-4			
BUTTE	57.20	306.2	9	43	-3						
HUNGRY HORSE	57.42	309.2	9	43	-4						
KSARA	57.86	69.0	9	53	3	17	49	3			
JERUSALEM	58.17	71.4	9	50	-2						

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SALT LAKE C.	58.48	300.1	9	54	-1						
LA PAZ	59.84	216.4	10	7A	3	18	16	5	10 27	18 27	PS
HUANCAYO	60.04	225.9	10	2	-3					10 30	
TUCSON	61.07	290.7	10	13	1						
TIFLIS	61.30	57.4	10	16	2	18	24	-6			
EUREKA	61.89	300.2	10	16	-2						
BOULDER CITY	62.50	296.1	10	22	0					10 51	
MAKHACH-KALA	62.64	55.2	10	26	3	18	51	4			
RENO	64.56	301.6	10	33	-3						
SVERDLOVSK	64.63	37.2	10	41	5						
MINERAL	65.45	303.1	10	44	3						
PASADENA	65.77	295.7	10	42	-1	19	0	-26			
FRESNO	65.77	298.9	10	47	4						
LICK	66.83	300.2	10	49	-1						
COLLEGE	67.23	334.6	10	51	-2						
LWIRO	70.80	107.1	11	12	-3	20	32	6			
UVIRA	71.81	107.9	11	20	-1						
TIKSI	72.96	5.0	11	36	9						
NAMANGAN	79.15	47.3	12	3	1						
QUETTA	82.52	58.4	12	19	-1	22	32	-1		15 29	PP
KIMBERLEY	85.46	129.9	12	36	1						
HERMANUS	86.23	137.2								23 19	SCS
LAHORE	86.69	53.4	12	44	3						
MATUSIRO	108.44	5.1								28 15	PS
SOUTH POLE	124.97	180.0	18	57	1						
WILKES	143.18	157.9								32 59	SKSP
RABAUL	148.33	344.7	19	43	4						
RIVERVIEW	174.12	281.0								25 27	PP

DECEMBER 25 2.H 9.M 26.S EPICENTRE 53.46 161.95 DEPTH= 54.KM

DEPTH OF FOCUS= 0.003R

A=-0.56849 B= 0.18530 C= 0.80155 D= 0.3099 E= 0.9508
G=-0.7621 H= 0.2484 K=-0.5979 HT= -6.7

SE= 2.16

	DELTA DEG.	AZ. DEG.	P M	S	O-C S	S M	S	O-C S	*PP M	S	SUPP. M	S	
PETROPAVLOVK	2.01	261.7	0	30	-2	0	54	-3					
KURILSK	12.32	233.7	2	48	7								
UGLEGORSK	13.18	258.6	3	19	12								
Y.-SAKHLINSK	13.91	249.8	3	20	4								
TIKSI	23.21	334.0	5	2	-1				5	13	10	4	SS
MATUSIRO	23.64	233.9	5	7A	0						6	20	
KYOTO	26.08	235.6	5	32A	2								
ULAN-BATOR	34.56	283.6	7	11	26								
RESOLUTE	42.56	22.5	7	53A	1								
THULE	46.49	14.5	8	35	11								
HUNGRY HORSE	50.31	59.6	8	53	0						10	12	PCP
SHASTA	50.71	72.1	8	56	0								
MINERAL	51.39	72.0	9	1	0								
APATITY	53.34	338.0	9	15A	-1						9	27	*SP
LICK	53.41	74.8	9	16	-1								
FRESNO	54.87	74.0	9	28	1								
SODANKYLA	54.93	340.6	9	27	-1				9	39			
EUREKA	55.16	69.1	9	29	0								
KIRUNA	55.67	343.4	9	32	-1				9	44			
SALT LAKE C.	56.53	65.3	9	39	0								
PASADENA	57.66	75.1	9	47	0								
RABAUL	58.04	191.5	9	48	-2								
BOULDER CITY	58.26	71.3	9	52	1								
RAPID CITY	58.72	57.2	9	54	-1								
LARAMIE	59.49	60.9	10	0	0								
PULKOVO	60.63	334.3	10	6	-2						18	42	PS
SKALSTUGAN	60.92	345.0	10	8	-2				10	20			
HELSINKI	61.60	337.2	10	15	1				10	26			
TUCSON	63.24	71.4	10	26	1								
UPPSALA	63.46	340.8	10	26	-1				10	38			
WARSAK DAM	63.72	292.1	10	27	-1								
QUETTA	69.16	292.6	11	2K	-1	20	18	15					
BREBEUF	70.61	37.9	11	14	2								
HAMBURG	70.82	342.7	11	15A	2								
TIFLIS	70.90	315.2	11	14	1				11	26			
KIROVOBAD	71.05	313.5	11	15	1								

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KRAKOW	72.00	335.3	11 25	5			15 25
GORIS	72.07	312.8	11 21	1			
WITTEVEEN	72.10	344.5	11 14	-6			12 0
SIMFEROPOL	72.30	323.9	11 22	0	11 33		
HALLE	72.42	340.9	11 34	12			
JENA	73.04	340.9	11 26	0			
PRAGUE	73.27	338.8	11 18	-9			
CHARTERS TS.	74.41	195.3	11 32	-2			
STUTTGART	75.56	341.8	11 38	-3			
PARIS	76.63	346.2	11 48	1			12 0 PCP
TAMANRASSET	101.37	337.9					18 4 PP
SOUTH POLE	143.28	180.0	19 24	-4			

DECEMBER 25 16.H 26.M 1.S EPICENTRE 10.53 -62.52 DEPTH= 0.KM

A= 0.45382 B=-0.87241 C= 0.18152 D=-0.8871 E=-0.4615
G= 0.0838 H=-0.1610 K=-0.9834 HT= 6.5

SE= 2.35

	DELTA DEG.	AZ. DEG.	P M S	O-C S	S M S	O-C S	*PP M S	SUPP. M S	
TRINIDAD	0.99	81.7	0 19	-1					
ST. VINCENT	2.90	24.8	0 48K	0					
BARBADOS	3.85	47.7	1 4	3					
FORT FRANCE	4.38	17.6	1 9	0	2 1	-1			
ST. CLAUDE	5.53	8.2	1 27	2	2 27	-3			
ANTIGUA	6.59	11.6	1 42A	2					
SAN JUAN	8.55	336.3	2 8	1	3 35	-11			
BOGOTA	12.87	243.7	3 13	7	5 31	-1			
CHINCHINA	14.11	247.9	3 20	-3	6 10	9			
BERMUDA	21.84	355.1	4 56	1	9 4	11			
HUANCAYO	25.79	209.9	5 32	-2	9 57	-5			
LA PAZ	27.42	191.8	5 46A	-3	10 23	-5		6 35	PP
MERIDA	28.02	295.0	5 59	5	11 20	42		11 5	
COLUMBIA	28.87	326.9	6 2	0	10 57	5		11 19	
COMITAN	29.34	284.4						18 7	
CHAPEL HILL	29.40	331.9	6 6	-1					
PALISADES	31.98	343.6	6 28	-1	11 36	-5		7 20	PP
WESTON	32.65	347.9	6 35K	0				13 38	
PENNSYLVANIA	33.06	338.4	6 41	2	11 27	-31		7 43	PP
VERA CRUZ	33.56	288.8	6 51	8	12 11	6		14 23	
ANTOFAGASTA	34.83	192.7			12 41	15			
CLEVELAND	35.08	334.8	6 57	1					
BREBEUF	36.13	346.7	7 5K	0	12 45	0			
TACUBAYA	36.45	288.4			12 47	-3		8 33	PP
OTTAWA	36.55	344.3	7 9K	0					
SHAWINIGAN	36.94	348.2	7 14K	2					
SEVEN FALLS	37.14	350.6	7 13K	-1					
TALA POZO	38.16	182.5			13 4	-12		15 39	SS
FAYETTEVILLE	38.34	316.7	7 22K	-2					
LUBBOCK	42.70	308.7	7 59	-1					
MBOUR	44.59	80.2	8 17	2	18 58	247		10 47	PPP
LA PLATA	45.39	174.7						15 17	PPS
LARAMIE	48.65	316.7	9 39	52					
TUCSON	49.42	303.6	8 54	1					
SALT LAKE C.	52.79	313.7	9 18	-1					
BOZEMAN	54.12	319.6	9 27	-1					
EUREKA	55.38	310.9	9 37	-1					
PASADENA	55.84	304.2	9 41	0					
HUNGRY HORSE	57.08	321.5	9 48	-2				10 23	
FRESNO	57.66	306.9	10 4	10					
GRANADA	59.02	52.9	10 4A	1					
BANFF	59.11	324.1	10 5	1					
LICK	59.21	307.2	10 3	-2					
TOLEDO	59.22	49.8	10 4	-1	18 4	-8		12 10	PP
MINERAL	59.79	310.6	10 7	-2					
BERKELEY	59.79	307.7	10 8	-1					
ALMERIA	59.85	53.5	10 7	-2	18 9	-11			
SHASTA	60.45	310.9	10 11	-2					
ALICANTE	61.66	52.1	10 19	-3	18 38	-5			
RATHFARNHAM	61.76	34.5	10 38A	16				11 32	
RELIZANE	62.10	55.1	10 44	19				12 45	PP
VICTORIA	63.03	319.3	10 28	-3					
HORSESHOE B.	63.17	320.3	10 29	-3					
ALBERNI	64.12	319.9	10 36	-2					
ALGIERS UNI.	64.23	54.3	10 35	-4	19 4	-12		11 12	PCP

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KEW	64.63	37.8	10 41	0						
DURHAM	64.87	34.0	10 50	7						
CLERMONT-FD.	65.57	44.5	10 45	-2					19 52	PS
PARIS	65.74	41.1	10 45	-3	19 37	3			11 19	PCP
TAMANRASSET	65.84	69.7	10 48	-1	19 40	5			13 23	PP
THULE	65.95	358.5	10 47	-3					11 28	PCP
RESOLUTE	66.69	351.1	10 49	-5	19 25	-21				
STRASSOURG	69.15	42.0	11 10	0					12 10	
STUTTGART	70.11	41.9	11 13	-3					12 52	
HAMBURG	71.21	36.9	11 23A	1					12 42	
JENA	71.88	39.8	11 25	-1						
ROME	71.89	49.3			20 52	5				
HALLE	72.16	39.2	11 29	1					12 10	
PLAUEN	72.20	40.3	11 27	-1						
COLLMBERG	72.80	39.5	11 32	0						
PRAGUE	73.62	40.9	11 38	1					12 9	
NORD	73.72	6.3	11 35	-2						
SKALSTUGAN	73.88	26.7	11 38	0						
MESSINA	74.22	53.2	11 40	0	21 14	1			21 48	PS
BRATISLAVA	75.32	42.9	11 49	3						
TARANTO	75.48	50.9			20 25	-62				
UPPSALA	76.02	30.8	11 49	-1	21 30	-3			12 14	PCP
KRAKOW	77.17	41.0	11 57	0					12 9	PCP
KIRUNA	77.66	22.7	11 58	-1	21 49	-2				
WARSAW	77.81	38.7	11 43	-17	21 45	-8				
HELSINKI	79.70	30.5	12 10	-1						
LWOW	79.82	41.1	12 14	3						
SODANKYLA	80.04	23.1	12 11	-1						
ATHENS	80.66	53.1	12 15	-1						
PULKOVO	82.42	30.7	12 25	0	22 41	0				
IASI	82.43	43.5	12 34	9						
APATITY	82.62	22.7	12 25	-1	22 43	0				
KISHINEV	83.31	43.5	12 30	0	22 46	-4				
ISTANBUL KA.	84.36	49.4	12 33	-2						
SIMFEROPOL	87.30	44.9	12 51	2	23 31	2				
HELWAN	88.13	60.1	12 53	0	23 41	4				
HERMANUS	89.17	125.1			23 27	-19				
JERUSALEM	91.01	57.6	13 11	4						
KSARA	91.09	55.5	13 10	3	24 12	8				
SOTCHI	91.53	45.3	13 11	2	24 10	2				
LWIRO	91.70	92.0	13 12	2	24 19	10				
UVIRA	92.23	93.1	13 13	0						
KIMBERLEY	92.64	118.6	13 14K	0						
ASTRIDA	92.68	92.1	13 16	1						
BYRD STATION	94.89	188.4	13 22	-3						
SOUTH POLE	100.46	180.0	13 51	1					17 58	PP
CAPE HALLETT	110.77	195.1	19 14	40	28 39	204				
WILKES	124.19	176.6							30 38	PS
MATUSIRO	129.27	338.4	19 8	-2					21 24	PP
CHATRA	132.62	37.8	19 17	0					22 48	
SHILLONG	136.30	34.4	19 24	1						
RIVERVIEW	141.43	227.7	19 48A	15					38 59	SS
BRISBANE	142.58	238.2	19 32	-3						
RABAUL	145.05	277.8	19 37	-2					20 57	
CHARTERS TS.	150.73	247.8	19 47	-1						

DECEMBER 26 12.H 9.M 13.S EPICENTRE -32.76-178.60 DEPTH= 0.KM

A=-0.84237 B=-0.02064 C=-0.53851 D=-0.0245 E= 0.9997
G= 0.5383 H= 0.0132 K=-0.8426 HT= 0.9

SE= 3.07

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
ONERAHI	6.55	240.8	1	41	3								
KARAPIRO	7.04	221.3	1	47	2	3	10	4			3	7	
TONGARIRO	8.00	214.9	1	56	-2						3	54	
WELLINGTON	10.02	210.0	2	27	1	4	7	-13			15	39	SCS
COBB RIVER	10.82	217.4	2	33	-4	4	28	-11					
GEBBIES PASS	12.90	209.6	3	0	-5	5	15	-15					
NOUMEA	16.85	304.4	4	2K	5						7	17	SS
APIA	19.87	19.8	4	29	-4	7	49	-22					
BRISBANE	25.06	274.6	5	27K	2	9	47	1					
RIVERVIEW	25.27	259.2	5	37	10						8	59	

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FORT NELSON	28.57	239.3	5 18	-39				5 48	
MELBOURNE	30.04	250.0	6 11	1					
CHARTERS TS.	33.79	283.3	6 41	-2	11 59	-6			
RABAUL	39.42	309.9	7 29	-2				7 58	
CAPE HALLETT	40.04	185.3	7 39K	3				9 17	PP
SCOTT BASE	45.66	184.3	8 25A	3			8 30	10 2	PCP
TRUK	48.91	319.5	8 46	-1					
BYRD STATION	52.71	169.2	9 18	2	16 50	8		19 6	SCS
OASIS-BUNG.	56.80	208.6	9 44	-2					
SOUTH POLE	57.42	180.0	9 50	0				10 44	PCP
GUAM	57.79	316.7	9 52	-1					
HALLEY BAY	70.49	172.8	11 16	0				13 20	PP
MANILA	74.46	299.1	11 37	-2				14 27	PP
MATUSIRO	79.89	326.0	12 8A	-2	21 49	-22		27 21	SS
BRANNER	87.41	41.6	12 48A	0					
PASADENA	87.48	46.2	12 52	4				14 3	
SANTA CLARA	87.48	41.8	13 17	29				14 27	
LICK	87.65	42.0	12 53A	4				13 13	
BERKELEY	87.68	41.2	12 44A	-5					
UKIAH	88.06	39.8	12 22	-29				13 11	
FRESNO	88.30	43.4	12 56A	4					
ARCATA	88.87	38.1	12 3	-52				12 32	
SHASTA	89.63	39.2	12 23A	-35					
MINERAL	89.80	39.9	12 31A	-28				13 5	
TUCSON	90.91	51.7	15 15	131				18 11	PP
CORVALLIS	91.94	36.0	12 29	-40				13 45	
EUREKA	92.36	43.5	13 35	24					
HUANCAYO	94.44	107.3						22 51	
ALBERNI	94.63	32.0	13 22	1					
VICTORIA	94.72	33.2	13 16A	-6					
HORSESHOE B.	95.41	32.7	13 28A	3					
HUNGRY HORSE	99.19	37.6	14 11	29					
BANFF	100.25	34.8	14 33	46					
DALLAS	100.94	58.1						17 0	
RAPID CITY	102.72	45.6	15 31	93					
SHILLONG	103.00	292.0						17 25	
FAYETTEVILLE	104.44	56.3						17 1	
KIMBERLEY	114.93	202.6	18 43K	3					
PENNSYLVANIA	118.01	57.7	18 35	-11	24 26	-72			
RESOLUTE	119.64	17.7	18 30	-19	24 17	-87			
PALISADES	120.91	58.6	18 53	1	24 32	-76		20 30	PP
OTTAWA	120.96	53.2	18 54A	2	24 25	-84			
WARSAK DAM	122.51	292.1	18 55	0					
WESTON	123.17	57.7	19 5	9					
SHAWINIGAN	123.25	52.6	18 54A	-2					
NAMANGAN	124.56	300.1	19 0	1					
SEVEN FALLS	124.68	52.3	19 1K	2	25 11	-49			
QUETTA	124.85	286.2	19 1	2				20 57	PP
THULE	126.32	16.0	18 57	-5				20 58	PP
HALIFAX	129.14	56.6	19 16	8					
NORD	130.58	3.4	19 10	0				22 30	SKP
UVIRA	135.41	221.4	19 32	13					
ASTRIDA	135.78	222.8	19 10	-10				22 51	PP
LWIRO	136.60	222.0	19 15	-7				22 54	PP
APATITY	140.50	341.3	19 22	-7				19 31	
SODANKYLA	142.33	344.3	19 28	-4					
KIRUNA	143.18	348.1	19 31	-2				23 15	PKS
TIFLIS	144.63	297.3	19 36	0					
REYKJAVIK	145.43	17.8	19 40K	3					
MOSCOW	145.95	323.3	19 41	3					
PULKOVO	146.90	333.4	19 43	3					
SKALSTUGAN	148.41	350.7	19 43	1				20 34	
HELSINKI	148.49	337.5	19 43	1					
UPPSALA	150.84	343.2	19 51A	5				23 14	PKS
KSARA	151.24	281.7	19 48	1				23 33	PP
JERUSALEM	151.46	277.3	19 49A	2				19 55	
HELWAN	154.31	271.6	19 52	1				21 3	
MBOUR	155.21	133.2	19 59	7				23 56	PP
COPENHAGEN	155.81	344.6	19 55	2				20 23	PKP2
ISTANBUL KA.	156.45	298.5	19 53	-1				24 4	PP
KRAKOW	157.93	327.0	19 57	1				24 1	
HAMBURG	158.31	346.1	19 58A	2					
RACIBORZ	158.68	329.2	19 59	2					
RATHFARNHAM	158.74	12.8	20 39A	42					
WITTEVEEN	159.59	350.8	20 0	2					
COLLMBERG	159.61	338.8	19 59	1				20 53	
HALLE	159.74	340.7	19 59	1				20 53	
PRAGUE	160.19	334.6	20 43	45				24 5	PP
JENA	160.36	340.6	19 59	1				24 37	PP

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PLAUEN	160.57	339.0	19	57	-2					20	54
ATHENS	161.09	292.2	20	3	4						
KEW	161.26	3.4	20	1	2						
BENSBERG	161.32	348.6	20	1	2						
STUTTGART	162.96	342.2	20	2	1					23	54 PKS
STRASBOURG	163.48	345.0	20	3A	1					20	55 PKP2
PARIS	163.94	357.4	20	5	3					20	57 PKP2
NEUCHATEL	165.16	345.0	20	4	1						
TAMANRASSET	169.42	201.1	20	9A	3					25	9 PP
LISBON	169.57	52.3	20	11A	5						
GRANADA	173.97	41.6	20	16K	8					25	39 PP
ALICANTE	174.21	14.9	20	9	0	27	11	3		46	48 SS
ALMERIA	174.82	36.9	20	10	1					21	45 PKP2
ALGIERS UNI.	175.77	341.8	20	11	2					21	55 PKP2

DECEMBER 28 14.H 36.M 40.S EPICENTRE -17.87 -64.68 DEPTH= 0.KM

A= 0.40728 B=-0.86087 C=-0.30499 D=-0.9039 E=-0.4277
G=-0.1304 H= 0.2757 K=-0.9524 HT= 5.2
SE= 2.33

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
LA PAZ	3.57	291.9	1	1	4	1	56	15			1	37	
ANTOFAGASTA	7.87	222.1	1	59	1								
TALA POZO	9.91	177.8	1	50	-36	3	15	-65			2	25	PPP
HUANCAYO	11.80	297.9	2	53	1								
SANTA LUCIA	16.40	198.0	3	50	-3	7	2	7					
LA PLATA	18.00	161.8	4	15A	2						7	44	SS
CONCEPCION	19.97	197.5	4	54	18	8	42	26					
BOGOTA	24.19	336.6	5	21	2								
CHINCHINA	25.13	333.6	5	24	-4	9	59	8					
GALERAZAMBA	30.33	339.0									13	4	SS
BALBOA HTS.	30.44	330.0	6	16	0	11	52	35					
FORT FRANCE	32.58	6.4	6	38	3						16	56	SCS
SAN JUAN	36.05	357.7	7	4	-1								
BERMUDA	49.96	0.0	8	59	2	16	21	13			11	3	PP
COLUMBIA	53.88	343.2	9	25	-2	17	2	1			19	30	
CHAPEL HILL	55.20	345.8	9	35	-1								
MBOUR	56.93	58.8	9	50	1	17	50	8			12	14	PP
WASHINGTON	57.65	348.6	9	52	-2						13	28	PPP
PALISADES	59.20	351.9	10	5	0	18	5	-7			12	11	PP
WESTON	60.26	354.3	10	12	0								
HARVARD	60.41	354.2	10	12	-1								
FAYETTEVILLE	60.50	332.7	10	10	-4								
HALIFAX	62.19	0.9	10	24K	-1								
LUBBOCK	62.25	325.3	10	22	-4								
BREBEUF	63.59	353.0	10	34A	0	19	17	9					
OTTAWA	63.76	351.3	10	35K	-1								
SHAWINIGAN	64.53	353.8	10	42	1								
SEVEN FALLS	64.92	355.4	10	42A	-1	19	24	0			17	6	
TUCSON	66.60	318.3	10	53	-1						39	29	PKPPKP
BYRD STATION	66.67	188.9	10	48	-6	19	45	-1			11	21	PCP
RAPID CITY	71.00	331.7	11	20	-1								
PASADENA	72.57	315.7	11	31	0								
SALT LAKE C.	72.94	324.4	11	31	-2								
EUREKA	74.46	321.2	11	42	0						12	25	
FRESNO	75.19	317.1	11	45	-1								
HERMANUS	75.22	121.8	11	42	-4	21	23	-2			25	41	
BOZEMAN	75.92	328.4	11	52	2						12	50	
LISBON	76.61	41.5	11	56K	2								
LICK	76.72	316.6	11	55A	1								
RENO	76.84	319.3	11	56	1								
BUTTE	76.92	327.9	11	56	0								
BERKELEY	77.43	316.8	12	0K	2								
MINERAL	78.43	319.2	12	3	-1								
SHASTA	79.12	319.1	12	6	-2								
HUNGRY HORSE	79.24	329.0	12	8	0						15	18	PP
GRANADA	79.38	45.3	12	18A	9	22	34	24			27	19	SS
TAMANRASSET	79.61	62.0	12	9	-1	22	10	-2			15	1	PP
SCOTT BASE	80.08	189.7	12	18	5								
TOLEDO	80.52	42.8	12	15	0						14	55	PP
KIMBERLEY	81.15	117.3	12	17K	-1								
GRAHAMSTOWN	81.41	122.2	12	18	-2								
RELIZANE	81.54	48.3	12	17	-3						14	26	

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BANFF	81.86	330.4	12	21	-1					
CORVALLIS	81.89	322.0	12	29	7					
ALICANTE	82.10	45.6	12	22	-1	22	35	-3		
CAPE HALLETT	82.92	194.6	12	26	-2	22	52	6		
ALGIERS UNI.	83.80	48.4	12	33	1	22	55	0	15	47 PP
CLERMONT-FD.	88.05	40.4							24	52 PS
KEW	88.87	34.3							24	56 PS
PARIS	89.12	37.5	12	58A	0				13	2 PCP
STRASBOURG	92.14	39.3	13	13	1				25	48 SP
UVIRA	92.56	94.5	13	16	2					
LWIRO	92.63	93.2	13	16	2	24	33	16		
BENSBERG	92.79	37.0	13	16	1					
STUTTGART	93.08	39.5	13	17	0					
WITTEVEEN	93.30	35.2	13	20	2					
ASTRIDA	93.41	93.8	13	21	3				17	7 PP
MESSINA	93.47	51.1							24	43
RESOLUTE	94.31	352.3	13	21	-1	24	36	4	17	13 PP
JENA	95.34	38.1	13	27	0					
HALLE	95.76	37.7	13	29	0					
PRAGUE	96.74	39.6	13	29	-4				16	12
COLLEGE	103.13	334.2	14	1	-1					
KSARA	108.32	59.6	14	30	777	25	17	12	18	56 PP
RIVERVIEW	118.28	213.6	19	45A	56				36	47
CHARTERS TS.	131.64	220.3	19	16A	1				22	50
QUETTA	134.46	65.1	19	22	2				21	55 PP
KARACHI	134.70	71.1	19	22	2					
NAMANGAN	136.14	49.0	19	29	6					
RABAUL	137.55	242.4	19	32	6					
WARSAK DAM	137.83	58.9	19	25	-1					
LAHORE	140.58	61.9	19	31	0				22	30 PP
POONA	140.66	82.4	19	35	4					
DEHRA DUN	143.95	62.9	19	39	2					
IRKUTSK	144.60	11.7	19	48	10					
MADRAS	145.82	93.1	19	46	6					
ULAN-BATOR	149.25	11.1	19	47	1					
SENDAI	149.80	317.5	20	0	13					
GUAM	151.34	265.5	19	55	6	27	12	17		
TUKUBASAN	151.48	314.8	19	57	8					
CHATRA	152.53	66.1	19	53	2					
MATUSIRO	152.53	317.2	19	57	6				23	37 PP
CHANGCHUN	152.78	344.1	19	58	7					
LHASA	154.94	57.7	19	57	3				23	52 PP
SHILLONG	156.93	66.5	19	59	2					
PEKING	157.91	358.3	20	3	5				24	10 PP
KOROR	158.59	243.1	20	43	44					
LANCHOW	159.20	27.0	20	2	2				24	20 PP
NANKING	165.53	348.1	20	11K	5				21	8 PKP2
ZO-SE	165.79	339.1	20	10	4				21	8 PKP2
KUNMING	166.24	56.6	20	9K	2				25	0 PP
CANTON	174.48	19.9	20	18K	7				25	39 PP

DECEMBER 28 19.H 1.M 33.S EPICENTRE -15.54-172.54 DEPTH= 66.KM

DEPTH OF FOCUS= 0.005R

A=-0.95572 B=-0.12521 C=-0.26629 D=-0.1299 E= 0.9915
G= 0.2640 H= 0.0346 K=-0.9639 HT= 5.6

SE= 3.06

	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
APIA	1.88	23.0	0	31	0	1	2	8				
SUVA	9.03	252.1	3	8	58						4	2
NOUMEA	20.97	248.1	4	39	-1						4	56 PP
AUCKLAND	24.04	205.6				9	30	10				
KARAPIRO	24.66	203 1	5	18	2	9	39	9				
TONGARIRO	25.79	201.7	5	28	1	10	6	17				
COBB RIVER	28.47	203.8	5	51	0	10	57	25				
KAIMATA	30.21	204.0	6	15	8							
GEBBIES PASS	30.77	201.3	6	17	5	11	49	40				
BRISBANE	34.05	243.8	6	37	-3	11	56	-4				
RABAUL	36.48	284.3	7	2	1	12	43	6			9	5
RIVERVIEW	37.43	234.2	7	7A	-2	12	55	3			9	26 PCP
CHARTERS TS.	39.42	257.3	7	24A	-1							
MELBOURNE	43.50	231.0	7	49	-10							
FORT NELSON	43.77	223.2	8	1	0				8	11		

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GUAM	51.14	302.1	9 2	3					
KOROR	57.19	289.5	9 46	3					10 40 PCP
CAPE HALLETT	57.64	186.1	9 38K	-8	17 40	3			
SCOTT BASE	63.18	184.8	10 19K	-5			10 29		
TUKUBASAN	68.20	320.2	10 59	3					
MATUSIRO	69.58	319.4	11 6	2	20 17	11			
BERKELEY	71.05	40.1	11 13	0					
LICK	71.11	40.8	11 13	0					11 42
PASADENA	71.52	45.3	11 15	-1					
FRESNO	71.95	42.2	11 18	0					
MANILA	72.20	291.2	11 15	-5					
SHASTA	72.74	37.7	11 23	0					
MINERAL	72.99	38.4	11 23	-2					
RENO	73.59	39.9	11 29	1					
SOUTH POLE	74.56	180.0	11 32	-2					15 3 PP
BOULDER CITY	74.81	45.3	11 35	0					
TUCSON	75.78	50.3	11 40	-1					
EUREKA	75.97	41.7	11 41	-1					
VICTORIA	77.26	31.0	11 50	1					
HORSESHOE B.	77.90	30.4	11 47	-6					
SALT LAKE C.	79.33	42.4	12 1	1					
TACUBAYA	80.04	66.7	12 20	16					
MAGADAN	80.52	342.0	12 6	-1					
BUTTE	81.65	37.6	12 13	0					12 33
HUNGRY HORSE	82.10	35.0	12 14	-1					
COLLEGE	82.35	10.4	12 15	-1					
BOZEMAN	82.37	38.4	12 19	3					12 38
LUBBOCK	83.13	52.5	12 19	-1					
RAPID CITY	86.53	42.5	12 37	0					
FAYETTEVILLE	89.91	52.5	12 53	0					
HUANCAYO	93.61	103.5	13 21	11					
RESOLUTE	101.64	15.4	13 46K	-1	25 30	12			32 47 SS
LAHORE	117.51	297.7	18 38	-1					
QUETTA	123.85	296.1	18 52	1					
KIMBERLEY	132.89	200.9	18 7	-61					
TIFLIS	138.62	316.6	19 22	3					
SIMFEROPOL	143.05	328.0	19 21	-6					
HALLE	143.95	355.2	19 32	4					
RACIBORZ	144.47	348.1	19 31	2					20 33
JENA	144.55	355.5	19 29	0					23 4 PP
BENSBERG	144.67	0.3	19 29K	0					19 51
PLAUEN	144.93	354.8	19 27	-3					
PRAGUE	145.10	352.1	19 32	2					21 14
BRATISLAVA	146.51	348.3	19 37	4					
PARIS	146.57	6.0	19 37	4					19 47 PKP2
STUTTGART	146.83	357.9	19 35	2					
STRASBOURG	147.05	359.6	19 38K	4					20 39
TUBINGEN	147.08	358.0	19 37	3					
EBINGEN	147.43	358.1	19 40	6					
RAVENSBURG	147.81	357.3	19 42	7					
BASLE	148.11	359.9	19 40	5					
BESANCON	148.36	1.9	19 43	7					20 18
ISTANBUL KA.	148.42	327.9	19 39	3					
KSARA	148.57	310.6	19 40	4					23 33 PP
NEUCHATEL	148.63	0.7	19 41	5					
CHUR	148.74	357.3	19 41K	5					
CLERMONT-FD.	149.65	6.0	19 46	8					
SOFIA	149.70	336.5	19 45	7					
JERUSALEM	150.00	307.5	19 47A	9					
UVIRA	151.42	230.4	19 48	8					
ASTRIDA	151.54	232.6	19 43	3					
FLORENCE X.	151.67	354.2	19 42	1					20 38
ATHENS	153.44	330.3							20 3 PKP2
HELWAN	153.84	307.1	19 45	1					
GRANADA	156.32	22.4	20 20A	33					24 8 PP
TAMANRASSET	172.57	14.0	20 2	1					25 20 PP

DECEMBER 30 13.H 58.M 29.S EPICENTRE 18.29 120.11 DEPTH= 0.KM

A=-0.47663 B= 0.82188 C= 0.31198 D= 0.8651 E= 0.5017
G=-0.1565 H= 0.2699 K=-0.9501 HT= 5.1

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

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BAGUIO CITY	1.92	166.4								0	35 P*
HENGCHUN	3.74	9.1	0	59	-1	1	39	-7			
MANILA	3.79	167.1	1	3	2	1	56	9			
TAWU	4.10	10.3	1	11	6	1	52	-3			
TAITUNG	4.54	12.2	1	17	6	2	7	1			
TAINAN	4.68	1.2	1	22	9						
HSINKONG	4.93	13.6	1	11	-6	2	5	-10			
ALISHAN	5.24	6.9	1	20	-1	1	16	-67			
HWALIEN	5.82	13.7	1	32	3	2	35	-3			
TAIPEI	6.83	10.8	2	50	66						
CANTON	7.97	307.8	1	55	-5						
ZO-SE	12.79	4.1	3	3	-3						
PHU-LIEN	12.95	283.3	3	8	0					5	6
NANKING	13.75	355.3	3	16	-2						
KUNMING	17.53	295.6	4	9	2						
KOROR	17.73	126.1	4	10	0					5	12
SIAN	18.77	330.0	4	27	5	7	55	6			
CHENGTU	19.11	313.1	5	6	39	9	14	77			
PEKING	21.93	351.9	4	55	-2						
GUAM	24.17	97.9	5	18	-1	10	16	41		6	29
MATUSIRO	24.20	37.6	5	16	-3	9	29	-6		9	39
TUKUBASAN	25.10	40.7	5	23	-5					5	55
SHILLONG	27.14	290.5	5	44K	-2	10	38	14			
LHASA	28.79	298.5	6	3	2	10	52	1			
CALCUTTA	30.04	283.5	6	28	15						
ULAN-BATOR	31.46	342.9	6	27	2	11	34	1			
CHATRA	31.51	291.6	6	25	-1						
TRUK	32.70	105.1	6	35	-1						
RABAUL	38.71	122.2	7	27A	0						
DEHRA DUN	39.95	295.6	6	49	-48	13	55	12			
POONA	43.80	277.9	8	8	-1						
BOMBAY	44.72	278.6	8	34	18					15	2
SEMIPALATNSK	45.05	324.6	8	17	-2						
CHARTERS TS.	45.90	144.8	8	25K	-1					10	5
NAMANGAN	47.08	309.3	8	36	1						
TIKSI	53.59	3.4	9	22	-3						
BRISBANE	55.57	144.2	9	41	2						
SVERDLOVSK	58.27	326.2	9	54	-4						
APATITY	71.99	336.2	11	30	3						
COLLEGE	74.49	26.3	11	41	-1						
SODANKYLA	74.61	336.4	11	42	-1						
KSARA	75.38	301.1	11	47	0						
KIRUNA	76.82	337.4	11	53	-2						
ISTANBUL KA.	78.98	309.6	12	5	-2						
HELWAN	80.09	298.2	12	12	-1						
UPPSALA	80.46	330.0	12	13	-2						
SKALSTUGAN	81.44	334.5	12	26	6						
RESOLUTE	84.61	8.8	12	35A	-1	22	54	-9		28	38 SS
COLLMBERG	86.14	323.0	12	42	-2						
HALLE	86.65	323.5	12	51	5					13	15
JENA	87.11	323.1	12	49	0						
HUNGRY HORSE	97.98	33.1	13	35	-4						
MINERAL	98.22	42.8	13	43	3						
EUREKA	102.28	41.1	14	2	4						
BYRD STATION	113.02	170.6	18	35	-4						
HUANCAYO	163.86	69.6	20	13	9					21	12 PKP2

DECEMBER 31 10.H 21.M 35.S EPICENTRE 58.27 -31.91 DEPTH= 0.KM

A= 0.44860 B=-0.27932 C= 0.84896 D=-0.5286 E=-0.8489
G= 0.7207 H=-0.4487 K=-0.5285 HT= -8.3

SE= 2.27

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S	
REYKJAVIK	7.60	35.2	1	58	3	3	19	-4					
RATHFARNHAM	15.20	98.1	3	33	-5	6	33	5			3	43	PP
ABERDEEN	15.90	81.2									7	5	
DURHAM	17.02	88.8	4	2	1	7	27	17			6	23	
KEW	19.27	97.0	4	30	1	8	12	11					
SKALSTUGAN	21.75	57.3	4	54A	-1						5	21	PP
DE BILT	21.84	90.3	4	57	1	9	7	13					
WITTEVEEN	22.26	87.4	5	1	0								
PARIS	22.29	100.1	5	1	0	9	12	10			5	19	PP
BENSBERG	23.50	91.1	5	13A	0								

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GARCHY	23.57	102.5	5 12A	-1					5 38	PP
HAMBURG	23.64	83.2	5 15A	1						
NORD	23.84	5.5	5 14	-2	9 26	-3				
COPENHAGEN	23.98	77.0	5 19	2	9 34	2				
LISBON	24.49	133.1	6 20	58						
CLERMONT-FD.	24.60	105.2	5 25	2						
KIRUNA	24.77	45.8	5 25	0	10 9	24				
UPPSALA	25.05	65.1	5 27	-1	9 57	7				
STRASBOURG	25.20	95.2	5 31	2	10 17	24			6 9	PP
KARLSRUHE	25.28	93.8	5 33	3					10 32	
TOLEDO	25.62	123.7	5 33	0	10 11	11				
SEVEN FALLS	25.72	261.4	5 35K	1						
HALLE	25.73	86.1	5 32	-2	10 10	8			6 38	PP
BASLE	25.75	97.3	5 37	3	10 15	13				
NEUCHATEL	25.76	98.9	5 33	-1	10 12	10				
STUTTGART	25.84	93.5	5 35	0	10 19	16			6 40	PP
JENA	25.85	87.5	5 34	-1	10 4	1			6 11	PP
EBINGEN	26.08	94.8	5 32	-5						
PLAUEN	26.39	87.8	5 38	-2						
COLLMBERG	26.39	85.6	5 38	-2						
SHAWINIGAN	27.10	262.3	5 49K	2						
SODANKYLA	27.18	46.3	5 49	1						
PRAGUE	27.83	86.8	5 55	2					11 55	
RESOLUTE	28.09	329.8	5 55K	-1	10 41	1				
PAVIA	28.13	99.7							11 46	
BREBEUF	28.24	261.5	5 54	-3						
ALMERIA	28.82	125.1	5 36	-26	10 35	-17				
WESTON	29.23	254.4	6 14	8						
OTTAWA	29.41	263.4	6 7	-1						
KRAKOW	30.74	82.6	6 18	-1					7 30	PP
PULKOVO	31.04	60.3	6 25	3					13 19	
PALISADES	31.56	255.4	6 26	-1	11 39	4			12 39	SS
BERMUDA	34.06	234.9			12 21	7			14 53	SS
CLEVELAND	35.17	263.6			12 38	7				
MOSCOW	36.43	63.2	7 6	-3						
MESSINA	36.45	102.3			13 36	45			9 8	PP
COLUMBIA	40.55	255.1	7 40	-3						
SIMFEROPOL	41.39	78.9							9 36	PP
ISTANBUL KA.	41.46	87.0	7 49	-2	14 14	7				
TAMANRASSET	44.43	126.7	8 15K	0	14 59	9			10 2	PP
RAPID CITY	44.71	284.0	8 16	-1						
HUNGRY HORSE	47.09	295.6	8 35	-1					10 7	PP
BOZEMAN	47.54	291.0	8 44	5						
COLLEGE	48.01	328.9	8 41	-2						
BUTTE	48.04	292.4	8 44	1						
TIFLIS	49.17	74.3	8 52	0	16 7	10				
KSARA	50.46	88.1	9 5	3	16 22	7			14 14	PCS
HELWAN	51.14	95.2	9 7	0						
SALT LAKE C.	51.51	287.2	9 9	-1						
EUREKA	54.56	289.1	9 32	-1						
RENO	56.41	291.9	9 44	-2						
MINERAL	56.65	293.8	9 50	2						
SHASTA	56.76	294.6	9 45	-4						
TUCSON	57.53	279.7	9 55	1						
FRESNO	58.56	289.9	10 8	7						
LICK	59.02	291.6	10 5	1						
LWIRO	76.98	116.6	11 57	0	21 55	10				
UVIRA	78.21	116.9	12 4	1						
HUANCAYO	78.50	223.3	12 7	2						
SHILLONG	84.32	49.0	12 34	-2						
BYRD STATION	146.32	198.3	19 33	-9					38 0	PKPPKP
BRISBANE	149.03	351.5	19 53	7						

DECEMBER 31 13.H 2.M 19.S EPICENTRE 24.77 -46.10 DEPTH= 0.KM

A= 0.63031 B=-0.65510 C= 0.41660 D=-0.7206 E=-0.6933
G= 0.2888 H=-0.3002 K=-0.9091 HT= 3.4

SE= 1.34

	DELTA DEG.	AZ. DEG.	P M	P S	O-C S	S M	S S	O-C S	*PP M	*PP S	SUPP. M	SUPP. S
BERMUDA	17.98	299.2	4	10	-2	7	45	14				
SAN JUAN	19.66	255.0	4	33	0							
WESTON	27.23	316.4	5	48A	1							
PALISADES	28.25	311.8	5	55	-1	10	47	5				

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MBOUR	29.27	105.2								13	5 PCS
SEVEN FALLS	29.74	324.8	6	12K	2						
BREBEUF	30.32	319.9	6	14A	-1						
SHAWINIGAN	30.44	322.3	6	18A	2						
OTTAWA	31.52	318.2	6	27A	2						
RATHFARNHAM	41.21	35.7	8	39	51						
KEW	43.81	40.4								9	29 PP
CLERMONT-FD.	44.51	49.1								10	27 PP
PARIS	44.76	44.8	10	2A	106	14	15	-39		10	29 PP
GARCHY	44.78	47.0	8	17K	0						
ABERDEEN	45.12	32.3								13	6
LA PAZ	46.30	209.8	8	29	0	15	21	5			
HUANCAYO	46.39	221.3	8	28	-1					17	4
TAMANRASSET	47.06	81.3	8	37	2	15	38	11		10	27 PP
BENSBERG	48.20	42.8								10	9 PP
PAVIA	48.64	50.8								21	1
STUTTGART	49.10	46.0								10	36 PP
RAPID CITY	49.85	307.7	8	57	1						
FLORENCE X.	50.03	52.7								10	45 PP
HAMBURG	50.44	39.9								10	15 PCP
ROME	50.88	55.2								22	41
JENA	50.94	43.5								11	8 PP
PLAUEN	51.24	44.1								10	36 PCP
COLLMBERG	51.88	43.2	9	11	-1						
MESSINA	53.37	59.8	9	21	-2						
SKALSTUGAN	54.14	28.0	9	53A	24						
UPPSALA	55.76	33.2								10	25
RESOLUTE	55.89	346.0	9	41	0	17	23	-5		21	41 SS
TUCSON	56.62	293.4	9	48	1						
HUNGRY HORSE	57.43	312.8	9	51	-1					10	44 PCP
NORD	58.10	4.9	9	55	-2						
KIRUNA	58.48	24.1	10	0	0						
EUREKA	59.60	302.6	10	8	1					10	55 PCP
SODANKYLA	60.75	25.1	10	14	-1						
MINERAL	63.72	304.4	10	35	0						
LICK	64.37	301.1	10	40	1						
COLLEGE	72.67	334.0	11	30	-1						
UVIRA	78.09	99.5	12	2	0					17	0

DECEMBER 31 14.H 28.M 17.5 EPICENTRE -45.05 166.08 DEPTH= 0.KM

A=-0.68806 B= 0.17048 C=-0.70534 D= 0.2405 E= 0.9706
G= 0.6846 H=-0.1696 K=-0.7089 HT= -3.6

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	
ROXBURGH	2.34	103.4	0	42K	3	1	12	4					
KAIMATA	4.62	58.7	1	11	0	2	1	-5			1	38	
GEBBIES PASS	4.90	76.3	1	14	-1	2	8	-5			1	41	
COBB RIVER	6.28	53.1	1	34	-1	2	44	-3			2	42	
WELLINGTON	7.38	62.4	1	48	-2	3	8	-7			4	24	
TONGARIRO	9.13	53.5	2	14	0	3	58	0			3	54	
KARAPIRO	10.04	48.1	2	25	-2	4	16	-5			5	3	
AUCKLAND	10.49	41.9	2	33	0	4	59	27			3	6	
MACQUARIE I.	10.52	203.4	2	34	0						2	15	
ONERAHI	11.21	37.1	2	43	0	4	45	-4			4	42	
FORT NELSON	13.66	272.3	3	15	-1	6	1	13					
RIVERVIEW	16.05	309.1	3	46K	-1						3	58	PP
MELBOURNE	17.37	287.2	4	5A	1	7	31	16					
BRISBANE	20.40	324.9	4	41	2	8	35	13					
NOUMEA	22.69	0.9	5	3	1	9	19	14			5	42	
CAPE HALLETT	27.40	177.2	5	48A	1	10	27	2	5	57			
SUVA	28.74	25.0	5	57	-2	10	55	9					
CHARTERS TS.	29.89	320.2	6	9A	0								
SCOTT BASE	32.91	179.7	6	36A	0	11	58	6	6	47	9	20	PCP
APIA	36.38	38.1	7	7	1								
OASIS-BUNG.	40.13	215.0	7	36	-1	13	44	1					
PERTH	40.82	270.9	7	44	1	14	2	9			17	2	
RABAUL	42.48	339.2	7	57A	1	14	18	1					
BYRD STATION	43.30	165.8	7	54	-9	13	30	-59	8	6	9	39	PCP
TRUK	53.82	342.4	9	25	0						10	16	PCP
KOROR	59.37	322.8	10	3	-1	18	15	4			10	53	PCP
GUAM	61.37	336.2	10	14	-4	18	39	3			12	29	PP
DJAKARTA	64.17	288.3	10	35	-1	13	56	-315					

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MANILA	72.06	313.9	11	25	0					13	58
HONOLULU	73.66	34.7	11	35	0						
CANTON	83.12	312.4	12	28A	1	22	46	1			
NAGASAKI	84.11	330.0	11	58	-34	22	56	2			
TUKUBASAN	84.24	339.1	12	31	-1	22	39	-17	12 44	12	50 *SP
KYOTO	84.31	335.4	12	33A	0	23	0	4			
PHU-LIEN	84.95	306.0	12	35	-1					16	27
MATUSIRO	85.04	337.8	12	37A	1	22	57	-7		16	6 PP
SENDAI	85.99	340.4	12	45	4						
ZO-SE	86.09	322.6	12	41A	-1	23	4	-10		15	58 PP
PORT BLAIR	86.73	289.9	12	43	-2	23	8	-12			
NANKING	87.94	321.4	12	52A	1	23	22	-9		16	22 PP
KUNMING	90.52	305.8	13	5A	2						
COLOMBO	92.16	277.5	13	5	-5	23	43	-27			
GRAHAMSTOWN	93.77	213.0	13	17A	-1						
SIAN	94.40	315.7	13	24	3						
TANANARIVE	95.35	236.6	13	27	2						
PEKING	95.82	323.8	13	28A	1						
MADRAS	96.22	282.1	13	49	20	24	27	-17		17	30 PP
SHILLONG	97.39	298.8	13	34A	0						
CALCUTTA	97.45	294.3				24	12	-2		16	35
LANCHOW	98.41	313.5	13	39	0					17	41 PP
KIMBERLEY	98.53	213.7	13	38	-1						
HYDERABAD	100.49	284.1								24	27
.HUANCAYO	100.69	119.1	13	52	3	24	31	-51		18	6 PP
LHASA	100.82	301.1	13	50	0	24	28	-55		17	57 PP
LA PAZ	101.45	127.4	13	52	-1	24	31	-57		18	11 PP
PASADENA	104.44	56.1	17	23	197						
LICK	104.71	51.7	14	11	4					18	25 PP
FRESNO	105.34	53.2								18	28 PP
BOMBAY	105.39	281.4	17	25	777					24	49
ULAN-BATOR	106.12	323.0								18	34 PP
SHASTA	106.70	48.8								18	40 PP
MINERAL	106.88	49.5								18	16 PP
RENO	107.28	51.2								18	29 PP
TUCSON	107.59	61.9	14	34	777					29	59 PKKP
EUREKA	109.40	53.4	18	32	777					14	30 P
DEHRA DUN	109.47	293.6	19	31	777					28	23
SALT LAKE C.	112.61	54.6	18	38	2						
LAHORE	112.69	292.3	18	37	1						
CHINCHINA	113.30	107.2	18	33	-4	25	16	-5			
BOGOTA	114.08	108.7								29	21 PS
COLLEGE	115.33	19.9	18	40	-1					29	21 PKKP
BUTTE	115.57	49.8	18	44	2						
WARSAK DAM	116.05	292.8	18	39	-4						
BOZEMAN	116.18	50.8	18	48	5						
HUNGRY HORSE	116.26	47.1	18	43	0					19	56 PP
QUETTA	116.76	286.8	18	46A	2	25	33	-1		19	58 PP
UVIRA	118.34	230.7	18	49	2						
TIKSI	119.34	347.3	18	47	-2						
LWIRO	119.53	231.2	18	51	2					20	15 PP
RAPID CITY	119.69	56.1	18	50	0					20	11 PP
NAMANGAN	120.14	299.2	18	53	2					20	15
FAYETTEVILLE	120.71	68.2	18	52K	0						
COLUMBIA	128.43	77.7	19	7	0						
SAN JUAN	129.32	104.1	19	9	1						
FORT FRANCE	130.09	111.8	19	11	1					21	55 PP
CHAPEL HILL	130.84	76.8	19	11	0						
RESOLUTE	135.19	21.9	19	6	-13					31	1 SKSP
PALISADES	136.83	73.3	19	21	-1					22	6 PP
TIFLIS	138.00	287.0	19	16	-8					23	3
WESTON	139.17	72.7	19	27	0					35	3
SHAWINIGAN	139.77	66.1	19	17	-11						
JERUSALEM	139.88	268.1	19	29	1					22	26 PP
KSARA	140.51	271.2	19	27	-2	26	36	0		22	25 PP
SEVEN FALLS	141.22	66.0	19	25	-5						
HELWAN	141.54	262.6	19	26	-5					22	34 PP
NORD	143.30	0.7	19	30	-4						
HALIFAX	145.21	72.6	19	37A	0						
MOSCOW	146.20	307.2	19	40	1					23	23
SIMFEROPOL	146.43	287.3	19	41	2					23	5
APATITY	146.69	329.0	19	39A	-1					23	2 PP
ISTANBUL KA.	148.62	278.1	19	42	-1					23	14 PP
SODANKYLA	149.19	330.6	19	37	-7						
MBOUR	149.32	174.2	19	48	4					23	34 PP
PULKOVO	149.92	315.2	19	45	0					23	30
KISHINEV	150.53	289.3	19	45	-1					21	30
KIRUNA	151.01	333.8	19	46	0					20	1 PKP2

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ATHENS	151.14	269.2	19	53A	6					20 17	PKP2
IASI	151.40	289.3	19	54	7						
BUCHAREST	151.76	283.1	19	48	0						
HELSINKI	152.46	317.2	19	49	0						
TAMANRASSET	152.68	222.0	19	52A	3					23 58	PP
SOFIA	153.20	278.3	19	49	-1						
LWOW	154.09	294.3	19	51	0						
SCORESBY SD.	154.19	6.2	19	47	-4						
WARSAW	156.00	300.0	20	22	29					24 2	PP
UPPSALA	156.04	319.4	19	53	0					23 48	PP
SKALSTUGAN	156.26	330.6	19	53	-1					20 19	PKP2
KRAKOW	156.74	294.6	19	55	1	27	2	5		20 25	PKP2
MESSINA	157.02	263.0	19	56	1					24 5	PP
RACIBORZ	157.86	294.7	19	56	0					25 31	
COPENHAGEN	160.23	312.0	19	59A	0					24 31	PP
PRAGUE	160.29	294.9	20	0	1					24 5	PP
TRIESTE	160.57	281.6	19	58	-1					24 56	PP
ROME	160.62	270.0								24 43	
POTSDAM	160.82	302.1	19	59	0					24 28	PP
COLLMBERG	161.06	298.9	19	58	-1					24 27	
PLAUEN	161.70	296.7	19	59	-1					24 31	PP
FLORENCE X.	161.99	274.9	19	55	-5						
JENA	162.00	298.2	20	0	0				20 47	24 24	PP
HAMBURG	162.31	307.3	20	0A	-1					24 35	PP
PAVIA	163.71	278.7	20	5	3				20 58	24 44	PP
STUTTGART	163.79	291.5	20	2A	0					24 43	PP
TUBINGEN	163.89	290.7	20	2	0						
KARLSRUHE	164.29	292.6	20	3A	0					24 49	PP
WITTEVEEN	164.44	307.3	21	1	58						
MONACO	164.68	272.6	20	3	0					21 1	PKP2
BENSBERG	164.72	300.3	20	3A	0					24 55	PP
STRASBOURG	164.75	291.1	20	3A	0					25 1	PP
ALGIERS UNI.	164.76	243.0	20	4A	1					24 46	PP
BASLE	164.94	287.1	20	2	-1	26	31	-33			
NEUCHATEL	165.38	285.1	20	3	-1	24	46	-139			
DE BILT	165.55	306.0	20	3	-1					24 55	PP
RELIZANE	165.60	234.8	20	6	2					24 50	PP
DURHAM	167.46	325.2	20	4	-1					25 2	PP
ALICANTE	167.94	241.0	20	6	0	27	8	2		29 4	PPP
CLERMONT-FD.	168.00	279.5	20	7	1					25 11	PP
GARCHY	168.01	286.7	20	5A	-1					24 58	PP
ALMERIA	168.09	230.5	20	5	-1					25 2	PP
PARIS	168.17	294.4	20	7A	1					25 7	PP
KEW	168.90	310.2	20	6	0					25 10	PP
GRANADA	168.95	228.2	20	29K	23					25 9	PP
RATHFARNHAM	170.35	331.6	19	56	-11					27 45	
TOLEDO	171.07	238.1	20	5	-2					25 14	PP
LISBON	172.75	211.0	20	10A	2					25 25	PP

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

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

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

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